Retained CTA candidates

399 mapped genes | Alphabetical catalog with a PDF bookmark for every gene

Every entry carries its current classification, cancer occurrence, normal-expression evidence and curated biology. The complete tables retain unabridged annotations, all tumor cohorts, every normal context and source links.

Cancer RNA summaries rank cohorts by the fraction >=5 pTPM (at least 20 measured samples). Cancer IHC summaries rank Medium/High patient counts (at least five scored patients). These are different cohorts and native measures, not assay sensitivity estimates. No values are imputed for missing genes.

Biology excerpts come from reviewed UniProt entries (CC BY 4.0). They preserve qualifications but are not an independent review of every underlying paper. Clinical outcomes are reviewed only for the explicitly marked targets; a trial link alone establishes neither efficacy nor safety.

Read alongside the overview for the threshold grid, priority reconsideration list, known therapeutic risks, assay limitations and unmapped BAGE/GAGE2B records.

Open the searchable atlas and full tables

ABCC11 | CTA / Pass

ENSG00000121270

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Urgent protein review. Published human brain immunoblotting and axonal immunofluorescence conflict with a reproductive-restricted target label. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 7.7 nTPM; liver/hepatocytes; hpa_single_cell_tissue; vital; 2.097 TPM; blood/memory B-cell; hpa_immune_cell_samples; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 36/50 (72.0%); Breast Invasive Carcinoma (TCGA): 478/1022 (46.8%); Prostate Adenocarcinoma (TCGA): 54/480 (11.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. ATP-dependent transporter of the ATP-binding cassette (ABC) family that actively extrudes physiological compounds and xenobiotics from cells. Plays a role in physiological processes involving bile acids, conjugated steroids and cyclic nucleotides, including cAMP and cGMP (PubMed:12764137, PubMed:15537867). Mediates the ATP-dependent efflux of a range of physiological lipophilic anions, including the glutathione S-conjugates leukotriene ... [full text in table]

Curated tissue note. Expressed in apocrine glands (at protein level) (PubMed:19383836, PubMed:19710689). Expressed at moderate levels in breast and testis and at very low levels in liver, brain and placenta (PubMed:11483364, ... [full text in table]

Therapeutic evidence. Normal protein conflict.

UniProt Q96J66 | Reviewed source 1 | HPA portal (live; not the pinned values)

ACR | CTA / Pass

ENSG00000100312

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 16.2 nTPM; esophagus/endothelial cells; hpa_single_cell_tissue; protected; 0.4699 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 1/50 (2.0%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. colorectal cancer: 1/11 (9.1%); breast cancer: 0/10 (0.0%)

Biology. Acrosin is the major protease of mammalian spermatozoa. It is a serine protease of trypsin-like cleavage specificity, it is synthesized in a zymogen form, proacrosin and stored in the acrosome

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P10323 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

ACSBG2 | CTA / Pass

ENSG00000130377

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.319 TPM; blood/NK; dice_nk; vital

Cancer RNA. Kidney Chromophobe (TCGA): 1/64 (1.6%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/9 (0.0%)

Biology. Catalyzes the conversion of fatty acids such as long chain and very long-chain fatty acids to their active form acyl-CoAs for both synthesis of cellular lipids, and degradation via beta-oxidation. Can activate diverse saturated, monosaturated and polyunsaturated fatty acids (PubMed:16371355, PubMed:16762313). Has increased ability to activate oleic and linoleic acid (PubMed:16371355). May play a role in spermatogenesis (PubMed:15685348)

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5FVE4 | HPA portal (live; not the pinned values)

ACTL7A | CTA / Pass

ENSG00000187003

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 14.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 2.225 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Essential for normal spermatogenesis and male fertility. Required for normal sperm head morphology, acroplaxome formation, acrosome attachment, and acrosome granule stability. May anchor and stabilize acrosomal adherence to the acroplaxome at least in part by facilitating the presence of F-actin in the subacrosomal space (By similarity). May play an important role in formation and fusion of Golgi-derived vesicles during acrosome ... [full text in table]

Curated tissue note. Strongly expressed in testis. Also expressed in other tissues

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9Y615 | HPA portal (live; not the pinned values)

ACTL7B | CTA / Pass

ENSG00000148156

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.12 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Detected only in the testis and, to a lesser extent, in the prostate

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9Y614 | HPA portal (live; not the pinned values)

ACTL8 | CTA / Pass

ENSG00000117148

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA review. Curated tissue annotation describes strong testis and pancreas expression. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 2.9 nTPM; colon/distal enterocytes; hpa_single_cell_tissue; protected; 0.1698 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 26/176 (14.8%); Breast Invasive Carcinoma (validation): 7/50 (14.0%); Ovary Serous Cystadenocarcinoma (validation): 8/81 (9.9%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Strongly expressed in testis and pancreas. Weak expression in placenta

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H568 | HPA portal (live; not the pinned values)

ACTRT1 | CTA / Pass

ENSG00000123165

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal compartment review. Curated tissue annotation includes normal epidermal layers, sweat glands and follicles. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0.4 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.3571 TPM; blood/TH17; dice_th17; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. colorectal cancer: 1/11 (9.1%); breast cancer: 0/12 (0.0%)

Biology. Negatively regulates the Hedgehog (SHH) signaling. Binds to the promoter of the SHH signaling mediator, GLI1, and inhibits its expression

Curated tissue note. In skin, expressed in the basal, spinous and granular layers of the epidermis. Also expressed in hair follicles, sebaceaous glands, eccrine sweat glands and semen

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TDG2 | HPA portal (live; not the pinned values)

ADAD1 | CTA / Pass

ENSG00000164113

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.081 TPM; blood/TH17; dice_th17; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Liver Hepatocellular Carcinoma (TCGA): 2/362 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Required for male fertility and normal male germ cell differentiation (By similarity). Plays a role in spermatogenesis (By similarity). Binds to RNA but not to DNA (By similarity)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96M93 | HPA portal (live; not the pinned values)

ADAM18 | CTA / Pass

ENSG00000168619

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.07695 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Sperm surface membrane protein that may be involved in spermatogenesis and fertilization. This is a non catalytic metalloprotease-like protein (By similarity)

Curated tissue note. Expressed specifically in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9Y3Q7 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

ADAM2 | CTA / Pass

ENSG00000104755

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.09464 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 2/50 (4.0%); Uterine Corpus Endometrial Carcinoma (TCGA): 3/176 (1.7%); Prostate Adenocarcinoma (TCGA): 5/480 (1.0%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Sperm surface membrane protein that may be involved in sperm-egg plasma membrane adhesion and fusion during fertilization. Could have a direct role in sperm-zona binding or migration of sperm from the uterus into the oviduct. Interactions with egg membrane could be mediated via binding between its disintegrin-like domain to one or more integrins receptors on the egg. This is a non catalytic metalloprotease-like protein

Curated tissue note. Expressed specifically in spermatogenic cells in the seminiferous cells. Not detected in fetal tissues

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q99965 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

ADAM29 | CTA / Pass

ENSG00000168594

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 2.4 TPM; blood/MAIT T-cell; hpa_immune_monaco; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 2/50 (4.0%); Breast Invasive Carcinoma (TCGA): 17/1022 (1.7%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May be involved in spermatogenesis and fertilization. Seems to be a non catalytic metalloprotease-like protein

Curated tissue note. Expressed specifically in testes

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9UKF5 | HPA portal (live; not the pinned values)

ADAM7 | CTA / Pass

ENSG00000069206

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; skin/smooth muscle cells; hpa_single_cell_tissue; manageable; 0.4938 TPM; blood/NK; dice_nk; vital

Cancer RNA. Prostate Adenocarcinoma (TCGA): 32/480 (6.7%); Kidney Renal Papillary Cell Carcinoma (TCGA): 15/282 (5.3%); Kidney Renal Clear Cell Carcinoma (validation): 1/100 (1.0%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Required for normal male fertility via maintenance of epithelial cell morphology in the caput epididymis and subsequently correct epididymis lumen structure required for sperm development (By similarity). Plays a role in sperm motility, flagella morphology and tyrosine phosphorylation during sperm capacitance (By similarity). Plays a role in normal expression levels of HSPA5, ITM2B and ADAM2 in sperm both prior to and post-capacitation ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H2U9 | HPA portal (live; not the pinned values)

AKAP4 | CTA / Pass

ENSG00000147081

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2243 TPM; blood/NK; dice_nk; vital

Cancer RNA. Rectum Adenocarcinoma (TCGA): 1/88 (1.1%); Rectum Adenocarcinoma (validation): 2/207 (1.0%); Colon Adenocarcinoma (TCGA): 1/254 (0.4%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Major structural component of sperm fibrous sheath (PubMed:9822690). Plays a role in sperm motility (PubMed:34415320, PubMed:9822690)

Curated tissue note. Testis specific; only expressed in round spermatids

Therapeutic evidence. Trial registration only.

UniProt Q5JQC9 | Trial/source record | HPA portal (live; not the pinned values)

ALLC | CTA / Pass

ENSG00000151360

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 11.1 nTPM; thymus/fibroblasts; hpa_single_cell_tissue; manageable; 0.7719 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 13/231 (5.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Liver Hepatocellular Carcinoma (TCGA): 1/362 (0.3%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. The function of this enzyme is unclear as allantoicase activity is not known to exist in mammals

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N6M5 | HPA portal (live; not the pinned values)

ASB17 | CTA / Pass

ENSG00000154007

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.4 nTPM; kidney/proximal tubular cells; hpa_single_cell_tissue; vital; 1.381 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May be a substrate-recognition component of a SCF-like ECS (Elongin-Cullin-SOCS-box protein) E3 ubiquitin-protein ligase complex which mediates the ubiquitination and subsequent proteasomal degradation of target proteins

Curated tissue note. Specifically expressed in testis. Not detected in other tissues tested

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WXJ9 | HPA portal (live; not the pinned values)

ASZ1 | CTA / Pass

ENSG00000154438

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.5 nTPM; brain/oligodendrocytes; hpa_single_cell_tissue; vital; 0.2836 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Lung Adenocarcinoma (TCGA): 7/497 (1.4%); Lung Adenocarcinoma (validation): 1/105 (1.0%); Liver Hepatocellular Carcinoma (validation): 2/231 (0.9%)

Cancer IHC. endometrial cancer: 1/12 (8.3%); ovarian cancer: 1/12 (8.3%)

Biology. Plays a central role during spermatogenesis by repressing transposable elements and preventing their mobilization, which is essential for the germline integrity. Acts via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and governs the methylation and subsequent repression of transposons. Its association with pi-bodies suggests a ... [full text in table]

Curated tissue note. Expressed exclusively in the testis and ovary and at higher levels in the adult testis compared with the adult ovary

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WWH4 | HPA portal (live; not the pinned values)

BOLL | CTA / Pass

ENSG00000152430

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 10.7 nTPM; unsited/Skeletal myocytes; hpa_single_cell; unresolved; 2.221 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 10/133 (7.5%); Bladder Urothelial Carcinoma (TCGA): 11/169 (6.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 10/283 (3.5%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Probable RNA-binding protein, which may be required during spermatogenesis. May act by binding to the 3'-UTR of mRNAs and regulating their translation (By similarity)

Curated tissue note. Testis specific. Not expressed in early embryos, primordial germ cells and spermatogonial cells. First expressed in the cytoplasm of spermatocytes and then persists through meiosis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N9W6 | HPA portal (live; not the pinned values)

BPIFA3 | CTA / Pass

ENSG00000131059

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BQP9 | HPA portal (live; not the pinned values)

C10orf120 | CTA / Pass

ENSG00000183559

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Dispensable for normal development and fertility

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5SQS8 | HPA portal (live; not the pinned values)

C10orf53 | CTA / Pass

ENSG00000178645

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.9 TPM; blood/Progenitor cell; hpa_immune_monaco; vital

Cancer RNA. Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 24/283 (8.5%); Uterine Corpus Endometrial Carcinoma (TCGA): 6/176 (3.4%); Lung Squamous Cell Carcinoma (TCGA): 9/489 (1.8%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/9 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N6V4 | HPA portal (live; not the pinned values)

C10orf62 | CTA / Pass

ENSG00000203942

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Boundary. Within 20% below the 30 ceiling in at least one native RNA unit

Normal RNA / IHC. 24.8 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.5875 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Glioblastoma Multiforme (validation): 2/58 (3.4%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 3/282 (1.1%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5T681 | HPA portal (live; not the pinned values)

C11orf42 | CTA / Pass

ENSG00000180878

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.5 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 5.454 TPM; blood/CD8_STIM; dice_cd8_stim; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 2/50 (4.0%); Uterine Corpus Endometrial Carcinoma (TCGA): 3/176 (1.7%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%)

Cancer IHC. lung cancer: 1/11 (9.1%); breast cancer: 0/9 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N5U0 | HPA portal (live; not the pinned values)

C12orf50 | CTA / Pass

ENSG00000165805

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.4 nTPM; small intestine/enteroendocrine cells; hpa_single_cell_tissue; vital; 5.017 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 80/80 (100.0%); Ovary Serous Cystadenocarcinoma (validation): 67/81 (82.7%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NA57 | HPA portal (live; not the pinned values)

C16orf78 | CTA / Pass

ENSG00000166152

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WTQ4 | HPA portal (live; not the pinned values)

C16orf82 | CTA / Pass

ENSG00000234186

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 19.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.0232 TPM; blood/basophil; hpa_immune_cell_samples; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

HPA portal (live; not the pinned values)

C16orf90 | CTA / Pass

ENSG00000215131

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.683 TPM; blood/TH17; dice_th17; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A8MZG2 | HPA portal (live; not the pinned values)

C16orf96 | CTA / Pass

ENSG00000205832

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.4 nTPM; unsited/Astrocytes; hpa_single_cell; unresolved; 2.032 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Glioblastoma Multiforme (validation): 1/58 (1.7%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NNT2 | HPA portal (live; not the pinned values)

C17orf50 | CTA / Pass

ENSG00000270806

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.7 nTPM; unsited/Collecting duct cells; hpa_single_cell; unresolved; 4.101 TPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital

Cancer RNA. Kidney Renal Papillary Cell Carcinoma (TCGA): 12/282 (4.3%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 5/283 (1.8%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WW18 | HPA portal (live; not the pinned values)

C18orf63 | CTA / Pass

ENSG00000206043

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.8 nTPM; lung/alveolar cells type 2; hpa_single_cell_tissue; vital; 0.1732 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (validation): 1/81 (1.2%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Breast Invasive Carcinoma (TCGA): 1/1022 (0.1%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q68DL7 | HPA portal (live; not the pinned values)

C19orf67 | CTA / Pass

ENSG00000188032

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.4 nTPM; pancreas/exocrine glandular cells; hpa_single_cell_tissue; vital; 1.275 TPM; blood/NK; dice_nk; vital

Cancer RNA. Kidney Renal Clear Cell Carcinoma (validation): 4/100 (4.0%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Kidney Renal Clear Cell Carcinoma (TCGA): 7/521 (1.3%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NJJ6 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

C1orf185 | CTA / Pass

ENSG00000204006

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.6 nTPM; unsited/Oligodendrocyte precursor cells; hpa_single_cell; unresolved; 0.8516 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Glioblastoma Multiforme (validation): 1/58 (1.7%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5T7R7 | HPA portal (live; not the pinned values)

C1orf94 | CTA / Pass

ENSG00000142698

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 12 nTPM; esophagus/schwann cells; hpa_single_cell_tissue; protected; 0.08231 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Glioblastoma Multiforme (validation): 26/58 (44.8%); Glioblastoma Multiforme (TCGA): 32/141 (22.7%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6P1W5 | HPA portal (live; not the pinned values)

C20orf141 | CTA / Pass

ENSG00000258713

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.641 TPM; blood/NK; dice_nk; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 3/50 (6.0%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 8/283 (2.8%); Bladder Urothelial Carcinoma (TCGA): 3/169 (1.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NUB4 | HPA portal (live; not the pinned values)

C20orf144 | CTA / Pass

ENSG00000149609

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 2.087 TPM; blood/M2; dice_m2; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 2/50 (4.0%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 2/283 (0.7%)

Cancer IHC. testis cancer: 2/10 (20.0%); lymphoma: 1/11 (9.1%)

Biology. Preferentially expressed in the testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BQM9 | HPA portal (live; not the pinned values)

C20orf173 | CTA / Pass

ENSG00000125975

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.598 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96LM9 | HPA portal (live; not the pinned values)

C2orf78 | CTA / Pass

ENSG00000187833

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.4 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 0.258 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NCI8 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

C3orf22 | CTA / Pass

ENSG00000180697

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.35 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N5N4 | HPA portal (live; not the pinned values)

C4orf51 | CTA / Pass

ENSG00000237136

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.7 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 1.753 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 16/133 (12.0%); Kidney Chromophobe (TCGA): 4/64 (6.2%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 6/283 (2.1%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt C9J302 | HPA portal (live; not the pinned values)

C5orf47 | CTA / Pass

ENSG00000185056

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.7573 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q569G3 | HPA portal (live; not the pinned values)

C5orf52 | CTA / Pass

ENSG00000187658

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 18.1 nTPM; colon/paneth cells; hpa_single_cell_tissue; protected; 3.074 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 41/207 (19.8%); Colon Adenocarcinoma (validation): 84/486 (17.3%); Colon Adenocarcinoma (TCGA): 26/254 (10.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NGY3 | HPA portal (live; not the pinned values)

C9orf57 | CTA / Pass

ENSG00000204669

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; brain/oligodendrocytes; hpa_single_cell_tissue; vital; 0.5501 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Liver Hepatocellular Carcinoma (TCGA): 3/362 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5W0N0 | HPA portal (live; not the pinned values)

CABS1 | CTA / Pass

ENSG00000145309

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Calcium-binding protein (By similarity). Essential for maintaining the structural integrity of the sperm flagella (By similarity)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96KC9 | HPA portal (live; not the pinned values)

CALR3 | CTA / Pass

ENSG00000269058

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 12 nTPM; esophagus/schwann cells; hpa_single_cell_tissue; protected; 1.606 TPM; blood/neutrophil; hpa_immune_cell_samples; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Glioblastoma Multiforme (TCGA): 1/141 (0.7%); Ovary Serous Cystadenocarcinoma (TCGA): 2/349 (0.6%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. During spermatogenesis, may act as a lectin-independent chaperone for specific client proteins such as ADAM3. Required for sperm fertility (By similarity). CALR3 capacity for calcium-binding may be absent or much lower than that of CALR

Curated tissue note. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96L12 | HPA portal (live; not the pinned values)

CAPZA3 | CTA / Pass

ENSG00000177938

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 21.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2005 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 2/80 (2.5%); Breast Invasive Carcinoma (validation): 1/50 (2.0%); Liver Hepatocellular Carcinoma (validation): 4/231 (1.7%)

Cancer IHC. prostate cancer: 1/11 (9.1%); breast cancer: 0/12 (0.0%)

Biology. F-actin-capping proteins bind in a Ca(2+)-independent manner to the fast growing ends of actin filaments (barbed end) thereby blocking the exchange of subunits at these ends. Unlike other capping proteins (such as gelsolin and severin), these proteins do not sever actin filaments. May play a role in the morphogenesis of spermatid (By similarity)

Curated tissue note. Expressed exclusively in testis and sperm. Highest expression is found in the neck region of ejaculated sperm with lower levels found in the tail and postacrosome region

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96KX2 | HPA portal (live; not the pinned values)

CATSPER4 | CTA / Pass

ENSG00000188782

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1 nTPM; unsited/Skeletal myocytes; hpa_single_cell; unresolved; 0.874 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Pore-forming subunit of the CatSper complex, a sperm-specific voltage-gated calcium channel that plays a central role in calcium-dependent physiological responses essential for successful fertilization, such as sperm hyperactivation, acrosome reaction and chemotaxis towards the oocyte

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q7RTX7 | HPA portal (live; not the pinned values)

CBLL2 | CTA / Pass

ENSG00000175809

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.8 nTPM; eye/rod photoreceptor cells; hpa_single_cell_tissue; vital; 1.665 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. E3 ubiquitin ligase catalyzing the covalent attachment of ubiquitin moieties onto substrate proteins (PubMed:20657603). May operate on tyrosine-phosphorylated SRC substrates (PubMed:22252131)

Curated tissue note. Exclusively expressed in testis and sperm, including spermatocytes, round and elongated spermatids, and Leydig cells

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N7E2 | HPA portal (live; not the pinned values)

CBY2 | CTA / Pass

ENSG00000174015

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.8 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.817 TPM; blood/T-reg; hpa_immune_cell_samples; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 22/169 (13.0%); Testicular Germ Cell Tumor (TCGA): 6/133 (4.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 6/283 (2.1%)

Cancer IHC. stomach cancer: 1/11 (9.1%); breast cancer: 0/11 (0.0%)

Biology. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NA61 | HPA portal (live; not the pinned values)

CCDC116 | CTA / Pass

ENSG00000161180

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 3.495 TPM; blood/NK; dice_nk; vital

Cancer RNA. Kidney Chromophobe (TCGA): 1/64 (1.6%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IYX3 | HPA portal (live; not the pinned values)

CCDC158 | CTA / Pass

ENSG00000163749

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA review. Curated tissue annotation includes kidney as well as testis. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 18.8 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.8 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 15/50 (30.0%); Pancreatic Adenocarcinoma (validation): 5/80 (6.2%); Kidney Renal Clear Cell Carcinoma (validation): 2/100 (2.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Plays a role in receptor-mediated endocytosis in proximal tubular cells of the kidney

Curated tissue note. Expressed in testis and kidney Expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5M9N0 | HPA portal (live; not the pinned values)

CCDC179 | CTA / Pass

ENSG00000255359

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.583 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 2/99 (2.0%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt H3BU77 | HPA portal (live; not the pinned values)

CCDC185 | CTA / Pass

ENSG00000178395

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.5329 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 3/176 (1.7%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 3/283 (1.1%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N715 | HPA portal (live; not the pinned values)

CCDC27 | CTA / Pass

ENSG00000162592

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.627 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Kidney Renal Clear Cell Carcinoma (TCGA): 1/521 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q2M243 | HPA portal (live; not the pinned values)

CCDC42 | CTA / Pass

ENSG00000161973

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.5 nTPM; bone marrow/erythroid cells; hpa_single_cell_tissue; vital; 3.944 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Ovary Serous Cystadenocarcinoma (validation): 1/81 (1.2%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 2/283 (0.7%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Essential for male fertility. Required for sperm development

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96M95 | HPA portal (live; not the pinned values)

CCDC54 | CTA / Pass

ENSG00000138483

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 10.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.228 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NEL0 | HPA portal (live; not the pinned values)

CCDC70 | CTA / Pass

ENSG00000123171

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.8 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.4843 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6NSX1 | HPA portal (live; not the pinned values)

CCDC83 | CTA / Pass

ENSG00000150676

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.4 nTPM; small intestine/enteroendocrine cells; hpa_single_cell_tissue; vital; 1.16 TPM; blood/M2; dice_m2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Glioblastoma Multiforme (TCGA): 1/141 (0.7%); Prostate Adenocarcinoma (TCGA): 3/480 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IWF9 | HPA portal (live; not the pinned values)

CCDC87 | CTA / Pass

ENSG00000182791

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 7 nTPM; liver/erythroid cells; hpa_single_cell_tissue; vital; 2.088 TPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 19/50 (38.0%); Glioblastoma Multiforme (validation): 2/58 (3.4%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 5/283 (1.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Plays a role in spermatogenesis, where it is important for normal sperm head morphology. Also required for the acrosome reaction and thus normal male fertility

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NVE4 | HPA portal (live; not the pinned values)

CCER1 | CTA / Pass

ENSG00000197651

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.0939 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Regulator of histone epigenetic modifications and chromatin compaction into the sperm head, required for histone-to-protamine (HTP) transition. HTP is a key event in which somatic histones are first replaced by testis-specific histone variants, then transition proteins (TNPs) are incorporated into the spermatid nucleus, and finally protamines (PRMs) replace the TNPs to promote chromatin condensation

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TC90 | HPA portal (live; not the pinned values)

CCT8L2 | CTA / Pass

ENSG00000198445

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.5643 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Possible molecular chaperone; assists the folding of proteins upon ATP hydrolysis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96SF2 | HPA portal (live; not the pinned values)

CDY2B | CTA / Pass

ENSG00000129873

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%); Breast Invasive Carcinoma (validation): 0/50 (0.0%)

Cancer IHC. liver cancer: 4/11 (36.4%); breast cancer: 0/12 (0.0%)

Biology. May have histone acetyltransferase activity

Curated tissue note. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9Y6F7 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CETN1 | CTA / Pass

ENSG00000177143

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 11.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Liver Hepatocellular Carcinoma (TCGA): 1/362 (0.3%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Plays a fundamental role in microtubule-organizing center structure and function (PubMed:8175926). Plays a role in sperm cilia formation (By similarity)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q12798 | HPA portal (live; not the pinned values)

CFAP97D1 | CTA / Pass

ENSG00000231256

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.3 nTPM; breast/macrophages; hpa_single_cell_tissue; vital; 2.205 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 5/80 (6.2%); Uterine Corpus Endometrial Carcinoma (TCGA): 9/176 (5.1%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. colorectal cancer: 4/10 (40.0%); testis cancer: 2/11 (18.2%)

Biology. Required for male fertility through its role in axonemal doublet stabilization which is essential for sperm motility and fertilization

Curated tissue note. Expressed exclusively in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt B2RV13 | HPA portal (live; not the pinned values)

CGB3 | CTA / Pass

ENSG00000104827

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Boundary. Within 20% below the 30 ceiling in at least one native RNA unit

Normal RNA / IHC. 25.9 nTPM; pancreas/mixed cell types; hpa_single_cell_tissue; vital; 2.559 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 37/133 (27.8%); Pancreatic Adenocarcinoma (TCGA): 29/176 (16.5%); Skin Cuteneous Melanoma (TCGA): 13/99 (13.1%)

Cancer IHC. urothelial cancer: 1/10 (10.0%); breast cancer: 0/10 (0.0%)

Biology. Beta subunit of the human chorionic gonadotropin (hCG). hCG is a complex glycoprotein composed of two glycosylated subunits alpha and beta which are non-covalently associated. The alpha subunit is identical to those in the pituitary gonadotropin hormones (LH, FSH and TSH). The beta subunits are distinct in each of the hormones and confer receptor and biological specificity. Has an essential role in pregnancy and maternal adaptation. ... [full text in table]

Curated tissue note. High expression in the placenta throughout pregnancy

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0DN86 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CHCT1 | CTA / Pass

ENSG00000141371

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.563 nTPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital; 3.99 TPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 3/99 (3.0%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 7/283 (2.5%); Breast Invasive Carcinoma (validation): 1/50 (2.0%)

Cancer IHC. prostate cancer: 2/11 (18.2%); breast cancer: 1/11 (9.1%)

Biology. May play a role in regulation of apoptosis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86WR6 | HPA portal (live; not the pinned values)

CIMAP1A | CTA / Pass

ENSG00000177947

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.1 nTPM; eye/muller glia cells; hpa_single_cell_tissue; vital; 2.526 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%); Breast Invasive Carcinoma (validation): 0/50 (0.0%)

Cancer IHC. urothelial cancer: 3/12 (25.0%); breast cancer: 1/9 (11.1%)

Biology. Outer dense fibers are filamentous structures located on the outside of the axoneme in the midpiece and principal piece of the mammalian sperm tail. May help to maintain the passive elastic structures and elastic recoil of the sperm tail

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96PU9 | HPA portal (live; not the pinned values)

CIMIP2A | CTA / Pass

ENSG00000188163

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.6 nTPM; heart muscle/cardiomyocytes; hpa_single_cell_tissue; vital; 5.732 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 220/231 (95.2%); Uterine Corpus Endometrial Carcinoma (TCGA): 17/176 (9.7%); Breast Invasive Carcinoma (validation): 1/50 (2.0%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Microtubule inner protein (MIP) part of the dynein-decorated doublet microtubules (DMTs) in flagellum axoneme. Binds to the intra-tubulin interfaces

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6J272 | HPA portal (live; not the pinned values)

CIMIP4 | CTA / Pass

ENSG00000185264

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.6501 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. urothelial cancer: 2/12 (16.7%); ovarian cancer: 1/10 (10.0%)

Biology. Seems to be associated with spermiogenesis but is not essential for sperm development and male fertility

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O43247 | HPA portal (live; not the pinned values)

CIMIP7 | CTA / Pass

ENSG00000236980

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.5 nTPM; unsited/Oligodendrocyte precursor cells; hpa_single_cell; unresolved; 1.043 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Ovary Serous Cystadenocarcinoma (TCGA): 1/349 (0.3%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt H3BNL1 | HPA portal (live; not the pinned values)

COX7B2 | CTA / Pass

ENSG00000170516

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.901 TPM; blood/NK; dice_nk; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 90/231 (39.0%); Liver Hepatocellular Carcinoma (TCGA): 120/362 (33.1%); Bladder Urothelial Carcinoma (TCGA): 46/169 (27.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Component of the cytochrome c oxidase, the last enzyme in the mitochondrial electron transport chain which drives oxidative phosphorylation. The respiratory chain contains 3 multisubunit complexes succinate dehydrogenase (complex II, CII), ubiquinol-cytochrome c oxidoreductase (cytochrome b-c1 complex, complex III, CIII) and cytochrome c oxidase (complex IV, CIV), that cooperate to transfer electrons derived from NADH and succinate to ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TF08 | HPA portal (live; not the pinned values)

CPXCR1 | CTA / Pass

ENSG00000147183

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.7 nTPM; lung/ciliated cells; hpa_single_cell_tissue; vital; 0.6108 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Expressed in a variety of fetal tissues

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N123 | HPA portal (live; not the pinned values)

CRISP1 | CTA / Pass

ENSG00000124812

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.5 nTPM; pancreas/exocrine glandular cells; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. May have a role in sperm-egg fusion and maturation

Curated tissue note. Caput, corpus, and cauda regions of the epididymis, the ductus deferens, sperm and seminal plasma

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P54107 | HPA portal (live; not the pinned values)

CST8 | CTA / Pass

ENSG00000125815

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.64 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Lung Squamous Cell Carcinoma (validation): 1/68 (1.5%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Performs a specialized role during sperm development and maturation

Curated tissue note. Proximal caput region of the epididymis. Lower expression in the testis. Within the testis it is localized to the elongating spermatids, whereas within the epididymis it is exclusively synthesized by the ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O60676 | HPA portal (live; not the pinned values)

CST9L | CTA / Pass

ENSG00000101435

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2246 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 7/50 (14.0%); Testicular Germ Cell Tumor (TCGA): 8/133 (6.0%); Breast Invasive Carcinoma (TCGA): 61/1022 (6.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Specifically expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H4G1 | HPA portal (live; not the pinned values)

CT45A10 | CTA / Pass

ENSG00000269586

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.4 nTPM; hippocampal formation/bulk; hpa_rna_consensus; vital; 1.17 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (TCGA): 128/489 (26.2%); Ovary Serous Cystadenocarcinoma (TCGA): 72/349 (20.6%); Lung Squamous Cell Carcinoma (validation): 13/68 (19.1%)

Cancer IHC. ovarian cancer: 4/10 (40.0%); testis cancer: 3/12 (25.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0DMU9 | HPA portal (live; not the pinned values)

CT45A2 | CTA / Pass

ENSG00000271449

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%); Breast Invasive Carcinoma (validation): 0/50 (0.0%)

Cancer IHC. ovarian cancer: 4/10 (40.0%); testis cancer: 3/12 (25.0%)

Biology. Testis specific. Expressed in cancer cell lines

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5DJT8 | UniProt P0DMV1 | UniProt P0DMV2 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT45A7 | CTA / Pass

ENSG00000273696

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.1 nTPM; adipose tissue/bulk; hpa_rna_consensus; manageable; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (validation): 8/68 (11.8%); Lung Squamous Cell Carcinoma (TCGA): 29/489 (5.9%); Ovary Serous Cystadenocarcinoma (TCGA): 13/349 (3.7%)

Cancer IHC. ovarian cancer: 4/10 (40.0%); testis cancer: 3/12 (25.0%)

Biology. Testis specific. Expressed in cancer cell lines

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0DMU7 | UniProt P0DMU8 | UniProt P0DMV0 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A1 | CTA / Pass

ENSG00000236371

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0.1 TPM; blood/Memory CD4 T-cell Th2; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 5/133 (3.8%); Kidney Renal Papillary Cell Carcinoma (TCGA): 2/282 (0.7%); Liver Hepatocellular Carcinoma (TCGA): 1/362 (0.3%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A10 | CTA / Pass

ENSG00000224089

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Stomach Adenocarcinoma (TCGA): 1/346 (0.3%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A11 | CTA / Pass

ENSG00000226929

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Liver Hepatocellular Carcinoma (TCGA): 10/362 (2.8%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Stomach Adenocarcinoma (TCGA): 3/346 (0.9%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A12 | CTA / Pass

ENSG00000226685

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0.1165 nTPM; blood/naive CD4 T-cell; hpa_immune_cell_samples; vital; 0.8 TPM; blood/Memory CD4 T-cell Th2; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Stomach Adenocarcinoma (TCGA): 5/346 (1.4%); Liver Hepatocellular Carcinoma (TCGA): 3/362 (0.8%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A2 | CTA / Pass

ENSG00000242362

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Stomach Adenocarcinoma (TCGA): 1/346 (0.3%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A3 | CTA / Pass

ENSG00000236126

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Stomach Adenocarcinoma (TCGA): 1/346 (0.3%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A4 | CTA / Pass

ENSG00000230594

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Stomach Adenocarcinoma (TCGA): 1/346 (0.3%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A5 | CTA / Pass

ENSG00000237957

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Stomach Adenocarcinoma (TCGA): 1/346 (0.3%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A6 | CTA / Pass

ENSG00000226023

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Liver Hepatocellular Carcinoma (TCGA): 3/362 (0.8%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Stomach Adenocarcinoma (TCGA): 2/346 (0.6%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A7 | CTA / Pass

ENSG00000228517

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0.2 TPM; blood/plasmacytoid DC; hpa_immune_monaco; vital

Cancer RNA. Liver Hepatocellular Carcinoma (TCGA): 1/362 (0.3%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A8 | CTA / Pass

ENSG00000230347

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Stomach Adenocarcinoma (TCGA): 1/346 (0.3%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47A9 | CTA / Pass

ENSG00000226600

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Shared-locus review. One shared UniProt entry describes very low brain expression for this family. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Stomach Adenocarcinoma (TCGA): 1/346 (0.3%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis, low expression in placenta, and very low expression in brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JQC4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT47B1 | CTA / Pass

ENSG00000236446

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Kidney Renal Papillary Cell Carcinoma (TCGA): 2/282 (0.7%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0C2W7 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CT55 | CTA / Supported

ENSG00000169551

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.6962 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 5/99 (5.1%); Lung Squamous Cell Carcinoma (TCGA): 20/489 (4.1%); Stomach Adenocarcinoma (TCGA): 14/346 (4.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Plays a role in spermatogenesis, possibly acting in the regulation of the autophagy pathway

Curated tissue note. Testis-specific (PubMed:15499386). Expressed in spermatozoa (at protein level) (PubMed:36481789)

Therapeutic evidence. Human tumor recognition.

UniProt Q8WUE5 | Reviewed source 1 | HPA portal (live; not the pinned values)

CT83 | CTA / Pass

ENSG00000204019

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Stomach Adenocarcinoma (TCGA): 174/346 (50.3%); Lung Adenocarcinoma (validation): 49/105 (46.7%); Lung Adenocarcinoma (TCGA): 213/497 (42.9%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Specifically expressed in testis. Expressed by cancer cell lines

Therapeutic evidence. Human tumor recognition.

UniProt Q5H943 | Reviewed source 1 | HPA portal (live; not the pinned values)

CTAG1A | CTA / Pass

ENSG00000268651

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.1 nTPM; skin/bulk; hpa_rna_consensus; manageable; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 24/169 (14.2%); Lung Squamous Cell Carcinoma (TCGA): 67/489 (13.7%); Ovary Serous Cystadenocarcinoma (TCGA): 40/349 (11.5%)

Cancer IHC. testis cancer: 2/12 (16.7%); melanoma: 1/11 (9.1%)

Biology. Expressed in testis and ovary and in a wide variety of cancers. Detected in uterine myometrium. Expressed from 18 weeks until birth in human fetal testis. In the adult testis, is strongly expressed in spermatogonia and in primary spermatocytes, but not in post-meiotic cells or in testicular somatic cells (at protein level)

Therapeutic evidence. Clinical outcomes.

UniProt P78358 | Reviewed source 1 | Reviewed source 2 | Reviewed source 3 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CTAG1B | CTA / Pass

ENSG00000184033

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.2 nTPM; cerebellum/bulk; hpa_rna_consensus; vital; 0.3194 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 16/169 (9.5%); Lung Squamous Cell Carcinoma (TCGA): 46/489 (9.4%); Lung Squamous Cell Carcinoma (validation): 6/68 (8.8%)

Cancer IHC. testis cancer: 3/12 (25.0%); ovarian cancer: 1/11 (9.1%)

Biology. Expressed in testis and ovary and in a wide variety of cancers. Detected in uterine myometrium. Expressed from 18 weeks until birth in human fetal testis. In the adult testis, is strongly expressed in spermatogonia and in primary spermatocytes, but not in post-meiotic cells or in testicular somatic cells (at protein level)

Therapeutic evidence. Clinical outcomes.

UniProt P78358 | Reviewed source 1 | Reviewed source 2 | Reviewed source 3 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CTCFL | CTA / Pass

ENSG00000124092

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.5 nTPM; rectum/mixed immune cells; hpa_single_cell_tissue; vital; 2.1 TPM; blood/naive CD8 T-cell; hpa_immune_monaco; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (TCGA): 187/349 (53.6%); Ovary Serous Cystadenocarcinoma (validation): 32/81 (39.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 87/283 (30.7%)

Cancer IHC. breast cancer: 0/7 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. Testis-specific DNA binding protein responsible for insulator function, nuclear architecture and transcriptional control, which probably acts by recruiting epigenetic chromatin modifiers. Plays a key role in gene imprinting in male germline, by participating in the establishment of differential methylation at the IGF2/H19 imprinted control region (ICR). Directly binds the unmethylated H19 ICR and recruits the PRMT7 methyltransferase, ... [full text in table]

Curated tissue note. Testis specific. Specifically expressed in primary spermatocytes

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NI51 | HPA portal (live; not the pinned values)

CXorf51B | CTA / Pass

ENSG00000235699

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A0A1B0GTR3 | UniProt P0DPH9 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

CXorf66 | CTA / Pass

ENSG00000203933

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; liver/bulk; hpa_rna_consensus; vital; 0.355 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Liver Hepatocellular Carcinoma (TCGA): 1/362 (0.3%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JRM2 | HPA portal (live; not the pinned values)

CYLC1 | CTA / Pass

ENSG00000183035

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Plays a role in the establishment of normal sperm morphology during spermatogenesis and is required for acrosome attachment to the nuclear envelope

Curated tissue note. Testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P35663 | HPA portal (live; not the pinned values)

CYLC2 | CTA / Pass

ENSG00000155833

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.8 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.4 TPM; blood/NK-cell; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Uterine Corpus Endometrial Carcinoma (TCGA): 2/176 (1.1%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Plays a role in the establishment of normal sperm morphology during spermatogenesis. It is required for acrosome attachment to the nuclear envelope, and proper manchette elongation and disassembly

Curated tissue note. Testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q14093 | HPA portal (live; not the pinned values)

DAZ3 | CTA / Pass

ENSG00000187191

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; stomach/bulk; hpa_rna_consensus; protected; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 7/80 (8.8%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. liver cancer: 1/12 (8.3%); testis cancer: 1/12 (8.3%)

Biology. RNA-binding protein that plays an essential role in spermatogenesis. May act by binding to the 3'-UTR of mRNAs and regulating their translation

Curated tissue note. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NR90 | HPA portal (live; not the pinned values)

DCAF4L1 | CTA / Pass

ENSG00000182308

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 12 nTPM; esophagus/schwann cells; hpa_single_cell_tissue; protected; 3.308 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 38/133 (28.6%); Breast Invasive Carcinoma (validation): 4/50 (8.0%); Glioblastoma Multiforme (validation): 1/58 (1.7%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q3SXM0 | HPA portal (live; not the pinned values)

DCAF8L2 | CTA / Pass

ENSG00000189186

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 11 nTPM; bronchus/smooth muscle cells; hpa_single_cell_tissue; vital; 0.1375 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 6/133 (4.5%); Breast Invasive Carcinoma (validation): 2/50 (4.0%); Liver Hepatocellular Carcinoma (validation): 3/231 (1.3%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0C7V8 | HPA portal (live; not the pinned values)

DDI1 | CTA / Pass

ENSG00000170967

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 2.884 TPM; blood/NK; dice_nk; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. pancreatic cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. Probable aspartic protease (Probable). Seems to act as a proteasomal shuttle which links the proteasome and replication fork proteins like RTF2 (Probable). Required, with DDI2, for cellular survival following replication stress. Together or redundantly with DDI2, removes RTF2 from stalled forks to allow cell cycle progression after replication stress and maintains genome integrity (PubMed:29290612)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WTU0 | HPA portal (live; not the pinned values)

DDX4 | CTA / Pass

ENSG00000152670

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.2 nTPM; brain/oligodendrocytes; hpa_single_cell_tissue; vital; 0.65 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 49/133 (36.8%); Kidney Renal Papillary Cell Carcinoma (TCGA): 3/282 (1.1%); Liver Hepatocellular Carcinoma (validation): 2/231 (0.9%)

Cancer IHC. testis cancer: 4/12 (33.3%); breast cancer: 0/11 (0.0%)

Biology. ATP-dependent RNA helicase required during spermatogenesis (PubMed:10920202, PubMed:21034600). Required to repress transposable elements and preventing their mobilization, which is essential for the germline integrity (By similarity). Acts via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and governs the methylation and ... [full text in table]

Curated tissue note. Expressed only in ovary and testis. Expressed in migratory primordial germ cells in the region of the gonadal ridge in both sexes

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NQI0 | HPA portal (live; not the pinned values)

DDX53 | CTA / Pass

ENSG00000184735

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.4 nTPM; colon/distal enterocytes; hpa_single_cell_tissue; protected; 0.4 TPM; blood/Non-switched memory B-cell; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 10/133 (7.5%); Liver Hepatocellular Carcinoma (validation): 9/231 (3.9%); Bladder Urothelial Carcinoma (TCGA): 3/169 (1.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Expressed in testis. Wide expression in various cancer tissues and cancer cell lines

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86TM3 | HPA portal (live; not the pinned values)

DEFB123 | CTA / Pass

ENSG00000180424

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 36/133 (27.1%); Ovary Serous Cystadenocarcinoma (TCGA): 9/349 (2.6%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Has antibacterial activity

Curated tissue note. Abundant expression in the male reproductive tract only. Abundant expressed in testis and the caput region of epididymis, but low in the corpus region

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N688 | HPA portal (live; not the pinned values)

DEFB126 | CTA / Pass

ENSG00000125788

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.6 nTPM; tongue/basal keratinocytes; hpa_single_cell_tissue; protected; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (TCGA): 59/349 (16.9%); Testicular Germ Cell Tumor (TCGA): 9/133 (6.8%); Uterine Corpus Endometrial Carcinoma (TCGA): 8/176 (4.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Highly glycosylated atypical beta-defensin involved in several aspects of sperm function. Facilitates sperm transport in the female reproductive tract and contributes to sperm protection against immunodetection; both functions are probably implicating the negative surface charge provided by its O-linked oligosaccharides in the sperm glycocalyx. Involved in binding of sperm to oviductal epithelial cells to form a sperm reservoir until ... [full text in table]

Curated tissue note. High-level and epididymis-specific expression. Expression is down-regulated in infertile men

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BYW3 | HPA portal (live; not the pinned values)

DEFB134 | CTA / Pass

ENSG00000205882

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.3 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Has antibacterial activity

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q4QY38 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

DKKL1 | CTA / Pass

ENSG00000104901

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 14.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 4.255 TPM; blood/memory B-cell; hpa_immune_cell_samples; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 72/133 (54.1%); Uterine Corpus Endometrial Carcinoma (TCGA): 30/176 (17.0%); Skin Cuteneous Melanoma (TCGA): 11/99 (11.1%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Involved in fertilization by facilitating sperm penetration of the zona pellucida. May promote spermatocyte apoptosis, thereby limiting sperm production. In adults, may reduce testosterone synthesis in Leydig cells. Is not essential either for development or fertility

Curated tissue note. More highly expressed in adult testis than in fetal testis. Exclusively expressed in the testis (at protein level). Intense expression in stages II, III and IV of spermatogenesis, whereas expression is lower ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9UK85 | HPA portal (live; not the pinned values)

DMRT1 | CTA / Pass

ENSG00000137090

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; unsited/Oligodendrocyte precursor cells; hpa_single_cell; unresolved; 0.3842 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 64/133 (48.1%); Uterine Corpus Endometrial Carcinoma (TCGA): 9/176 (5.1%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 11/283 (3.9%)

Cancer IHC. breast cancer: 1/11 (9.1%); renal cancer: 1/12 (8.3%)

Biology. Transcription factor that plays a key role in male sex determination and differentiation by controlling testis development and male germ cell proliferation. Plays a central role in spermatogonia by inhibiting meiosis in undifferentiated spermatogonia and promoting mitosis, leading to spermatogonial development and allowing abundant and continuous production of sperm. Acts both as a transcription repressor and activator: prevents ... [full text in table]

Curated tissue note. Testis-specific. Expressed in prostate cancer (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9Y5R6 | HPA portal (live; not the pinned values)

DMRTB1 | CTA / Pass

ENSG00000143006

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 23/133 (17.3%); Uterine Corpus Endometrial Carcinoma (TCGA): 3/176 (1.7%); Thyroid Carcinoma (TCGA): 5/495 (1.0%)

Cancer IHC. endometrial cancer: 1/9 (11.1%); stomach cancer: 1/10 (10.0%)

Biology. Testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96MA1 | HPA portal (live; not the pinned values)

DNAJB8 | CTA / Pass

ENSG00000179407

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.9551 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Efficient suppressor of aggregation and toxicity of disease-associated polyglutamine proteins

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NHS0 | HPA portal (live; not the pinned values)

DNAJC5G | CTA / Pass

ENSG00000163793

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 19.7 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 1.4 TPM; blood/Progenitor cell; hpa_immune_monaco; vital

Cancer RNA. Kidney Chromophobe (TCGA): 8/64 (12.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 23/283 (8.1%); Bladder Urothelial Carcinoma (TCGA): 9/169 (5.3%)

Cancer IHC. lung cancer: 1/12 (8.3%); urothelial cancer: 1/12 (8.3%)

Biology. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N7S2 | HPA portal (live; not the pinned values)

DUSP21 | CTA / Pass

ENSG00000189037

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.6 nTPM; placenta/mixed immune cells; hpa_single_cell_tissue; vital; 0.6964 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Protein phosphatase component of the sperm flagellar doublet microtubules (By similarity). May act as a regulator of sperm motility by mediating dephosphorylation of sperm doublet microtubule proteins (By similarity). Can dephosphorylate single and diphosphorylated synthetic MAPK peptides, with preference for the phosphotyrosine and diphosphorylated forms over phosphothreonine (By similarity)

Curated tissue note. Expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H596 | HPA portal (live; not the pinned values)

EDDM3B | CTA / Pass

ENSG00000181552

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.3 nTPM; salivary gland/serous glandular cells; hpa_single_cell_tissue; protected; 0.3557 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 8/50 (16.0%); Breast Invasive Carcinoma (TCGA): 19/1022 (1.9%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Possible function in sperm maturation

Curated tissue note. Epididymis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P56851 | HPA portal (live; not the pinned values)

EFCAB9 | CTA / Pass

ENSG00000214360

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.1 nTPM; adipose tissue/macrophages; hpa_single_cell_tissue; vital; 1.743 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 1/283 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Auxiliary component of the CatSper complex, a complex involved in sperm cell hyperactivation. pH-dependent Ca(2+) sensor required to activate the CatSper channel. Sperm cell hyperactivation is needed for sperm motility which is essential late in the preparation of sperm for fertilization. Associates with the CatSper complex via direct interaction with CATSPERZ, and senses intracellular Ca(2+). Together with CATSPERZ, associates with ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A8MZ26 | HPA portal (live; not the pinned values)

EQTN | CTA / Pass

ENSG00000120160

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Isoform review. UniProt reports low skin and blood expression for isoform 2, distinct from the highly testicular isoform 1. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 5.591 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Glioblastoma Multiforme (validation): 6/58 (10.3%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 2/283 (0.7%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Acrosomal membrane-anchored protein involved in the process of fertilization and in acrosome biogenesis

Curated tissue note. Isoform 1 is highly expressed in testis. Isoform 2 is expressed at low levels in skin and blood

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NQ60 | HPA portal (live; not the pinned values)

ERVV-1 | CTA / Pass

ENSG00000269526

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.7 nTPM; kidney/bulk; hpa_rna_consensus; vital; 0.7797 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 13/169 (7.7%); Kidney Renal Papillary Cell Carcinoma (TCGA): 10/282 (3.5%); Uterine Corpus Endometrial Carcinoma (TCGA): 3/176 (1.7%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Expressed in placenta

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt B6SEH8 | HPA portal (live; not the pinned values)

ERVV-2 | CTA / Pass

ENSG00000268964

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.8 nTPM; placenta/t-cells; hpa_single_cell_tissue; vital; 0.6 TPM; blood/naive CD8 T-cell; hpa_immune_monaco; vital

Cancer RNA. Kidney Renal Papillary Cell Carcinoma (TCGA): 29/282 (10.3%); Uterine Corpus Endometrial Carcinoma (TCGA): 12/176 (6.8%); Bladder Urothelial Carcinoma (TCGA): 11/169 (6.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Expressed in placenta

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt B6SEH9 | HPA portal (live; not the pinned values)

ESX1 | CTA / Pass

ENSG00000123576

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.4 nTPM; endometrium/t-cells; hpa_single_cell_tissue; vital; 0.1532 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 8/133 (6.0%); Bladder Urothelial Carcinoma (TCGA): 3/169 (1.8%); Pancreatic Adenocarcinoma (validation): 1/80 (1.2%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. May coordinately regulate cell cycle progression and transcription during spermatogenesis. Inhibits degradation of polyubiquitinated cyclin A and cyclin B1 and thereby arrests the cell cycle at early M phase. ESXR1-N acts as a transcriptional repressor. Binds to the sequence 5'-TAATGTTATTA-3' which is present within the first intron of the KRAS gene and inhibits its expression. ESXR1-C has the ability to inhibit cyclin turnover

Curated tissue note. Expressed in placenta and testis. Expressed in testicular germ cell tumors

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N693 | HPA portal (live; not the pinned values)

EXD1 | CTA / Pass

ENSG00000178997

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 12.4 nTPM; breast/t-cells; hpa_single_cell_tissue; vital; 2.266 TPM; blood/NK; dice_nk; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 4/80 (5.0%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. RNA-binding component of the PET complex, a multiprotein complex required for the processing of piRNAs during spermatogenesis. The piRNA metabolic process mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and governs the methylation and subsequent repression of transposable elements, preventing their mobilization, which is essential for the germline integrity (By ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NHP7 | HPA portal (live; not the pinned values)

EZHIP | CTA / Pass

ENSG00000187690

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.7 nTPM; ovary/mixed immune cells; hpa_single_cell_tissue; vital; 5.146 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 78/133 (58.6%); Stomach Adenocarcinoma (TCGA): 17/346 (4.9%); Lung Squamous Cell Carcinoma (validation): 3/68 (4.4%)

Cancer IHC. testis cancer: 1/10 (10.0%); breast cancer: 0/9 (0.0%)

Biology. Inhibits PRC2/EED-EZH1 and PRC2/EED-EZH2 complex function by inhibiting EZH1/EZH2 methyltransferase activity, thereby causing down-regulation of histone H3 trimethylation on 'Lys-27' (H3K27me3) (PubMed:29909548, PubMed:30923826, PubMed:31086175, PubMed:31451685). Probably inhibits methyltransferase activity by limiting the stimulatory effect of cofactors such as AEBP2 and JARID2 (PubMed:30923826). Inhibits H3K27me3 deposition during ... [full text in table]

Curated tissue note. In testis, detected in male germ cells inside the seminiferous tubules, especially in spermatogonia and round spermatids (at protein level) (PubMed:31451685). In the ovary, expressed in primordial follicles ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86X51 | HPA portal (live; not the pinned values)

FAM170A | CTA / Pass

ENSG00000164334

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA review. UniProt reports strong testis and brain expression and weaker expression in several other organs. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 1.2 nTPM; unsited/Ciliated cells; hpa_single_cell; unresolved; 1.191 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 2/176 (1.1%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. testis cancer: 3/10 (30.0%); colorectal cancer: 2/10 (20.0%)

Biology. Acts as a nuclear transcription factor that positively regulates the expression of heat shock genes (PubMed:20162441). Binds to heat shock promoter elements (HSE) (PubMed:20162441). Necessary for normal sperm head morphology, efficient spermiation, and sperm progressive motility (By similarity). Plays a crucial role in sperm chromatin remodeling by promoting the nuclear translocation and deubiquitinating activity of USP7 on histone H2A ... [full text in table]

Curated tissue note. Expressed strongly in testis and brain and weakly in prostate, spleen, pancreas and uterus

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A1A519 | HPA portal (live; not the pinned values)

FAM187B | CTA / Pass

ENSG00000177558

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.8 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.981 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q17R55 | HPA portal (live; not the pinned values)

FAM228A | CTA / Pass

ENSG00000186453

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 7.9 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 1.775 TPM; blood/NK; dice_nk; vital

Cancer RNA. Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 19/283 (6.7%); Lung Adenocarcinoma (TCGA): 21/497 (4.2%); Testicular Germ Cell Tumor (TCGA): 5/133 (3.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86W67 | HPA portal (live; not the pinned values)

FAM24A | CTA / Pass

ENSG00000203795

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.76 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NFZ4 | HPA portal (live; not the pinned values)

FBXO24 | CTA / Pass

ENSG00000106336

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.6 nTPM; pbmc/dendritic cells; hpa_single_cell_tissue; vital; 3.2 TPM; blood/naive CD8 T-cell; hpa_immune_monaco; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 38/207 (18.4%); Breast Invasive Carcinoma (validation): 5/50 (10.0%); Testicular Germ Cell Tumor (TCGA): 10/133 (7.5%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Substrate recognition component of an SCF (SKP1-CUL1-F-box protein) E3 ubiquitin-protein ligase complex that mediates the ubiquitination and subsequent proteasomal degradation of target proteins. Specifically recognizes the deacetylated form of nucleoside diphosphate kinase A/NME1 and targets it for ubiquitin-mediated degradation (PubMed:25582197). Functions as a key regulator of cell proliferation by targeting PRMT6 for ubiquitination ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O75426 | HPA portal (live; not the pinned values)

FBXO39 | CTA / Pass

ENSG00000177294

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.9 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 3.944 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 4/50 (8.0%); Glioblastoma Multiforme (validation): 2/58 (3.4%); Ovary Serous Cystadenocarcinoma (validation): 2/81 (2.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Testis-enriched substrate-recognition component of the SCF (SKP1-CUL1-F-box protein)-type E3 ubiquitin ligase complex. Acts as a critical regulator of spermatogenesis, maintaining mitochondrial homeostasis to inhibit ferroptotic cell death. Mechanistically, targets lysine-specific demethylase 5A (KDM5A) for ubiquitin-dependent degradation

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N4B4 | HPA portal (live; not the pinned values)

FBXW10 | CTA / Pass

ENSG00000171931

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.2 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.777 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 45/231 (19.5%); Liver Hepatocellular Carcinoma (TCGA): 12/362 (3.3%); Pancreatic Adenocarcinoma (validation): 2/80 (2.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Probable substrate-recognition component of a SCF (SKP1-CUL1-F-box protein)-type E3 ubiquitin ligase complex which mediates the ubiquitination and subsequent proteasomal degradation of target proteins. Overexpression is leading to degradation of CBX5 and CBX1

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5XX13 | HPA portal (live; not the pinned values)

FKBP6 | CTA / Pass

ENSG00000077800

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA review. UniProt describes detection across all tissues examined, including heart, muscle, liver and kidney. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 4.2 nTPM; small intestine/undifferentiated cells; hpa_single_cell_tissue; vital; 3.276 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 13/133 (9.8%); Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 3/283 (1.1%)

Cancer IHC. testis cancer: 1/9 (11.1%); colorectal cancer: 1/10 (10.0%)

Biology. Has an essential role in spermatogenesis (PubMed:36150389). It is required to repress transposable elements and prevent their mobilization, which is essential for the germline integrity (By similarity). Acts via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and govern the methylation and subsequent repression of transposons ... [full text in table]

Curated tissue note. Detected in all tissues examined, with higher expression in testis, heart, skeletal muscle, liver, and kidney

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O75344 | HPA portal (live; not the pinned values)

FMR1NB | CTA / Pass

ENSG00000176988

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.8 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.045 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 7/133 (5.3%); Liver Hepatocellular Carcinoma (validation): 5/231 (2.2%); Skin Cuteneous Melanoma (TCGA): 2/99 (2.0%)

Cancer IHC. melanoma: 1/11 (9.1%); lung cancer: 1/12 (8.3%)

Biology. Testis-specific. Expressed in melanoma, sarcoma, lung, breast, bladder, esophageal and ovarian cancers

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N0W7 | HPA portal (live; not the pinned values)

FNDC8 | CTA / Pass

ENSG00000073598

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 5.298 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 4/50 (8.0%); Uterine Corpus Endometrial Carcinoma (TCGA): 6/176 (3.4%); Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%)

Cancer IHC. prostate cancer: 3/10 (30.0%); cervical cancer: 2/10 (20.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TC99 | HPA portal (live; not the pinned values)

FREY1 | CTA / Pass

ENSG00000234776

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.5 nTPM; small intestine/paneth cells; hpa_single_cell_tissue; vital; 5.346 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Glioblastoma Multiforme (validation): 4/58 (6.9%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%); Kidney Renal Papillary Cell Carcinoma (TCGA): 2/282 (0.7%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Key regulator for male fertility expressed transiently in round spermatids where it recruits IZUMO1 at the endoplasmic reticulum (ER) membrane and coordinates the oolemmal binding multimeric complex (IZUMO1 complex) assembly. Upon complete assembly of the IZUMO1 complex, its ER retention is released, facilitating IZUMO1 complex export to the acrosome. Through the interaction with SPPL2C, inhibits its intramembrane protease activity ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt C9JXX5 | HPA portal (live; not the pinned values)

FSCB | CTA / Pass

ENSG00000189139

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.1762 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. glioma: 2/12 (16.7%); urothelial cancer: 1/10 (10.0%)

Biology. May be involved in the later stages of fibrous sheath biogenesis and spermatozoa capacitation. Inhibits ROPN1 and ROPN1L SUMOylation. Binds calcium

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5H9T9 | HPA portal (live; not the pinned values)

FSCN3 | CTA / Pass

ENSG00000106328

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.8 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 5.239 TPM; blood/TH17; dice_th17; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Acts as an actin bundling protein

Curated tissue note. Expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NQT6 | HPA portal (live; not the pinned values)

FTMT | CTA / Pass

ENSG00000181867

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 7.4 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.1458 TPM; blood/neutrophil; hpa_immune_cell_samples; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Breast Invasive Carcinoma (TCGA): 3/1022 (0.3%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Catalyzes the oxidation of ferrous iron(II) to ferric iron(III) and stores iron in a soluble, non-toxic, readily available form (PubMed:11323407, PubMed:15201052). Important for iron homeostasis (PubMed:11323407, PubMed:15201052). Iron is taken up in the ferrous form and deposited as ferric hydroxides after oxidation (PubMed:11323407, PubMed:15201052)

Curated tissue note. Detected in testis and erythroleukemia. Expression is very low or not detectable in brain, colon, heart, kidney, liver, lung, muscle, placental, spleen and small intestine

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N4E7 | HPA portal (live; not the pinned values)

GAGE1 | CTA / Pass

ENSG00000205777

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.6 nTPM; eye/bipolar cells; hpa_single_cell_tissue; vital; 0.3226 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (validation): 6/68 (8.8%); Lung Squamous Cell Carcinoma (TCGA): 41/489 (8.4%); Ovary Serous Cystadenocarcinoma (TCGA): 22/349 (6.3%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Antigen, recognized on melanoma by autologous cytolytic T-lymphocytes

Curated tissue note. Expressed in a variety of tumor tissues but not in normal tissues, except testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0DTW1 | HPA portal (live; not the pinned values)

GAGE12C | CTA / Pass

ENSG00000237671

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.0181 nTPM; blood/naive CD8 T-cell; hpa_immune_cell_samples; vital; 0.0185 TPM; blood/naive CD8 T-cell; hpa_immune_cell_samples; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 9/99 (9.1%); Lung Squamous Cell Carcinoma (TCGA): 34/489 (7.0%); Liver Hepatocellular Carcinoma (validation): 8/231 (3.5%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A1L429 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

GAGE12D | CTA / Pass

ENSG00000227488

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.0181 nTPM; blood/naive CD8 T-cell; hpa_immune_cell_samples; vital; 0.0185 TPM; blood/naive CD8 T-cell; hpa_immune_cell_samples; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 9/99 (9.1%); Lung Squamous Cell Carcinoma (TCGA): 34/489 (7.0%); Breast Invasive Carcinoma (validation): 2/50 (4.0%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A1L429 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

GAGE12E | CTA / Pass

ENSG00000216649

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.0896 nTPM; blood/naive CD8 T-cell; hpa_immune_cell_samples; vital; 0.0914 TPM; blood/naive CD8 T-cell; hpa_immune_cell_samples; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 8/231 (3.5%); Skin Cuteneous Melanoma (TCGA): 2/99 (2.0%); Lung Squamous Cell Carcinoma (TCGA): 9/489 (1.8%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A1L429 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

GAGE12H | CTA / Pass

ENSG00000224902

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.0056 nTPM; blood/NK-cell; hpa_immune_cell_samples; vital; 0.0053 TPM; blood/NK-cell; hpa_immune_cell_samples; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 6/99 (6.1%); Testicular Germ Cell Tumor (TCGA): 6/133 (4.5%); Lung Squamous Cell Carcinoma (TCGA): 19/489 (3.9%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NDE8 | HPA portal (live; not the pinned values)

GAGE13 | CTA / Pass

ENSG00000274274

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.4 nTPM; retina/bulk; hpa_rna_consensus; vital; 0.4977 TPM; blood/total PBMC; hpa_immune_cell_samples; vital

Cancer RNA. Lung Squamous Cell Carcinoma (TCGA): 88/489 (18.0%); Skin Cuteneous Melanoma (TCGA): 14/99 (14.1%); Testicular Germ Cell Tumor (TCGA): 18/133 (13.5%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q4V321 | HPA portal (live; not the pinned values)

GAGE2A | CTA / Pass

ENSG00000189064

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.4533 TPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital

Cancer RNA. Lung Squamous Cell Carcinoma (TCGA): 86/489 (17.6%); Lung Squamous Cell Carcinoma (validation): 11/68 (16.2%); Ovary Serous Cystadenocarcinoma (TCGA): 50/349 (14.3%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6NT46 | HPA portal (live; not the pinned values)

GARIN1B | CTA / Pass

ENSG00000135248

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.4877 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 43/133 (32.3%); Glioblastoma Multiforme (validation): 8/58 (13.8%); Breast Invasive Carcinoma (validation): 2/50 (4.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. RAB2B effector protein required for accurate acrosome formation and normal male fertility. In complex with RAB2A/RAB2B, seems to suppress excessive vesicle trafficking during acrosome formation

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96KD3 | HPA portal (live; not the pinned values)

GARIN2 | CTA / Pass

ENSG00000172717

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 12.1 nTPM; small intestine/mixed immune cells; hpa_single_cell_tissue; vital; 1.5 TPM; blood/Memory CD4 T-cell Th1/Th17; hpa_immune_monaco; vital

Cancer RNA. Lung Adenocarcinoma (validation): 3/105 (2.9%); Kidney Renal Papillary Cell Carcinoma (TCGA): 3/282 (1.1%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Seems to play a role in sperm motility

Curated tissue note. Expressed in spermatozoa (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N9W8 | HPA portal (live; not the pinned values)

GARIN3 | CTA / Pass

ENSG00000170613

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 2.894 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. ovarian cancer: 1/12 (8.3%); breast cancer: 0/12 (0.0%)

Biology. May be involved in RNA biogenesis

Curated tissue note. Expressed in adult spermatocytes and spermatids (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TC56 | HPA portal (live; not the pinned values)

GARIN5B | CTA / Pass

ENSG00000180043

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.2 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.2304 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 8/50 (16.0%); Liver Hepatocellular Carcinoma (validation): 1/231 (0.4%); Ovary Serous Cystadenocarcinoma (TCGA): 1/349 (0.3%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N5Q1 | HPA portal (live; not the pinned values)

GARIN6 | CTA / Pass

ENSG00000180219

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.4 nTPM; unsited/Horizontal cells; hpa_single_cell; unresolved; 0.157 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NEG0 | HPA portal (live; not the pinned values)

GDF9 | CTA / Pass

ENSG00000164404

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.9 nTPM; esophagus/fibroblasts; hpa_single_cell_tissue; protected; 5.753 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 28/50 (56.0%); Glioblastoma Multiforme (validation): 15/58 (25.9%); Breast Invasive Carcinoma (TCGA): 71/1022 (6.9%)

Cancer IHC. endometrial cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. Required for ovarian folliculogenesis. Promotes primordial follicle development. Stimulates granulosa cell proliferation. Promotes cell transition from G0/G1 to S and G2/M phases, through an increase of CCND1 and CCNE1 expression, and RB1 phosphorylation. It regulates STAR expression and cAMP-dependent progesterone release in granulosa and thecal cells. Attenuates the suppressive effects of activin A on STAR expression and progesterone ... [full text in table]

Curated tissue note. Expressed in ovarian granulosa cells. Present in oocytes of primary follicles (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O60383 | HPA portal (live; not the pinned values)

GLIPR1L1 | CTA / Pass

ENSG00000173401

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.9 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 4.713 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 4/133 (3.0%); Rectum Adenocarcinoma (validation): 5/207 (2.4%); Uterine Corpus Endometrial Carcinoma (TCGA): 4/176 (2.3%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Required for optimal fertilization at the stage of sperm-oocyte fusion, plays a role in optimizing acrosome function, the translocation of IZUMO1 during the acrosome reaction and the fertilization process. Component of epididymosomes, one type of membranous microvesicules which mediate the transfer of lipids and proteins to spermatozoa plasma membrane during epididymal maturation. Also component of the CD9-positive microvesicules found ... [full text in table]

Curated tissue note. Highly expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6UWM5 | HPA portal (live; not the pinned values)

GOLGA6A | CTA / Pass

ENSG00000159289

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA review. Curated tissue annotation reports intermediate pancreas and lymph-node expression and lower expression in other organs. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 2.2 nTPM; liver/bulk; hpa_rna_consensus; vital; 0.7089 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Liver Hepatocellular Carcinoma (TCGA): 1/362 (0.3%)

Cancer IHC. melanoma: 1/11 (9.1%); cervical cancer: 1/12 (8.3%)

Biology. Highly expressed in seminiferous tubes in testis. Highly expressed in spermatids, barely detectable in late pachytene spermatocytes, and not detectable in spermatogonia. Detected at intermediate levels in pancreas and lymph nodes, and at much lower levels in spleen, peripheral blood leukocytes, skeletal muscle, liver, lung, placenta, brain and heart

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NYA3 | HPA portal (live; not the pinned values)

GOLGA6C | CTA / Pass

ENSG00000167195

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; liver/bulk; hpa_rna_consensus; vital; 0.2 TPM; blood/Progenitor cell; hpa_immune_monaco; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 12/231 (5.2%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. melanoma: 1/11 (9.1%); cervical cancer: 1/12 (8.3%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NDK9 | HPA portal (live; not the pinned values)

GOLGA6D | CTA / Pass

ENSG00000140478

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.7 nTPM; liver/bulk; hpa_rna_consensus; vital; 1.066 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Liver Hepatocellular Carcinoma (TCGA): 1/362 (0.3%)

Cancer IHC. melanoma: 1/11 (9.1%); cervical cancer: 1/12 (8.3%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0CG33 | HPA portal (live; not the pinned values)

GOLGA6L2 | CTA / Pass

ENSG00000174450

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.3879 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Uterine Corpus Endometrial Carcinoma (TCGA): 2/176 (1.1%); Kidney Renal Clear Cell Carcinoma (validation): 1/100 (1.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N9W4 | HPA portal (live; not the pinned values)

GOLGA6L7 | CTA / Pass

ENSG00000261649

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 13.8 nTPM; eye/rod photoreceptor cells; hpa_single_cell_tissue; vital; 2 TPM; blood/Progenitor cell; hpa_immune_monaco; vital

Cancer RNA. Kidney Chromophobe (TCGA): 7/64 (10.9%); Lung Squamous Cell Carcinoma (TCGA): 35/489 (7.2%); Kidney Renal Clear Cell Carcinoma (validation): 6/100 (6.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A0A1B0GV03 | HPA portal (live; not the pinned values)

GOLGA8G | CTA / Pass

ENSG00000183629

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.8 nTPM; eye/muller glia cells; hpa_single_cell_tissue; vital; 0.4843 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%); Breast Invasive Carcinoma (validation): 0/50 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0DX53 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

GPX5 | CTA / Pass

ENSG00000224586

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.5 nTPM; eye/bipolar cells; hpa_single_cell_tissue; vital; 0.5199 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Protects cells and enzymes from oxidative damage, by catalyzing the reduction of hydrogen peroxide, lipid peroxides and organic hydroperoxide, by glutathione. May constitute a glutathione peroxidase-like protective system against peroxide damage in sperm membrane lipids

Curated tissue note. Epididymis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O75715 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

H2AB1 | CTA / Pass

ENSG00000274183

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.061 nTPM; blood/neutrophil; hpa_immune_cell_samples; vital; 1.418 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 4/169 (2.4%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 4/283 (1.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Atypical histone H2A which can replace conventional H2A in some nucleosomes and is associated with active transcription and mRNA processing (PubMed:22795134). Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability (PubMed:15257289, ... [full text in table]

Curated tissue note. Present in mature sperm

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0C5Y9 | HPA portal (live; not the pinned values)

H2AP | CTA / Pass

ENSG00000187516

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 3.29 TPM; blood/M2; dice_m2; vital

Cancer RNA. Colon Adenocarcinoma (TCGA): 2/254 (0.8%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 2/283 (0.7%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%)

Cancer IHC. breast cancer: 1/9 (11.1%); endometrial cancer: 1/11 (9.1%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O75409 | HPA portal (live; not the pinned values)

HDGFL1 | CTA / Pass

ENSG00000112273

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.09065 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 102/133 (76.7%); Lung Squamous Cell Carcinoma (TCGA): 3/489 (0.6%); Stomach Adenocarcinoma (TCGA): 2/346 (0.6%)

Cancer IHC. breast cancer: 0/9 (0.0%); cervical cancer: 0/8 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5TGJ6 | HPA portal (live; not the pinned values)

HHIPL2 | CTA / Pass

ENSG00000143512

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; thyroid gland/bulk; hpa_rna_consensus; manageable; 4.393 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 16/50 (32.0%); Lung Adenocarcinoma (validation): 32/105 (30.5%); Lung Adenocarcinoma (TCGA): 113/497 (22.7%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6UWX4 | HPA portal (live; not the pinned values)

HORMAD2 | CTA / Pass

ENSG00000176635

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Low normal expression review. Curated annotation reports lower expression in liver, brain and kidney. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 7.7 nTPM; liver/hepatocytes; hpa_single_cell_tissue; vital; 1.569 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Glioblastoma Multiforme (validation): 2/58 (3.4%); Liver Hepatocellular Carcinoma (validation): 4/231 (1.7%); Liver Hepatocellular Carcinoma (TCGA): 2/362 (0.6%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Essential for synapsis surveillance during meiotic prophase via the recruitment of ATR activity. Plays a key role in the male mid-pachytene checkpoint and the female meiotic prophase checkpoint: required for efficient build-up of ATR activity on unsynapsed chromosome regions, a process believed to form the basis of meiotic silencing of unsynapsed chromatin (MSUC) and meiotic prophase quality control in both sexes. Required for the DNA ... [full text in table]

Curated tissue note. Highly expressed in testis (at protein level). Expressed in lung adenocarcinoma and squamous cell carcinoma (at protein level). Expressed at lower levels in the liver, brain and kidney

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N7B1 | HPA portal (live; not the pinned values)

HSFX2 | CTA / Pass

ENSG00000268738

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2 nTPM; tongue/bulk; hpa_rna_consensus; protected; 1.5 TPM; blood/naive B-cell; hpa_immune_monaco; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 19/50 (38.0%); Kidney Renal Clear Cell Carcinoma (validation): 3/100 (3.0%); Breast Invasive Carcinoma (TCGA): 6/1022 (0.6%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9UBD0 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

HSFY2 | CTA / Pass

ENSG00000169953

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; hypothalamus/bulk; hpa_rna_consensus; vital; 0.1865 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%); Breast Invasive Carcinoma (validation): 0/50 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Testis-specific. Present in Sertoli cells and spermatogenic cells (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96LI6 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

IHO1 | CTA / Pass

ENSG00000173421

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 10.9 nTPM; skeletal muscle/fibroblasts; hpa_single_cell_tissue; vital; 2.9 TPM; blood/Central memory CD8 T-cell; hpa_immune_monaco; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 18/176 (10.2%); Pancreatic Adenocarcinoma (validation): 8/80 (10.0%); Testicular Germ Cell Tumor (TCGA): 10/133 (7.5%)

Cancer IHC. lung cancer: 1/11 (9.1%); prostate cancer: 1/11 (9.1%)

Biology. Required for DNA double-strand breaks (DSBs) formation in unsynapsed regions during meiotic recombination. Probably acts by forming a complex with MEI4 and REC114, which activates DSBs formation in unsynapsed regions, an essential step to ensure completion of synapsis. Not required for HORMAD1 functions in pairing-independent synaptonemal complex formation, ATR recruitment to unsynapsed axes, meiotic silencing of unsynapsed chromatin ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IYA8 | HPA portal (live; not the pinned values)

INSL4 | CTA / Pass

ENSG00000120211

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 17.8 nTPM; placenta/t-cells; hpa_single_cell_tissue; vital; 1.635 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Lung Adenocarcinoma (TCGA): 53/497 (10.7%); Lung Adenocarcinoma (validation): 9/105 (8.6%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 7/283 (2.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May play an important role in trophoblast development and in the regulation of bone formation

Curated tissue note. Expressed in placenta, uterus and in fetal perichondrium. Expression levels were increased in both early placentas and molar pregnancies and were reduced in choriocarcinoma cells

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q14641 | HPA portal (live; not the pinned values)

IQCF1 | CTA / Pass

ENSG00000173389

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.876 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 5/133 (3.8%); Glioblastoma Multiforme (validation): 1/58 (1.7%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Involved in sperm capacitation and acrosome reaction

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N6M8 | HPA portal (live; not the pinned values)

IQCF2 | CTA / Pass

ENSG00000184345

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 2.06 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IXL9 | HPA portal (live; not the pinned values)

IQCF3 | CTA / Pass

ENSG00000229972

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.4 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.443 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0C7M6 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

IQCF5 | CTA / Pass

ENSG00000214681

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.5842 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 5/133 (3.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A8MTL0 | HPA portal (live; not the pinned values)

IQCF6 | CTA / Pass

ENSG00000214686

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.631 TPM; blood/NK; dice_nk; vital

Cancer RNA. Kidney Chromophobe (TCGA): 1/64 (1.6%); Kidney Renal Papillary Cell Carcinoma (TCGA): 4/282 (1.4%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A8MYZ5 | HPA portal (live; not the pinned values)

IRGC | CTA / Pass

ENSG00000124449

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.025 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. GTPase required for sperm motility and therefore male fertility, via positive regulation of spermatozoa fibrous sheath formation

Curated tissue note. Abundantly expressed in semen (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6NXR0 | HPA portal (live; not the pinned values)

IZUMO1 | CTA / Pass

ENSG00000182264

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 14.1 nTPM; breast/macrophages; hpa_single_cell_tissue; vital; 1.405 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Glioblastoma Multiforme (validation): 3/58 (5.2%); Kidney Chromophobe (TCGA): 2/64 (3.1%); Pancreatic Adenocarcinoma (validation): 2/80 (2.5%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Essential sperm cell-surface protein required for fertilization by acting as a ligand for IZUMO1R/JUNO receptor on egg. The IZUMO1:IZUMO1R/JUNO interaction is a necessary adhesion event between sperm and egg that is required for fertilization but is not sufficient for cell fusion. The ligand-receptor interaction probably does not act as a membrane 'fusogen'. Acts a ligand for the human-specific oolemma epitope FCRL3/MAIA during ... [full text in table]

Curated tissue note. Sperm-specific (at protein level) (PubMed:15759005, PubMed:36070373). Detectable on sperm surface only after the acrosome reaction (PubMed:15759005, PubMed:36070373)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IYV9 | HPA portal (live; not the pinned values)

IZUMO3 | CTA / Pass

ENSG00000205442

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.2 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Glioblastoma Multiforme (TCGA): 1/141 (0.7%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Plays an important role in the biogenesis of the acrosome during sperm development

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5VZ72 | HPA portal (live; not the pinned values)

KCNU1 | CTA / Pass

ENSG00000215262

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.7 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 0.1191 TPM; blood/TH17; dice_th17; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 25/231 (10.8%); Liver Hepatocellular Carcinoma (TCGA): 23/362 (6.4%); Breast Invasive Carcinoma (validation): 3/50 (6.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Testis-specific potassium channel activated by both intracellular pH and membrane voltage that mediates export of K(+) (PubMed:23129643, PubMed:24670955, PubMed:36649421, PubMed:38267364, PubMed:9452476). Represents the primary spermatozoan K(+) current. The channel underlies a pH-triggered membrane hyperpolarization during the process of sperm capacitation, as sperm encounter the alkaline environment near the ovum in the female ... [full text in table]

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A8MYU2 | HPA portal (live; not the pinned values)

KIAA1210 | CTA / Pass

ENSG00000250423

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Boundary. Within 20% below the 30 ceiling in at least one native RNA unit

Normal RNA / IHC. 27.7 nTPM; prostate/t-cells; hpa_single_cell_tissue; vital; 0.5052 TPM; blood/basophil; hpa_immune_cell_samples; vital

Cancer RNA. Prostate Adenocarcinoma (TCGA): 54/480 (11.2%); Testicular Germ Cell Tumor (TCGA): 7/133 (5.3%); Uterine Corpus Endometrial Carcinoma (TCGA): 3/176 (1.7%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9ULL0 | HPA portal (live; not the pinned values)

KLF17 | CTA / Pass

ENSG00000171872

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Boundary. Within 20% below the 30 ceiling in at least one native RNA unit

Normal RNA / IHC. 27.4 nTPM; unsited/Oligodendrocyte precursor cells; hpa_single_cell; unresolved; 0.9 TPM; blood/basophil; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 35/133 (26.3%); Breast Invasive Carcinoma (validation): 5/50 (10.0%); Uterine Corpus Endometrial Carcinoma (TCGA): 4/176 (2.3%)

Cancer IHC. lymphoma: 3/12 (25.0%); testis cancer: 3/12 (25.0%)

Biology. Transcription repressor that binds to the promoter of target genes and prevents their expression. Acts as a negative regulator of epithelial-mesenchymal transition and metastasis in breast cancer. Specifically binds the 5'-CACCC-3' sequence in the promoter of ID1, a key metastasis regulator in breast cancer, and repress its expression. May be a germ cell-specific transcription factor that plays important roles in spermatid ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5JT82 | HPA portal (live; not the pinned values)

KLHL10 | CTA / Pass

ENSG00000161594

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.4 nTPM; eye/rod photoreceptor cells; hpa_single_cell_tissue; vital; 1.554 TPM; blood/NK; dice_nk; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 5/176 (2.8%); Kidney Renal Papillary Cell Carcinoma (TCGA): 3/282 (1.1%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. breast cancer: 0/7 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. May be a substrate-specific adapter of a CUL3-based E3 ubiquitin-protein ligase complex which mediates the ubiquitination and subsequent proteasomal degradation of target proteins during spermatogenesis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6JEL2 | HPA portal (live; not the pinned values)

LDHAL6A | CTA / Pass

ENSG00000166800

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.6 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 5.614 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 7/169 (4.1%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Uterine Corpus Endometrial Carcinoma (TCGA): 2/176 (1.1%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Catalyzes the interconversion of L-lactate and pyruvate with nicotinamide adenine dinucleotide NAD(+) as a coenzyme (PubMed:18351441). Significantly increases the transcriptional activity of JUN, when overexpressed

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6ZMR3 | HPA portal (live; not the pinned values)

LDHAL6B | CTA / Pass

ENSG00000171989

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 5.54 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Colon Adenocarcinoma (validation): 18/486 (3.7%); Rectum Adenocarcinoma (validation): 6/207 (2.9%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%)

Cancer IHC. pancreatic cancer: 1/9 (11.1%); melanoma: 1/10 (10.0%)

Biology. Catalyzes the interconversion of L-lactate and pyruvate with nicotinamide adenine dinucleotide NAD(+) as a coenzyme

Curated tissue note. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BYZ2 | HPA portal (live; not the pinned values)

LDHC | CTA / Pass

ENSG00000166796

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 20.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 4.896 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 12/99 (12.1%); Breast Invasive Carcinoma (validation): 6/50 (12.0%); Testicular Germ Cell Tumor (TCGA): 9/133 (6.8%)

Cancer IHC. renal cancer: 3/11 (27.3%); breast cancer: 0/9 (0.0%)

Biology. Possible role in sperm motility

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P07864 | HPA portal (live; not the pinned values)

LGALS13 | CTA / Pass

ENSG00000105198

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal compartment review. Curated annotation includes adult urinary bladder and spleen, in addition to placental and fetal tissues. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 6.5 nTPM; placenta/t-cells; hpa_single_cell_tissue; vital; 0.4279 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Thyroid Carcinoma (TCGA): 16/495 (3.2%); Lung Adenocarcinoma (validation): 1/105 (1.0%); Lung Adenocarcinoma (TCGA): 3/497 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Binds beta-galactoside and lactose. Strong inducer of T-cell apoptosis (PubMed:10527825, PubMed:19497882). Has hemagglutinating activity towards chicken erythrocytes (PubMed:29343868). Acts as an activator of ferroptosis: secreted by ferroptotic cells and acts by reducing localization of SLC7A11 at the plasma membrane (PubMed:40246981)

Curated tissue note. Detected in adult and fetal spleen, fetal kidney, adult urinary bladder and placenta. Placental expression originates predominantly from the syncytiotrophoblast

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9UHV8 | HPA portal (live; not the pinned values)

LGALS14 | CTA / Pass

ENSG00000006659

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; placenta/mixed immune cells; hpa_single_cell_tissue; vital; 3.475 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 5/50 (10.0%); Rectum Adenocarcinoma (validation): 11/207 (5.3%); Ovary Serous Cystadenocarcinoma (TCGA): 16/349 (4.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Binds beta-galactoside and lactose. Strong inducer of T-cell apoptosis

Curated tissue note. Highly expressed in placenta

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TCE9 | HPA portal (live; not the pinned values)

LGALS16 | CTA / Pass

ENSG00000249861

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.5 nTPM; placenta/t-cells; hpa_single_cell_tissue; vital; 0.5435 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 5/133 (3.8%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Breast Invasive Carcinoma (TCGA): 1/1022 (0.1%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Binds lactose with high affinity. Strong inducer of T-cell apoptosis

Curated tissue note. Predominantly and highly expressed in the placenta where it is localized mainly in the syncytiotrophoblast and in the endothelia of fetal vessels. Also detected in the amnion and chorionic trophoblasts in ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A8MUM7 | HPA portal (live; not the pinned values)

LLCFC1 | CTA / Pass

ENSG00000165131

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.8 nTPM; fallopian tube/neutrophils; hpa_single_cell_tissue; vital; 4.298 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Lung Squamous Cell Carcinoma (validation): 1/68 (1.5%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Sperm protein required for fusion of sperm with the egg membrane during fertilization

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96L11 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

LRRD1 | CTA / Pass

ENSG00000240720

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.6 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 1.4 TPM; blood/T-reg; hpa_immune_monaco; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 10/176 (5.7%); Pancreatic Adenocarcinoma (validation): 4/80 (5.0%); Glioblastoma Multiforme (validation): 2/58 (3.4%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A4D1F6 | HPA portal (live; not the pinned values)

LUZP4 | CTA / Pass

ENSG00000102021

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.2 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 93/133 (69.9%); Skin Cuteneous Melanoma (TCGA): 4/99 (4.0%); Liver Hepatocellular Carcinoma (validation): 3/231 (1.3%)

Cancer IHC. testis cancer: 6/9 (66.7%); breast cancer: 0/11 (0.0%)

Biology. Export adapter involved in mRNA nuclear export in cancer cells. Binds and enhances the RNA-binding activity of the nuclear RNA export factor NXF1. Can restore mRNA export function in cells compromised by loss of mRNA export adapters (PubMed:25662211)

Curated tissue note. Expressed specifically in testis. Also expressed in a wide variety of cancer types, but particularly high levels of expression observed in melanoma cells

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9P127 | HPA portal (live; not the pinned values)

LYPD4 | CTA / Pass

ENSG00000273111

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.058 TPM; blood/M2; dice_m2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Uterine Corpus Endometrial Carcinoma (TCGA): 2/176 (1.1%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 2/283 (0.7%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6UWN0 | HPA portal (live; not the pinned values)

LYZL1 | CTA / Pass

ENSG00000120563

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2424 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6UWQ5 | HPA portal (live; not the pinned values)

LYZL2 | CTA / Pass

ENSG00000151033

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.3567 TPM; blood/THSTAR; dice_thstar; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 6/50 (12.0%); Breast Invasive Carcinoma (TCGA): 8/1022 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Expressed in testis, epididymis and placenta

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q7Z4W2 | HPA portal (live; not the pinned values)

LYZL4 | CTA / Pass

ENSG00000157093

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.7 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.7912 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Stomach Adenocarcinoma (TCGA): 1/346 (0.3%)

Cancer IHC. liver cancer: 7/12 (58.3%); pancreatic cancer: 2/9 (22.2%)

Biology. May be involved in fertilization (By similarity). Has no detectable bacteriolytic and lysozyme activities in vitro (By similarity)

Curated tissue note. Expressed in testis and epididymis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96KX0 | HPA portal (live; not the pinned values)

LYZL6 | CTA / Pass

ENSG00000275722

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.2 nTPM; kidney/proximal tubular cells; hpa_single_cell_tissue; vital; 3.029 TPM; blood/NK; dice_nk; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 1/50 (2.0%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. ovarian cancer: 2/12 (16.7%); stomach cancer: 2/12 (16.7%)

Biology. May be involved sperm-egg plasma membrane adhesion and fusion during fertilization (PubMed:28182716). Exhibits bacteriolytic activity in vitro against Micrococcus luteus and Staphylococcus aureus (PubMed:24013621, PubMed:28182716). Shows weak bacteriolytic activity against Gram-positive bacteria at physiological pH (PubMed:28182716). Bacteriolytic activity is pH-dependent, with a maximum at around pH 5.6 (PubMed:28182716)

Curated tissue note. Expressed in testis, epididymis and spermatozoa (at protein level) (PubMed:16014814, PubMed:28182716). Expressed in late-stage spermatocytes and round spermatids (PubMed:28182716)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O75951 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

MAGEA1 | CTA / Pass

ENSG00000198681

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.3 nTPM; heart muscle/fibroblasts; hpa_single_cell_tissue; vital; 0.1293 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 89/231 (38.5%); Liver Hepatocellular Carcinoma (TCGA): 108/362 (29.8%); Lung Squamous Cell Carcinoma (TCGA): 143/489 (29.2%)

Cancer IHC. skin cancer: 3/12 (25.0%); lung cancer: 2/11 (18.2%)

Biology. May be involved in transcriptional regulation through interaction with SNW1 and recruiting histone deactelyase HDAC1. May inhibit notch intracellular domain (NICD) transactivation. May play a role in embryonal development and tumor transformation or aspects of tumor progression. Antigen recognized on a melanoma by autologous cytolytic T-lymphocytes

Curated tissue note. Expressed in many tumors of several types, such as melanoma, head and neck squamous cell carcinoma, lung carcinoma and breast carcinoma, but not in normal tissues except for testes. Never expressed in kidney ... [full text in table]

Therapeutic evidence. Trial registration only.

UniProt P43355 | Trial/source record | HPA portal (live; not the pinned values)

MAGEA10 | CTA / Pass

ENSG00000124260

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; placenta/mixed immune cells; hpa_single_cell_tissue; vital; 1.911 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 52/169 (30.8%); Lung Squamous Cell Carcinoma (TCGA): 123/489 (25.2%); Skin Cuteneous Melanoma (TCGA): 18/99 (18.2%)

Cancer IHC. melanoma: 4/11 (36.4%); glioma: 4/12 (33.3%)

Biology. Not known, though may play a role in embryonal development and tumor transformation or aspects of tumor progression

Curated tissue note. Expressed in many tumors of several types, such as melanoma, head and neck squamous cell carcinoma, lung carcinoma and breast carcinoma, but not in normal tissues except for spermatogonia, spermatocytes and ... [full text in table]

Therapeutic evidence. Clinical outcomes.

UniProt P43363 | Reviewed source 1 | Reviewed source 2 | HPA portal (live; not the pinned values)

MAGEA11 | CTA / Pass

ENSG00000185247

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA review. Curated tissue annotation includes adrenal tissue alongside reproductive organs. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0.8 nTPM; bronchus/ciliated cells; hpa_single_cell_tissue; vital; 0.1036 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (TCGA): 187/489 (38.2%); Lung Squamous Cell Carcinoma (validation): 24/68 (35.3%); Head and Neck Squamous Cell Carcinoma (TCGA): 122/492 (24.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Acts as androgen receptor coregulator that increases androgen receptor activity by modulating the receptors interdomain interaction. May play a role in embryonal development and tumor transformation or aspects of tumor progression

Curated tissue note. Expressed in tumors of several types, such as melanoma, head and neck squamous cell carcinoma, lung carcinoma and breast carcinoma. Expressed in testis, ovary, prostate, cancerous prostate, breast and adrenal ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P43364 | HPA portal (live; not the pinned values)

MAGEA4 | CTA / Pass

ENSG00000147381

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.8 nTPM; placenta/t-cells; hpa_single_cell_tissue; vital; 0.09067 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Lung Squamous Cell Carcinoma (TCGA): 270/489 (55.2%); Lung Squamous Cell Carcinoma (validation): 36/68 (52.9%); Head and Neck Squamous Cell Carcinoma (TCGA): 181/492 (36.8%)

Cancer IHC. testis cancer: 5/12 (41.7%); skin cancer: 4/12 (33.3%)

Biology. Regulates cell proliferation through the inhibition of cell cycle arrest at the G1 phase (PubMed:22842486). Also negatively regulates p53-mediated apoptosis (PubMed:22842486)

Curated tissue note. Expressed in many tumors of several types, such as melanoma, head and neck squamous cell carcinoma, lung carcinoma and breast carcinoma, but not in normal tissues except for testes and placenta

Therapeutic evidence. Approved product.

UniProt P43358 | Reviewed source 1 | HPA portal (live; not the pinned values)

MAGEA6 | CTA / Pass

ENSG00000197172

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.6 nTPM; heart muscle/endothelial cells; hpa_single_cell_tissue; vital; 0.2324 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 49/99 (49.5%); Lung Squamous Cell Carcinoma (TCGA): 220/489 (45.0%); Lung Squamous Cell Carcinoma (validation): 26/68 (38.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Activator of ubiquitin ligase activity of RING-type zinc finger-containing E3 ubiquitin-protein ligases that acts as a repressor of autophagy (PubMed:17942928, PubMed:20864041, PubMed:31267705). May enhance ubiquitin ligase activity of TRIM28 and stimulate p53/TP53 ubiquitination by TRIM28. Proposed to act through recruitment and/or stabilization of the Ubl-conjugating enzyme (E2) at the E3:substrate complex (PubMed:17942928, ... [full text in table]

Curated tissue note. Expressed in many tumors of several types, such as melanoma, head and neck squamous cell carcinoma, lung carcinoma and breast carcinoma, but not in normal tissues except for testes

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P43360 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

MAGEA8 | CTA / Pass

ENSG00000156009

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3 nTPM; eye/bipolar cells; hpa_single_cell_tissue; vital; 1.435 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 10/169 (5.9%); Lung Adenocarcinoma (TCGA): 22/497 (4.4%); Liver Hepatocellular Carcinoma (validation): 10/231 (4.3%)

Cancer IHC. renal cancer: 4/12 (33.3%); urothelial cancer: 4/12 (33.3%)

Biology. Not known, though may play a role in embryonal development and tumor transformation or aspects of tumor progression

Curated tissue note. Expressed in many tumors of several types, such as melanoma, head and neck squamous cell carcinoma, lung carcinoma and breast carcinoma, but not in normal tissues except for testis and placenta

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P43361 | HPA portal (live; not the pinned values)

MAGEA9B | CTA / Pass

ENSG00000267978

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.2 nTPM; adipose tissue/bulk; hpa_rna_consensus; manageable; 0.1355 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (validation): 35/68 (51.5%); Lung Squamous Cell Carcinoma (TCGA): 240/489 (49.1%); Bladder Urothelial Carcinoma (TCGA): 55/169 (32.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Not known, though may play a role in embryonal development and tumor transformation or aspects of tumor progression

Curated tissue note. Expressed in many tumors of several types, such as melanoma, head and neck squamous cell carcinoma, lung carcinoma and breast carcinoma, but not in normal tissues except for testes and placenta

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P43362 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

MAGEB1 | CTA / Pass

ENSG00000214107

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; colon/undifferentiated cells; hpa_single_cell_tissue; protected; 0.1488 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 75/133 (56.4%); Skin Cuteneous Melanoma (TCGA): 9/99 (9.1%); Liver Hepatocellular Carcinoma (validation): 10/231 (4.3%)

Cancer IHC. testis cancer: 7/12 (58.3%); breast cancer: 0/11 (0.0%)

Biology. Expressed only in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P43366 | HPA portal (live; not the pinned values)

MAGEB18 | CTA / Pass

ENSG00000176774

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.4 nTPM; colon/undifferentiated cells; hpa_single_cell_tissue; protected; 0.0352 TPM; blood/neutrophil; hpa_immune_cell_samples; vital

Cancer RNA. Glioblastoma Multiforme (validation): 1/58 (1.7%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. May enhance ubiquitin ligase activity of RING-type zinc finger-containing E3 ubiquitin-protein ligases. Proposed to act through recruitment and/or stabilization of the Ubl-conjugating enzyme (E2) at the E3:substrate complex

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96M61 | HPA portal (live; not the pinned values)

MAGEB3 | CTA / Pass

ENSG00000198798

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.3 nTPM; brain/oligodendrocytes; hpa_single_cell_tissue; vital; 0.1399 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. testis cancer: 3/12 (25.0%); melanoma: 2/12 (16.7%)

Biology. Expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O15480 | HPA portal (live; not the pinned values)

MAGEC1 | CTA / Pass

ENSG00000155495

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 31/99 (31.3%); Testicular Germ Cell Tumor (TCGA): 36/133 (27.1%); Liver Hepatocellular Carcinoma (TCGA): 41/362 (11.3%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Expressed in testis and in tumors of a wide variety of histologic types

Therapeutic evidence. Trial registration only.

UniProt O60732 | Trial/source record | HPA portal (live; not the pinned values)

MAGEC2 | CTA / Pass

ENSG00000046774

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Urgent protein review. A 2003 study reported cerebellar Purkinje-cell staining with the TC-1 polyclonal anti-HCA587 reagent. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2811 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 40/99 (40.4%); Testicular Germ Cell Tumor (TCGA): 53/133 (39.8%); Liver Hepatocellular Carcinoma (validation): 54/231 (23.4%)

Cancer IHC. melanoma: 3/11 (27.3%); liver cancer: 2/10 (20.0%)

Biology. Proposed to enhance ubiquitin ligase activity of RING-type zinc finger-containing E3 ubiquitin-protein ligases. In vitro enhances ubiquitin ligase activity of TRIM28 and stimulates p53/TP53 ubiquitination in presence of Ubl-conjugating enzyme UBE2H leading to p53/TP53 degradation. Proposed to act through recruitment and/or stabilization of the Ubl-conjugating enzymes (E2) at the E3:substrate complex

Curated tissue note. Not expressed in normal tissues, except in germ cells in the seminiferous tubules and in Purkinje cells of the cerebellum. Expressed in various tumors, including melanoma, lymphoma, as well as pancreatic ... [full text in table]

Therapeutic evidence. Normal protein conflict.

UniProt Q9UBF1 | Reviewed source 1 | HPA portal (live; not the pinned values)

MEIOB | CTA / Pass

ENSG00000162039

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Boundary. Within 20% below the 30 ceiling in at least one native RNA unit

Normal RNA / IHC. 24.2 nTPM; placenta/mixed immune cells; hpa_single_cell_tissue; vital; 1.005 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 60/133 (45.1%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 42/283 (14.8%); Lung Squamous Cell Carcinoma (validation): 5/68 (7.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Single-stranded DNA-binding protein required for homologous recombination in meiosis I. Required for double strand breaks (DSBs) repair and crossover formation and promotion of faithful and complete synapsis. Not required for the initial loading of recombinases but required to maintain a proper number of RAD51 and DMC1 foci after the zygotene stage. May act by ensuring the stabilization of recombinases, which is required for successful ... [full text in table]

Curated tissue note. In fetal gonads, specifically expressed in the ovary starting at the 14th weeks post fertilization (PubMed:24068956). In the adult, restricted to testis (PubMed:28206990)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N635 | HPA portal (live; not the pinned values)

MEIOC | CTA / Pass

ENSG00000180336

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.1 nTPM; unsited/Distal tubular cells; hpa_single_cell; unresolved; 2.253 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 16/176 (9.1%); Testicular Germ Cell Tumor (TCGA): 11/133 (8.3%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 17/283 (6.0%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/9 (0.0%)

Biology. Is required for meiosis completion in both male and female germ cells. Confers stability to numerous meiotic mRNAs in gonads allowing proper initiation and progression into meiosis prophase I. The function may involve YTHDC2 and is independent of induction by retinoic acid (RA). Maintains an extended meiotic prophase I by properly promoting the transition from a mitotic to a meiotic cell cycle program by binding transcripts through its ... [full text in table]

Curated tissue note. Expressed in fetal ovaries (PubMed:26742488). Expressed in testis (PubMed:28380054)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A2RUB1 | HPA portal (live; not the pinned values)

MGAT4D | CTA / Pass

ENSG00000205301

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.2 nTPM; lung/ciliated cells; hpa_single_cell_tissue; vital; 0.1592 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. skin cancer: 1/12 (8.3%); urothelial cancer: 1/12 (8.3%)

Biology. May play a role in male spermatogenesis. In vitro acts as inhibitor of MGAT1 activity causing cell surface proteins to carry mainly high mannose N-glycans. The function is mediated by its lumenal domain and occurs specifically in the Golgi. A catalytic glucosyltransferase activity is not detected. May be involved in regulation of Sertoli-germ cell interactions during specific stages of spermatogenesis

Curated tissue note. Expressed in testis. Poorly expressed in testis biopsies from men with impaired spermatogenesis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NG13 | HPA portal (live; not the pinned values)

MORC1 | CTA / Pass

ENSG00000114487

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Boundary. Within 20% below the 30 ceiling in at least one native RNA unit

Normal RNA / IHC. 28.5 nTPM; pbmc/platelets; hpa_single_cell_tissue; vital; 0.3943 TPM; blood/M2; dice_m2; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 2/99 (2.0%); Lung Squamous Cell Carcinoma (validation): 1/68 (1.5%); Lung Squamous Cell Carcinoma (TCGA): 5/489 (1.0%)

Cancer IHC. skin cancer: 1/9 (11.1%); cervical cancer: 1/12 (8.3%)

Biology. Required for spermatogenesis (By similarity). Essential for de novo DNA methylation and silencing of transposable elements in the male embryonic germ cells (By similarity)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86VD1 | HPA portal (live; not the pinned values)

MOV10L1 | CTA / Pass

ENSG00000073146

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 15.7 nTPM; vascular/endothelial cells; hpa_single_cell_tissue; vital; 1.355 TPM; blood/NK; dice_nk; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 9/50 (18.0%); Prostate Adenocarcinoma (TCGA): 46/480 (9.6%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 22/283 (7.8%)

Cancer IHC. liver cancer: 3/11 (27.3%); urothelial cancer: 3/12 (25.0%)

Biology. ATP-dependent 5'-3' RNA helicase required during spermatogenesis to repress transposable elements and prevent their mobilization, which is essential for germline integrity. Acts via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and governs the methylation and subsequent repression of transposons. Involved in the primary piRNA ... [full text in table]

Curated tissue note. Specifically expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BXT6 | HPA portal (live; not the pinned values)

MROH2B | CTA / Pass

ENSG00000171495

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 7.7 nTPM; liver/hepatocytes; hpa_single_cell_tissue; vital; 0.06071 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Liver Hepatocellular Carcinoma (TCGA): 5/362 (1.4%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Stomach Adenocarcinoma (TCGA): 1/346 (0.3%)

Cancer IHC. breast cancer: 3/9 (33.3%); urothelial cancer: 1/10 (10.0%)

Biology. May play a role in the process of sperm capacitation

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q7Z745 | HPA portal (live; not the pinned values)

MS4A6E | CTA / Pass

ENSG00000166926

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 16.5 nTPM; thymus/macrophages; hpa_single_cell_tissue; vital; 1.446 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 3/50 (6.0%); Lung Squamous Cell Carcinoma (validation): 2/68 (2.9%); Glioblastoma Multiforme (validation): 1/58 (1.7%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May be involved in signal transduction as a component of a multimeric receptor complex

Curated tissue note. Expressed by malignant and fetal tissue at very low levels

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96DS6 | HPA portal (live; not the pinned values)

NAA11 | CTA / Pass

ENSG00000156269

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.6 nTPM; placenta/t-cells; hpa_single_cell_tissue; vital; 0.3536 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 47/133 (35.3%); Liver Hepatocellular Carcinoma (validation): 21/231 (9.1%); Bladder Urothelial Carcinoma (TCGA): 14/169 (8.3%)

Cancer IHC. cervical cancer: 2/11 (18.2%); lung cancer: 1/10 (10.0%)

Biology. Displays alpha (N-terminal) acetyltransferase activity. Proposed alternative catalytic subunit of the N-terminal acetyltransferase A (NatA) complex

Curated tissue note. Present in several cell lines, with highest levels in MCF-7 cells (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BSU3 | HPA portal (live; not the pinned values)

NANOS2 | CTA / Pass

ENSG00000188425

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; unsited/Horizontal cells; hpa_single_cell; unresolved; 0.5904 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. renal cancer: 8/12 (66.7%); testis cancer: 4/9 (44.4%)

Biology. Plays a key role in the sexual differentiation of germ cells by promoting the male fate but suppressing the female fate. Represses the female fate pathways by suppressing meiosis, which in turn results in the promotion of the male fate. Maintains the suppression of meiosis by preventing STRA8 expression, which is required for premeiotic DNA replication, after CYP26B1 is decreased. Regulates the localization of the CCR4-NOT ... [full text in table]

Curated tissue note. Testis and ovary. Expression found in several spermatogenic stages: in cells on the periphery of the tubules which could correspond to spermatogonia, in spermatocytes and in round spermatids (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P60321 | HPA portal (live; not the pinned values)

NLRP4 | CTA / Pass

ENSG00000160505

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.2 nTPM; esophagus/plasma cells; hpa_single_cell_tissue; vital; 6.812 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 27/133 (20.3%); Uterine Corpus Endometrial Carcinoma (TCGA): 7/176 (4.0%); Glioblastoma Multiforme (validation): 2/58 (3.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May be involved in inflammation and recognition of cytosolic pathogen-associated molecular patterns (PAMPs) not intercepted by membrane-bound receptors. Acts as a negative regulator of the type I interferon signaling pathway by serving as an adapter to promote DTX4-mediated ubiquitination of activated TBK1, and its subsequent degradation. Suppresses NF-kappaB induction by the cytokines TNFA and IL1B, suggesting that it operates at a ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96MN2 | HPA portal (live; not the pinned values)

NUP210L | CTA / Pass

ENSG00000143552

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 19.8 nTPM; brain/oligodendrocytes; hpa_single_cell_tissue; vital; 3.226 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (validation): 1/81 (1.2%); Lung Adenocarcinoma (TCGA): 6/497 (1.2%); Uterine Corpus Endometrial Carcinoma (TCGA): 2/176 (1.1%)

Cancer IHC. breast cancer: 3/10 (30.0%); melanoma: 2/10 (20.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5VU65 | HPA portal (live; not the pinned values)

NUTM1 | CTA / Pass

ENSG00000184507

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.5 nTPM; eye/bipolar cells; hpa_single_cell_tissue; vital; 0.725 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 1/283 (0.4%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Plays a role in the regulation of proliferation. Regulates TERT expression by modulating SP1 binding to TERT promoter binding sites

Curated tissue note. Specifically expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86Y26 | HPA portal (live; not the pinned values)

OBP2B | CTA / Pass

ENSG00000171102

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 11.8 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.4615 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 24/50 (48.0%); Breast Invasive Carcinoma (TCGA): 171/1022 (16.7%); Ovary Serous Cystadenocarcinoma (validation): 7/81 (8.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Probably binds and transports small hydrophobic volatile molecules

Curated tissue note. Strongly expressed in genital sphere organs such as the prostate and mammary glands

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NPH6 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

ODF1 | CTA / Pass

ENSG00000155087

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.7874 TPM; blood/TH17; dice_th17; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. melanoma: 1/12 (8.3%); ovarian cancer: 1/12 (8.3%)

Biology. Component of the outer dense fibers (ODF) of spermatozoa. ODF are filamentous structures located on the outside of the axoneme in the midpiece and principal piece of the mammalian sperm tail and may help to maintain the passive elastic structures and elastic recoil of the sperm tail

Curated tissue note. Testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q14990 | HPA portal (live; not the pinned values)

ODF4 | CTA / Pass

ENSG00000184650

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.4 nTPM; tongue/suprabasal keratinocytes; hpa_single_cell_tissue; protected; 1.056 TPM; blood/NK; dice_nk; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. prostate cancer: 1/11 (9.1%); breast cancer: 0/12 (0.0%)

Biology. Component of the outer dense fibers (ODF) of spermatozoa which could be involved in sperm tail structure, sperm movement and general organization of cellular cytoskeleton

Curated tissue note. Expressed in testis and sperm; especially localized to sperm tail (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q2M2E3 | HPA portal (live; not the pinned values)

OOEP | CTA / Pass

ENSG00000203907

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 7 nTPM; bronchus/basal respiratory cells; hpa_single_cell_tissue; vital; 2.904 TPM; blood/gdT-cell; hpa_immune_cell_samples; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 100/133 (75.2%); Kidney Renal Papillary Cell Carcinoma (TCGA): 28/282 (9.9%); Uterine Corpus Endometrial Carcinoma (TCGA): 14/176 (8.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Component of the subcortical maternal complex (SCMC), a multiprotein complex that plays a key role in early embryonic development (By similarity). The SCMC complex is a structural constituent of cytoplasmic lattices, which consist in fibrous structures found in the cytoplasm of oocytes and preimplantation embryos (PubMed:41118754). They are required to store maternal proteins critical for embryonic development, such as ribosomal ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NGQ2 | HPA portal (live; not the pinned values)

OR2H1 | CTA / Pass

ENSG00000204688

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.2 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 0.4639 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%); Breast Invasive Carcinoma (validation): 0/50 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Odorant receptor

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9GZK4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

OTUD6A | CTA / Pass

ENSG00000189401

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.003 nTPM; blood/basophil; hpa_immune_cell_samples; vital; 1.668 TPM; blood/basophil; hpa_immune_cell_samples; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 28/133 (21.1%); Uterine Corpus Endometrial Carcinoma (TCGA): 12/176 (6.8%); Pancreatic Adenocarcinoma (validation): 3/80 (3.8%)

Cancer IHC. testis cancer: 2/12 (16.7%); breast cancer: 0/12 (0.0%)

Biology. Deubiquitinating enzyme that hydrolyzes 'Lys-27'-, 'Lys-29'- and 'Lys-33'-linked polyubiquitin chains. Also able to hydrolyze 'Lys-11'-linked ubiquitin chains

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q7L8S5 | HPA portal (live; not the pinned values)

PAGE1 | CTA / Pass

ENSG00000068985

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 30/231 (13.0%); Liver Hepatocellular Carcinoma (TCGA): 31/362 (8.6%); Skin Cuteneous Melanoma (TCGA): 6/99 (6.1%)

Cancer IHC. melanoma: 1/11 (9.1%); testis cancer: 1/12 (8.3%)

Biology. Isolated from prostate cancer cell lines; expression associated with progression to androgen insensitive phenotype. Expressed in normal testis and at lower level in normal placenta

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O75459 | HPA portal (live; not the pinned values)

PAGE2 | CTA / Pass

ENSG00000234068

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 7.7 nTPM; pancreas/ductal cells; hpa_single_cell_tissue; vital; 2.525 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 33/133 (24.8%); Lung Squamous Cell Carcinoma (TCGA): 66/489 (13.5%); Liver Hepatocellular Carcinoma (validation): 30/231 (13.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q7Z2X7 | HPA portal (live; not the pinned values)

PASD1 | CTA / Pass

ENSG00000166049

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Context review. An older study reported histologically normal tissues from patients with lung and small-intestinal cancers. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 1.3 nTPM; salivary gland/serous glandular cells; hpa_single_cell_tissue; protected; 0.141 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 11/133 (8.3%); Skin Cuteneous Melanoma (TCGA): 6/99 (6.1%); Stomach Adenocarcinoma (TCGA): 15/346 (4.3%)

Cancer IHC. testis cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. Functions as a suppressor of the biological clock that drives the daily circadian rhythms of cells throughout the body (PubMed:25936801). Acts as a nuclear repressor of the CLOCK-BMAL1 heterodimer-mediated transcriptional activation of the core clock components (PubMed:25936801). Inhibits circadian clock function in cancer cells, when overexpressed (PubMed:25936801)

Curated tissue note. Testis-specific (PubMed:25936801). Expressed in a broad range of cancer cells, including melanoma, lung cancer, and breast cancer (at protein level). Testis-specific (PubMed:15162151). Found in histologically ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IV76 | HPA portal (live; not the pinned values)

PATE2 | CTA / Pass

ENSG00000196844

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Isoform review. UniProt assigns normal male/female brain expression to isoform 2, while reproductive expression includes both forms. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 7.7 nTPM; prostate/t-cells; hpa_single_cell_tissue; vital; 1.674 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Glioblastoma Multiforme (validation): 5/58 (8.6%); Kidney Chromophobe (TCGA): 1/64 (1.6%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Isoform 1 and isoform 2 are expressed in prostate and testis. Isoform 2 is expressed in male and female brain at equivalent levels, in particular in cerebellum, cerebral cortex, corpus callosum, occipital, parrietal and temporal lobes, and pons, but not in amygdala, cerebral peduncle, hippocampus and thalamus

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6UY27 | HPA portal (live; not the pinned values)

PATE3 | CTA / Pass

ENSG00000236027

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.8 nTPM; prostate/t-cells; hpa_single_cell_tissue; vital; 1.006 TPM; blood/NK; dice_nk; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Specifically expressed in prostate and testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt B3GLJ2 | HPA portal (live; not the pinned values)

PDCL2 | CTA / Pass

ENSG00000163440

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 20.4 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 1.182 TPM; blood/TH17; dice_th17; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 44/133 (33.1%); Ovary Serous Cystadenocarcinoma (TCGA): 57/349 (16.3%); Ovary Serous Cystadenocarcinoma (validation): 12/81 (14.8%)

Cancer IHC. renal cancer: 1/11 (9.1%); urothelial cancer: 1/12 (8.3%)

Biology. Essential for male fertility, spermiogenesis and acrosome formation

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N4E4 | HPA portal (live; not the pinned values)

PDHA2 | CTA / Pass

ENSG00000163114

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.4473 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Together with PDHB forms the heterotetrameric E1 subunit of the pyruvate dehydrogenase (PDH) complex in testis (PubMed:14638692). The PDH complex catalyzes the overall conversion of pyruvate to acetyl-CoA and CO(2), and thereby links cytoplasmic glycolysis and the mitochondrial tricarboxylic acid (TCA) cycle (Probable). It contains multiple copies of three enzymatic components: pyruvate dehydrogenase (E1), dihydrolipoamide ... [full text in table]

Curated tissue note. Testis. Expressed in postmeiotic spermatogenic cells

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P29803 | HPA portal (live; not the pinned values)

PDZD9 | CTA / Pass

ENSG00000155714

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 10.3 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 4.713 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Kidney Renal Papillary Cell Carcinoma (TCGA): 2/282 (0.7%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IXQ8 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

PFN3 | CTA / Pass

ENSG00000196570

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2428 TPM; blood/naive B-cell; hpa_immune_cell_samples; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (TCGA): 2/349 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Binds to actin and affects the structure of the cytoskeleton. Slightly reduces actin polymerization. Binds to poly-L-proline, phosphatidylinositol 3-phosphate (PtdIns(3)P), phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P2) and phosphatidylinositol 4-phosphate (PtdIns(4)P). May be involved in spermatogenesis

Curated tissue note. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P60673 | HPA portal (live; not the pinned values)

PGK2 | CTA / Pass

ENSG00000170950

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 11.8 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.6625 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. renal cancer: 7/12 (58.3%); breast cancer: 2/11 (18.2%)

Biology. Catalyzes the reversible conversion of 1,3-diphosphoglycerate to 3-phosphoglycerate and plays a role in glycolysis and gluconeogenesis (By similarity). Essential for sperm motility and male fertility (PubMed:26677959). Not required for the completion of spermatogenesis (By similarity)

Curated tissue note. Mainly found in round spermatids. Localized on the principle piece in the sperm (at protein level). Testis-specific. Expression significantly decreased in the testis of elderly men

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P07205 | HPA portal (live; not the pinned values)

PKDREJ | CTA / Pass

ENSG00000130943

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.2 nTPM; bone marrow/t-cells; hpa_single_cell_tissue; vital; 3.337 TPM; blood/NK; dice_nk; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 6/50 (12.0%); Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. testis cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. Testis-specific protein that controls sperm transport and the timing of zona pellucida-evoked exocytosis of the sperm acrosome

Curated tissue note. Exclusively expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NTG1 | HPA portal (live; not the pinned values)

PLAC1 | CTA / Pass

ENSG00000170965

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 13.4 nTPM; unsited/Smooth muscle cells; hpa_single_cell; unresolved; 0.8916 TPM; blood/NK; dice_nk; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 24/50 (48.0%); Bladder Urothelial Carcinoma (TCGA): 27/169 (16.0%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 39/283 (13.8%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. May play a role in placental development

Curated tissue note. Expressed in placenta. Localizes primarily to differentiated syncytiotrophoblast throughout gestation as well as to a small population of villous cytotrophoblasts. Also detected in maternal blood and rapidly ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9HBJ0 | HPA portal (live; not the pinned values)

PLCZ1 | CTA / Pass

ENSG00000139151

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.2 nTPM; pancreas/exocrine glandular cells; hpa_single_cell_tissue; vital; 0.2873 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Glioblastoma Multiforme (validation): 1/58 (1.7%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. The production of the second messenger molecules diacylglycerol (DAG) and inositol 1,4,5-trisphosphate (IP3) is mediated by activated phosphatidylinositol-specific phospholipase C enzymes. In vitro, hydrolyzes PtdIns(4,5)P2 in a Ca(2+)-dependent manner. Triggers intracellular Ca(2+) oscillations in oocytes solely during M phase and is involved in inducing oocyte activation and initiating embryonic development up to the blastocyst ... [full text in table]

Curated tissue note. Expressed specifically in testis and sperm. Weakly expressed in pancreatic-duct cells. Up-regulated in pancreatic-duct cells from patients with cystic fibrosis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86YW0 | HPA portal (live; not the pinned values)

POM121L12 | CTA / Pass

ENSG00000221900

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.0168 nTPM; blood/memory CD4 T-cell; hpa_immune_cell_samples; vital; 0.0149 TPM; blood/memory CD4 T-cell; hpa_immune_cell_samples; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. liver cancer: 1/10 (10.0%); lung cancer: 1/11 (9.1%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N7R1 | HPA portal (live; not the pinned values)

POTEM | CTA / Pass

ENSG00000222036

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 10.1 nTPM; bronchus/smooth muscle cells; hpa_single_cell_tissue; vital; 3.8 TPM; blood/Switched memory B-cell; hpa_immune_monaco; vital

Cancer RNA. Prostate Adenocarcinoma (TCGA): 285/480 (59.4%); Lung Squamous Cell Carcinoma (validation): 2/68 (2.9%); Stomach Adenocarcinoma (TCGA): 9/346 (2.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NI47 | HPA portal (live; not the pinned values)

PPP1R2B | CTA / Pass

ENSG00000231989

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.3 nTPM; bronchus/smooth muscle cells; hpa_single_cell_tissue; vital; 1.712 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Glioblastoma Multiforme (validation): 3/58 (5.2%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Inhibitor of protein-phosphatase 1

Curated tissue note. Only detected in spermatozoa, both heads and tails

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6NXS1 | HPA portal (live; not the pinned values)

PRAME | CTA / Pass

ENSG00000185686

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Low normal expression review. UniProt records detection in kidney, brain and skin samples; current source-native normal RNA remains below the new 30 ceiling. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 20.3 nTPM; colon/undifferentiated cells; hpa_single_cell_tissue; protected; 0.5495 TPM; blood/THSTAR; dice_thstar; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 94/99 (94.9%); Uterine Corpus Endometrial Carcinoma (TCGA): 165/176 (93.8%); Ovary Serous Cystadenocarcinoma (validation): 72/81 (88.9%)

Cancer IHC. melanoma: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. Substrate-recognition component of a Cul2-RING (CRL2) E3 ubiquitin-protein ligase complex, which mediates ubiquitination of target proteins, leading to their degradation (PubMed:21822215, PubMed:26138980). The CRL2(PRAME) complex mediates ubiquitination and degradation of truncated MSRB1/SEPX1 selenoproteins produced by failed UGA/Sec decoding (PubMed:26138980). In the nucleus, the CRL2(PRAME) complex is recruited to epigenetically and ... [full text in table]

Curated tissue note. Expressed in testis. Detected in samples of kidney, brain and skin

Therapeutic evidence. Clinical outcomes.

UniProt P78395 | Reviewed source 1 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

PRDM7 | CTA / Pass

ENSG00000126856

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.4 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 3.745 TPM; blood/M2; dice_m2; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 3/99 (3.0%); Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Histone methyltransferase that selectively methylates 'Lys-4' of dimethylated histone H3 (H3K4me2) to produce trimethylated 'Lys-4' histone H3 (H3K4me3). May play a role in epigenetic regulation of gene expression by defining an active chromatin state

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NQW5 | HPA portal (live; not the pinned values)

PRKACG | CTA / Pass

ENSG00000165059

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.6062 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. ovarian cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. Phosphorylates a large number of substrates in the cytoplasm and the nucleus

Curated tissue note. Testis specific. But important tissues such as brain and ovary have not been analyzed for the content of transcript

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P22612 | HPA portal (live; not the pinned values)

PRPS1L1 | CTA / Pass

ENSG00000229937

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.9 nTPM; bronchus/smooth muscle cells; hpa_single_cell_tissue; vital; 1.147 TPM; blood/NK; dice_nk; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 1/50 (2.0%); Liver Hepatocellular Carcinoma (validation): 2/231 (0.9%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Catalyzes the synthesis of phosphoribosylpyrophosphate (PRPP) that is essential for nucleotide synthesis

Curated tissue note. Testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P21108 | HPA portal (live; not the pinned values)

PRR30 | CTA / Pass

ENSG00000186143

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.3816 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q53SZ7 | HPA portal (live; not the pinned values)

PRSS37 | CTA / Pass

ENSG00000165076

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.297 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Bladder Urothelial Carcinoma (TCGA): 2/169 (1.2%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Plays a role in male fertility (By similarity). May have a role in sperm migration or binding to zona-intact eggs (By similarity). Involved in the activation of the proacrosin/acrosin system (PubMed:27649891)

Curated tissue note. Testis-specific (PubMed:27649891). Expressed in spermatids (at protein level) (PubMed:27649891)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A4D1T9 | HPA portal (live; not the pinned values)

PRSS54 | CTA / Pass

ENSG00000103023

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.3762 TPM; blood/CD8_STIM; dice_cd8_stim; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 17/176 (9.7%); Bladder Urothelial Carcinoma (TCGA): 5/169 (3.0%); Kidney Chromophobe (TCGA): 1/64 (1.6%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6PEW0 | HPA portal (live; not the pinned values)

PRSS55 | CTA / Pass

ENSG00000184647

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.1 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.7004 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Glioblastoma Multiforme (validation): 1/58 (1.7%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Probable serine protease, which plays a crucial role in the fertility of male mice including sperm migration and sperm-egg interaction

Curated tissue note. Only detected in testis. Expressed in spermatogonia, spermatocytes, spermatids, Leydig and Sertoli cells. Expressed in prostate cancer and ovarian cancer (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6UWB4 | HPA portal (live; not the pinned values)

PRSS58 | CTA / Pass

ENSG00000258223

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; bone marrow/t-cells; hpa_single_cell_tissue; vital; 1.539 TPM; blood/CD8_STIM; dice_cd8_stim; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 0/283 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IYP2 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

PSG1 | CTA / Pass

ENSG00000231924

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 20.4 nTPM; placenta/mixed immune cells; hpa_single_cell_tissue; vital; 0.6 TPM; blood/neutrophil; hpa_immune_monaco; vital

Cancer RNA. Thyroid Carcinoma (TCGA): 65/495 (13.1%); Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Bladder Urothelial Carcinoma (TCGA): 2/169 (1.2%)

Cancer IHC. liver cancer: 1/11 (9.1%); melanoma: 1/12 (8.3%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P11464 | HPA portal (live; not the pinned values)

PSG11 | CTA / Pass

ENSG00000243130

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 0.1182 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%); Lung Adenocarcinoma (TCGA): 1/497 (0.2%)

Cancer IHC. colorectal cancer: 1/12 (8.3%); breast cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9UQ72 | HPA portal (live; not the pinned values)

PSG2 | CTA / Pass

ENSG00000242221

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 16.8 nTPM; pancreas/ductal cells; hpa_single_cell_tissue; vital; 0.3116 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 9/207 (4.3%); Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Lung Adenocarcinoma (validation): 1/105 (1.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P11465 | HPA portal (live; not the pinned values)

PSG3 | CTA / Pass

ENSG00000221826

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 11.2 nTPM; placenta/mixed immune cells; hpa_single_cell_tissue; vital; 0.2931 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Lung Adenocarcinoma (validation): 2/105 (1.9%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Lung Adenocarcinoma (TCGA): 7/497 (1.4%)

Cancer IHC. liver cancer: 1/11 (9.1%); melanoma: 1/12 (8.3%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q16557 | HPA portal (live; not the pinned values)

PSG6 | CTA / Pass

ENSG00000170848

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3 nTPM; eye/bipolar cells; hpa_single_cell_tissue; vital; 0.6662 TPM; blood/neutrophil; hpa_immune_cell_samples; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 2/169 (1.2%); Lung Adenocarcinoma (validation): 1/105 (1.0%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 2/283 (0.7%)

Cancer IHC. liver cancer: 1/11 (9.1%); melanoma: 1/12 (8.3%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q00889 | HPA portal (live; not the pinned values)

PSG7 | CTA / Pass

ENSG00000221878

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.4 nTPM; eye/bipolar cells; hpa_single_cell_tissue; vital; 0.1531 TPM; blood/MAIT T-cell; hpa_immune_cell_samples; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%); Liver Hepatocellular Carcinoma (TCGA): 2/362 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. liver cancer: 1/11 (9.1%); melanoma: 1/12 (8.3%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q13046 | HPA portal (live; not the pinned values)

PSG8 | CTA / Pass

ENSG00000124467

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.3 nTPM; pancreas/ductal cells; hpa_single_cell_tissue; vital; 0.1463 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Thyroid Carcinoma (TCGA): 60/495 (12.1%); Lung Adenocarcinoma (validation): 1/105 (1.0%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. liver cancer: 1/11 (9.1%); melanoma: 1/12 (8.3%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9UQ74 | HPA portal (live; not the pinned values)

PSG9 | CTA / Pass

ENSG00000183668

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.1 nTPM; pancreas/ductal cells; hpa_single_cell_tissue; vital; 0.3636 TPM; blood/eosinophil; hpa_immune_cell_samples; vital

Cancer RNA. Kidney Chromophobe (TCGA): 16/64 (25.0%); Colon Adenocarcinoma (validation): 51/486 (10.5%); Rectum Adenocarcinoma (validation): 20/207 (9.7%)

Cancer IHC. liver cancer: 1/11 (9.1%); melanoma: 1/12 (8.3%)

Biology. Binds to the small latent transforming growth factor-beta complex, consisting of the N-terminal TGFB1 latency-associated peptide (LAP) and the mature form of TGFB1, thereby leading to the activation of TGFB1 (PubMed:27389696). The activation of TGFB1 leads to stimulation of naive CD4(+) T-cells to increase FoxP3 expression and to an increase in the number of FoxP3(+) regulatory T-cells (PubMed:27389696). Induces the differentiation of ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q00887 | HPA portal (live; not the pinned values)

RAD21L1 | CTA / Pass

ENSG00000244588

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.7 nTPM; unsited/Pancreatic endocrine cells; hpa_single_cell; unresolved; 1.835 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 5/133 (3.8%); Bladder Urothelial Carcinoma (TCGA): 2/169 (1.2%); Breast Invasive Carcinoma (TCGA): 10/1022 (1.0%)

Cancer IHC. melanoma: 5/10 (50.0%); ovarian cancer: 3/12 (25.0%)

Biology. Meiosis-specific component of some cohesin complex required during the initial steps of prophase I in male meiosis. Probably required during early meiosis in males for separation of sister chromatids and homologous chromosomes. Replaces RAD21 in premeiotic S phase (during early stages of prophase I), while RAD21 reappears in later stages of prophase I. Involved in synaptonemal complex assembly, synapsis initiation and crossover ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H4I0 | HPA portal (live; not the pinned values)

RAD51AP2 | CTA / Pass

ENSG00000214842

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 20.3 nTPM; colon/undifferentiated cells; hpa_single_cell_tissue; protected; 0.08692 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (validation): 1/68 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Specifically expressed in meiotic tissues. Highly expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q09MP3 | HPA portal (live; not the pinned values)

RBM46 | CTA / Pass

ENSG00000151962

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; vascular/schwann cells; hpa_single_cell_tissue; vital; 0.8128 TPM; blood/M2; dice_m2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 41/133 (30.8%); Lung Squamous Cell Carcinoma (validation): 2/68 (2.9%); Lung Adenocarcinoma (TCGA): 8/497 (1.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Essential for male and female fertility, playing a crucial role in regulating germ cell development by ensuring the proper progression of meiosis prophase I (By similarity). Regulates mitotic-to-meiotic transition in spermatogenesis by forming a complex with MEIOC and YTHDC2 which recognizes and down-regulates mitotic transcripts for a successful meiotic entry (By similarity). Required for normal synaptonemal complex formation during ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TBY0 | HPA portal (live; not the pinned values)

RBMXL2 | CTA / Pass

ENSG00000170748

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.2 nTPM; tongue/basal keratinocytes; hpa_single_cell_tissue; protected; 0.59 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 80/133 (60.2%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Breast Invasive Carcinoma (TCGA): 1/1022 (0.1%)

Cancer IHC. testis cancer: 6/11 (54.5%); colorectal cancer: 1/12 (8.3%)

Biology. RNA-binding protein involved in alternative splicing in the testis during spermatogenesis

Curated tissue note. Expressed predominantly in spermatocytes and less in round spermatids (at protein level). Expressed in germ cells

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O75526 | HPA portal (live; not the pinned values)

RBMXL3 | CTA / Pass

ENSG00000175718

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.3 nTPM; tongue/smooth muscle cells; hpa_single_cell_tissue; protected; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 19/133 (14.3%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. testis cancer: 6/11 (54.5%); colorectal cancer: 1/12 (8.3%)

Biology. RNA-binding protein involved in glucocorticoid regulation of pulmonary surfactant protein B (SFTPB) mRNA stability

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N7X1 | HPA portal (live; not the pinned values)

RBMY1A1 | CTA / Pass

ENSG00000234414

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Lung Squamous Cell Carcinoma (TCGA): 10/489 (2.0%); Liver Hepatocellular Carcinoma (TCGA): 6/362 (1.7%)

Cancer IHC. lung cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. RNA-binding protein involved in pre-mRNA splicing. Required for sperm development. Acts additively with TRA2B to promote exon 7 inclusion of the survival motor neuron SMN. Binds non-specifically to mRNAs

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0DJD3 | HPA portal (live; not the pinned values)

RBMY1B | CTA / Pass

ENSG00000242875

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (TCGA): 2/489 (0.4%); Liver Hepatocellular Carcinoma (TCGA): 1/362 (0.3%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. lung cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. RNA-binding protein which may be involved in spermatogenesis. Required for sperm development, possibly by participating in pre-mRNA splicing in the testis

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NDE4 | HPA portal (live; not the pinned values)

RBMY1D | CTA / Pass

ENSG00000244395

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 0/283 (0.0%)

Cancer IHC. lung cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. RNA-binding protein which may be involved in spermatogenesis. Required for sperm development, possibly by participating in pre-mRNA splicing in the testis

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0C7P1 | HPA portal (live; not the pinned values)

RBMY1E | CTA / Pass

ENSG00000242389

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Head and Neck Squamous Cell Carcinoma (TCGA): 1/492 (0.2%); Lung Adenocarcinoma (TCGA): 1/497 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. lung cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. RNA-binding protein which may be involved in spermatogenesis. Required for sperm development, possibly by participating in pre-mRNA splicing in the testis

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NEQ0 | HPA portal (live; not the pinned values)

RBMY1F | CTA / Pass

ENSG00000169800

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Liver Hepatocellular Carcinoma (TCGA): 5/362 (1.4%); Lung Squamous Cell Carcinoma (TCGA): 3/489 (0.6%); Head and Neck Squamous Cell Carcinoma (TCGA): 1/492 (0.2%)

Cancer IHC. lung cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. RNA-binding protein which may be involved in spermatogenesis. Required for sperm development, possibly by participating in pre-mRNA splicing in the testis

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q15415 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

RBMY1J | CTA / Pass

ENSG00000226941

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (TCGA): 2/489 (0.4%); Liver Hepatocellular Carcinoma (TCGA): 1/362 (0.3%); Breast Invasive Carcinoma (TCGA): 1/1022 (0.1%)

Cancer IHC. lung cancer: 1/12 (8.3%); breast cancer: 0/11 (0.0%)

Biology. RNA-binding protein which may be involved in spermatogenesis. Required for sperm development, possibly by participating in pre-mRNA splicing in the testis

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q15415 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

REDIC1 | CTA / Pass

ENSG00000180116

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.6 nTPM; bone marrow/t-cells; hpa_single_cell_tissue; vital; 1.121 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 11/133 (8.3%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Liver Hepatocellular Carcinoma (validation): 1/231 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Involved in recombination, probably acting by stabilizing recombination intermediates during meiotic crossover formation. Required for normal germline development and fertility. Required for meiotic progression, complete chromosomal synapsis and crossover formation. Binds double-stranded DNA. However, also binds branched DNA molecules, such as those containing a D-loop or Holliday junction structure. Probably not required for formation ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86WS4 | HPA portal (live; not the pinned values)

RHOXF2 | CTA / Pass

ENSG00000131721

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; eye/bipolar cells; hpa_single_cell_tissue; vital; 0.9 TPM; blood/Progenitor cell; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 5/133 (3.8%); Stomach Adenocarcinoma (TCGA): 4/346 (1.2%); Uterine Corpus Endometrial Carcinoma (TCGA): 2/176 (1.1%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Transcription factor maybe involved in reproductive processes. Modulates expression of target genes encoding proteins involved in processes relevant to spermatogenesis

Curated tissue note. Testis. Not detected in epididymis nor placenta. In testis, mainly expressed in germ cells, but also detected in somatic cells such as Sertoli cells, Leydig cells and peritubular cells (PubMed:28171660)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BQY4 | HPA portal (live; not the pinned values)

RHOXF2B | CTA / Pass

ENSG00000203989

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.1266 nTPM; blood/classical monocyte; hpa_immune_cell_samples; vital; 0.2634 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 15/133 (11.3%); Kidney Chromophobe (TCGA): 6/64 (9.4%); Liver Hepatocellular Carcinoma (TCGA): 26/362 (7.2%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Transcription factor maybe involved in reproductive processes. Modulates expression of target genes encoding proteins involved in processes relevant to spermatogenesis

Curated tissue note. Expressed in testis, mainly expressed in germ cells, but also detected in somatic cells such as Sertoli cells, Leydig cells and peritubular cells

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0C7M4 | HPA portal (live; not the pinned values)

RIMBP3 | CTA / Pass

ENSG00000275793

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.4 nTPM; esophagus/t-cells; hpa_single_cell_tissue; vital; 3.2 TPM; blood/Progenitor cell; hpa_immune_monaco; vital

Cancer RNA. Colon Adenocarcinoma (validation): 486/486 (100.0%); Rectum Adenocarcinoma (validation): 207/207 (100.0%); Breast Invasive Carcinoma (validation): 2/50 (4.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Probable component of the manchette, a microtubule-based structure which plays a key role in sperm head morphogenesis during late stages of sperm development

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9UFD9 | HPA portal (live; not the pinned values)

RIMBP3C | CTA / Pass

ENSG00000183246

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.7 nTPM; pbmc/monocytes; hpa_single_cell_tissue; vital; 0.6 TPM; blood/Progenitor cell; hpa_immune_monaco; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 5/50 (10.0%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Probable component of the manchette, a microtubule-based structure which plays a key role in sperm head morphogenesis during late stages of sperm development

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NJZ7 | HPA portal (live; not the pinned values)

RNASE12 | CTA / Pass

ENSG00000258436

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.2 nTPM; bone marrow/bulk; hpa_rna_consensus; vital; 0.4801 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Breast Invasive Carcinoma (TCGA): 2/1022 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Does not exhibit any ribonuclease activity

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5GAN4 | HPA portal (live; not the pinned values)

RNASE13 | CTA / Pass

ENSG00000206150

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.9 nTPM; salivary gland/bulk; hpa_rna_consensus; protected; 0.9476 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (validation): 1/81 (1.2%); Liver Hepatocellular Carcinoma (validation): 2/231 (0.9%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Does not exhibit any ribonuclease activity

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5GAN3 | HPA portal (live; not the pinned values)

RNF113B | CTA / Pass

ENSG00000139797

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; skeletal muscle/fibroblasts; hpa_single_cell_tissue; vital; 0.9 TPM; blood/naive CD8 T-cell; hpa_immune_monaco; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 4/207 (1.9%); Colon Adenocarcinoma (validation): 8/486 (1.6%); Pancreatic Adenocarcinoma (validation): 1/80 (1.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IZP6 | HPA portal (live; not the pinned values)

RNF133 | CTA / Pass

ENSG00000188050

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; heart muscle/endothelial cells; hpa_single_cell_tissue; vital; 0.08703 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Glioblastoma Multiforme (validation): 2/58 (3.4%); Breast Invasive Carcinoma (validation): 1/50 (2.0%); Kidney Chromophobe (TCGA): 1/64 (1.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Has E3 ubiquitin-protein ligase activity (By similarity). Plays a role in male fecundity through the interaction with the E2 ubituitin-protein ligase UBE2J1 (PubMed:35831855)

Curated tissue note. Expression is testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WVZ7 | HPA portal (live; not the pinned values)

RNF148 | CTA / Pass

ENSG00000235631

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Low normal expression review. Curated annotation reports slight pancreatic expression. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 4.2 nTPM; adipose tissue/adipocytes; hpa_single_cell_tissue; manageable; 0.6667 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 2/80 (2.5%); Breast Invasive Carcinoma (validation): 1/50 (2.0%); Glioblastoma Multiforme (validation): 1/58 (1.7%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Abundantly expressed in testis and slightly in pancreas. Mainly present in the interstitial cells of testicular tissues

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N7C7 | HPA portal (live; not the pinned values)

RNF151 | CTA / Pass

ENSG00000179580

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 14.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.822 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 3/283 (1.1%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May be involved in acrosome formation of spermatids

Curated tissue note. Expression is testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q2KHN1 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

RSPH6A | CTA / Pass

ENSG00000104941

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.7 nTPM; thyroid gland/bulk; hpa_rna_consensus; manageable; 0.6281 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Thyroid Carcinoma (TCGA): 110/495 (22.2%); Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Uterine Corpus Endometrial Carcinoma (TCGA): 3/176 (1.7%)

Cancer IHC. prostate cancer: 1/11 (9.1%); breast cancer: 0/10 (0.0%)

Biology. Functions as part of radial spoke complexes in the axoneme of sperm flagella that play an important part in motility. The triple radial spokes (RS1, RS2 and RS3) are required to modulate beating of the sperm flagellum

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H0K4 | HPA portal (live; not the pinned values)

SAGE1 | CTA / Pass

ENSG00000181433

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; endometrium/macrophages; hpa_single_cell_tissue; vital; 1.343 TPM; blood/THSTAR; dice_thstar; vital

Cancer RNA. Lung Squamous Cell Carcinoma (validation): 8/68 (11.8%); Bladder Urothelial Carcinoma (TCGA): 14/169 (8.3%); Lung Squamous Cell Carcinoma (TCGA): 37/489 (7.6%)

Cancer IHC. breast cancer: 4/12 (33.3%); lung cancer: 3/12 (25.0%)

Biology. Expressed mainly in bladder, lung, head and neck carcinomas. Not expressed in normal tissues except for testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NXZ1 | HPA portal (live; not the pinned values)

SCP2D1 | CTA / Pass

ENSG00000132631

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.9873 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9UJQ7 | HPA portal (live; not the pinned values)

SEL1L2 | CTA / Pass

ENSG00000101251

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 11 nTPM; skin/smooth muscle cells; hpa_single_cell_tissue; manageable; 0.2776 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 1/50 (2.0%); Ovary Serous Cystadenocarcinoma (validation): 1/81 (1.2%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5TEA6 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SEPTIN14 | CTA / Pass

ENSG00000154997

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.3 nTPM; bone marrow/bulk; hpa_rna_consensus; vital; 4.8 TPM; blood/neutrophil; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 11/133 (8.3%); Glioblastoma Multiforme (TCGA): 10/141 (7.1%); Glioblastoma Multiforme (validation): 3/58 (5.2%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Filament-forming cytoskeletal GTPase (Probable). Involved in the migration of cortical neurons and the formation of neuron leading processes during embryonic development (By similarity). Plays a role in sperm head formation during spermiogenesis, potentially via facilitating localization of ACTN4 to cell filaments (PubMed:33228246)

Curated tissue note. Testis-specific (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6ZU15 | HPA portal (live; not the pinned values)

SIGLECL1 | CTA / Pass

ENSG00000179213

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.808 nTPM; blood/myeloid DC; hpa_immune_cell_samples; vital; 1.7 TPM; blood/myeloid DC; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 5/133 (3.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Ovary Serous Cystadenocarcinoma (TCGA): 1/349 (0.3%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N7X8 | HPA portal (live; not the pinned values)

SLC22A14 | CTA / Pass

ENSG00000144671

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA review. UniProt describes ubiquitous expression based on historical human tissue work, despite strong reproductive enrichment in current bulk data. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 16.9 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.9066 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 3/282 (1.1%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Riboflavin transporter localized at the inner mitochondrial membrane of the spermatozoa midpiece, which is required for male fertility (By similarity). SLC22A14-mediated riboflavin transport is essential for spermatozoa energy generation and motility: riboflavin is the precursor of FMN and FAD, which are coenzymes of many enzymes in the TCA cycle (the citric acid cycle) in mitochondria (By similarity). Required for sperm motility and ... [full text in table]

Curated tissue note. Ubiquitous

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9Y267 | HPA portal (live; not the pinned values)

SLC35G6 | CTA / Pass

ENSG00000259224

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2 nTPM; lymph node/t-cells; hpa_single_cell_tissue; vital; 1.895 TPM; blood/NK; dice_nk; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Expressed in placenta and testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0C7Q6 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SLC36A3 | CTA / Pass

ENSG00000186334

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; liver/hepatocytes; hpa_single_cell_tissue; vital; 1.934 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Specifically expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q495N2 | HPA portal (live; not the pinned values)

SLCO6A1 | CTA / Pass

ENSG00000205359

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Low normal expression review. Curated annotation reports weak adult brain and spleen expression, separately from fetal brain. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.3594 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (validation): 1/68 (1.5%); Liver Hepatocellular Carcinoma (validation): 3/231 (1.3%); Liver Hepatocellular Carcinoma (TCGA): 3/362 (0.8%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Strongly expressed in testis. Weakly expressed in spleen, brain, fetal brain and placenta. Detected in lung tumors

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86UG4 | HPA portal (live; not the pinned values)

SMC1B | CTA / Pass

ENSG00000077935

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.4 nTPM; unsited/Cone photoreceptor cells; hpa_single_cell; unresolved; 4.505 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 175/283 (61.8%); Head and Neck Squamous Cell Carcinoma (TCGA): 51/492 (10.4%); Bladder Urothelial Carcinoma (TCGA): 11/169 (6.5%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Meiosis-specific component of cohesin complex. Required for the maintenance of meiotic cohesion, but not, or only to a minor extent, for its establishment. Contributes to axial element (AE) formation and the organization of chromatin loops along the AE. Plays a key role in synapsis, recombination and chromosome movements. The cohesin complex is required for the cohesion of sister chromatids after DNA replication. The cohesin complex ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NDV3 | HPA portal (live; not the pinned values)

SMIM21 | CTA / Pass

ENSG00000206026

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.4 nTPM; skin/fibroblasts; hpa_single_cell_tissue; manageable; 0.2753 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Prostate Adenocarcinoma (TCGA): 1/480 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q3B7S5 | HPA portal (live; not the pinned values)

SMIM23 | CTA / Pass

ENSG00000185662

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.8 nTPM; skeletal muscle/fibroblasts; hpa_single_cell_tissue; vital; 1.98 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Glioblastoma Multiforme (validation): 1/58 (1.7%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NLE4 | HPA portal (live; not the pinned values)

SOHLH2 | CTA / Pass

ENSG00000120669

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 7 nTPM; liver/erythroid cells; hpa_single_cell_tissue; vital; 3.9 TPM; blood/Progenitor cell; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 28/133 (21.1%); Liver Hepatocellular Carcinoma (validation): 29/231 (12.6%); Glioblastoma Multiforme (TCGA): 17/141 (12.1%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Transcription regulator of both male and female germline differentiation. Suppresses genes involved in spermatogonial stem cells maintenance, and induces genes important for spermatogonial differentiation. Coordinates oocyte differentiation without affecting meiosis I (By similarity)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NX45 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SOX30 | CTA / Pass

ENSG00000039600

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.9 nTPM; esophagus/b-cells; hpa_single_cell_tissue; vital; 2.109 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 34/283 (12.0%); Colon Adenocarcinoma (validation): 37/486 (7.6%); Rectum Adenocarcinoma (validation): 9/207 (4.3%)

Cancer IHC. cervical cancer: 3/11 (27.3%); renal cancer: 2/9 (22.2%)

Biology. Acts both as a transcriptional activator and a repressor (PubMed:10359848, PubMed:29739711). Binds to the DNA sequence 5'-ACAAT-3' and shows a preference for guanine residues surrounding this core motif (PubMed:10359848). Binds to its own promoter and activates its own transcription (By similarity). Required to activate the expression of postmeiotic genes involved in spermiogenesis (By similarity). Binds to the promoter region of ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O94993 | HPA portal (live; not the pinned values)

SPACA1 | CTA / Pass

ENSG00000118434

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.1707 TPM; blood/CD8_STIM; dice_cd8_stim; vital

Cancer RNA. Kidney Chromophobe (TCGA): 1/64 (1.6%); Liver Hepatocellular Carcinoma (validation): 2/231 (0.9%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Plays a role in acrosome formation and establishment of normal sperm morphology during spermatogenesis (PubMed:34172998). Important for male fertility (PubMed:11870081)

Curated tissue note. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9HBV2 | HPA portal (live; not the pinned values)

SPACA4 | CTA / Pass

ENSG00000177202

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 2.848 TPM; blood/CD8_STIM; dice_cd8_stim; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 106/207 (51.2%); Colon Adenocarcinoma (validation): 213/486 (43.8%); Breast Invasive Carcinoma (validation): 14/50 (28.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. Sperm surface membrane protein that is essential for effective sperm-zona pellucida binding and penetration during fertilization

Curated tissue note. Testis specific (PubMed:12788941). Expressed in spermatozoa (PubMed:12788941, PubMed:37377732)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TDM5 | HPA portal (live; not the pinned values)

SPACA5 | CTA / Pass

ENSG00000171489

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.458 nTPM; blood/T-reg; hpa_immune_cell_samples; vital; 2.526 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96QH8 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SPACA7 | CTA / Pass

ENSG00000153498

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 2.522 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 12/176 (6.8%); Testicular Germ Cell Tumor (TCGA): 6/133 (4.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 5/283 (1.8%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Involved in fertilization. Does not seem to play a direct role in sperm-egg binding or gamete fusion

Curated tissue note. Expressed in spermatozoa (at protein level) (PubMed:22495889)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96KW9 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SPAG11A | CTA / Pass

ENSG00000178287

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.7 nTPM; rectum/enteroendocrine cells; hpa_single_cell_tissue; protected; 0.0028 TPM; blood/neutrophil; hpa_immune_cell_samples; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (TCGA): 9/349 (2.6%); Lung Squamous Cell Carcinoma (validation): 1/68 (1.5%); Ovary Serous Cystadenocarcinoma (validation): 1/81 (1.2%)

Cancer IHC. lung cancer: 1/11 (9.1%); breast cancer: 0/11 (0.0%)

Biology. Has antimicrobial activity against E.coli (By similarity). Plays a role in the defense response in the male reproductive tract, contributing to sperm maturation, storage and protection (By similarity)

Curated tissue note. Specifically expressed in caput and proximal corpus of epididymis (at protein level) (PubMed:8167223). Present in the epididymal epithelium and on the sperm surface, with a subacrosomal equatorial distribution ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q08648 | UniProt Q6PDA7 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SPAG11B | CTA / Pass

ENSG00000164871

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.9 nTPM; unsited/Secretory cells; hpa_single_cell; unresolved; 0.3 TPM; blood/naive CD4 T-cell; hpa_immune_monaco; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (TCGA): 22/349 (6.3%); Ovary Serous Cystadenocarcinoma (validation): 4/81 (4.9%); Uterine Corpus Endometrial Carcinoma (TCGA): 2/176 (1.1%)

Cancer IHC. lung cancer: 1/11 (9.1%); breast cancer: 0/11 (0.0%)

Biology. Has antimicrobial activity against E.coli (By similarity). Plays a role in the defense response in the male reproductive tract, contributing to sperm maturation, storage and protection (By similarity)

Curated tissue note. Specifically expressed in caput and proximal corpus of epididymis (at protein level) (PubMed:8167223). Present in the epididymal epithelium and on the sperm surface, with a subacrosomal equatorial distribution ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q08648 | UniProt Q6PDA7 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SPAM1 | CTA / Pass

ENSG00000106304

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.9 nTPM; small intestine/proximal enterocytes; hpa_single_cell_tissue; vital; 0.2185 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Involved in sperm-egg adhesion. Upon fertilization sperm must first penetrate a layer of cumulus cells that surrounds the egg before reaching the zona pellucida. The cumulus cells are embedded in a matrix containing hyaluronic acid which is formed prior to ovulation. This protein aids in penetrating the layer of cumulus cells by digesting hyaluronic acid

Curated tissue note. Testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P38567 | HPA portal (live; not the pinned values)

SPANXA1 | CTA / Pass

ENSG00000198021

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.249 nTPM; blood/naive B-cell; hpa_immune_cell_samples; vital; 0.2484 TPM; blood/naive B-cell; hpa_immune_cell_samples; vital

Cancer RNA. Head and Neck Squamous Cell Carcinoma (TCGA): 14/492 (2.8%); Bladder Urothelial Carcinoma (TCGA): 2/169 (1.2%); Breast Invasive Carcinoma (TCGA): 11/1022 (1.1%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Detected in testis and sperm

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NS26 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SPANXA2 | CTA / Pass

ENSG00000203926

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0.3 TPM; blood/plasmacytoid DC; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 35/133 (26.3%); Head and Neck Squamous Cell Carcinoma (TCGA): 47/492 (9.6%); Breast Invasive Carcinoma (validation): 4/50 (8.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Detected in testis and sperm

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NS26 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SPANXB1 | CTA / Pass

ENSG00000227234

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.6792 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Head and Neck Squamous Cell Carcinoma (TCGA): 47/492 (9.6%); Bladder Urothelial Carcinoma (TCGA): 9/169 (5.3%); Lung Squamous Cell Carcinoma (TCGA): 21/489 (4.3%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Detected in testis and sperm

Therapeutic evidence. Trial registration only.

UniProt Q9NS25 | Trial/source record | HPA portal (live; not the pinned values)

SPANXC | CTA / Pass

ENSG00000198573

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.7782 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Head and Neck Squamous Cell Carcinoma (TCGA): 29/492 (5.9%); Bladder Urothelial Carcinoma (TCGA): 8/169 (4.7%); Breast Invasive Carcinoma (validation): 2/50 (4.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Detected in testis, melanoma and bladder carcinoma

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NY87 | HPA portal (live; not the pinned values)

SPANXD | CTA / Pass

ENSG00000196406

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.3494 TPM; blood/TH17; dice_th17; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 6/169 (3.6%); Head and Neck Squamous Cell Carcinoma (TCGA): 17/492 (3.5%); Lung Squamous Cell Carcinoma (TCGA): 10/489 (2.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Detected in testis, sperm and a melanoma cell line

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BXN6 | HPA portal (live; not the pinned values)

SPANXN3 | CTA / Pass

ENSG00000189252

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (validation): 1/81 (1.2%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Head and Neck Squamous Cell Carcinoma (TCGA): 1/492 (0.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5MJ09 | HPA portal (live; not the pinned values)

SPANXN5 | CTA / Pass

ENSG00000204363

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2288 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Breast Invasive Carcinoma (TCGA): 1/1022 (0.1%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5MJ07 | HPA portal (live; not the pinned values)

SPATA12 | CTA / Pass

ENSG00000186451

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 7.4 nTPM; lung/ciliated cells; hpa_single_cell_tissue; vital; 0.6345 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 4/207 (1.9%); Uterine Corpus Endometrial Carcinoma (TCGA): 3/176 (1.7%); Colon Adenocarcinoma (validation): 8/486 (1.6%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. Expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q7Z6I5 | HPA portal (live; not the pinned values)

SPATA16 | CTA / Pass

ENSG00000144962

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.8 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.3062 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. skin cancer: 1/9 (11.1%); breast cancer: 0/10 (0.0%)

Biology. Essential for spermiogenesis and male fertility (By similarity). Involved in the formation of sperm acrosome during spermatogenesis

Curated tissue note. Expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BXB7 | HPA portal (live; not the pinned values)

SPATA19 | CTA / Pass

ENSG00000166118

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.335 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. prostate cancer: 9/12 (75.0%); breast cancer: 0/12 (0.0%)

Biology. Essential for sperm motility and male fertility (By similarity). Plays an important role in sperm motility by regulating the organization and function of the mitochondria and is also required for correct sperm midpiece assembly (By similarity)

Curated tissue note. Expressed specifically in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q7Z5L4 | HPA portal (live; not the pinned values)

SPATA21 | CTA / Pass

ENSG00000187144

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; salivary gland/t-cells; hpa_single_cell_tissue; vital; 4.9 TPM; blood/naive CD4 T-cell; hpa_immune_monaco; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 66/231 (28.6%); Testicular Germ Cell Tumor (TCGA): 9/133 (6.8%); Liver Hepatocellular Carcinoma (TCGA): 24/362 (6.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Involved in the differentiation of haploid spermatids

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q7Z572 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SPATA3 | CTA / Pass

ENSG00000173699

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 14.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.8 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Glioblastoma Multiforme (validation): 1/58 (1.7%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. pancreatic cancer: 1/10 (10.0%); breast cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NHX4 | HPA portal (live; not the pinned values)

SPATA31A1 | CTA / Pass

ENSG00000204849

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May play a role in spermatogenesis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5TZJ5 | HPA portal (live; not the pinned values)

SPATA31D3 | CTA / Pass

ENSG00000186788

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.0038 TPM; blood/NK-cell; hpa_immune_cell_samples; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Head and Neck Squamous Cell Carcinoma (TCGA): 1/492 (0.2%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May play a role in spermatogenesis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0C874 | HPA portal (live; not the pinned values)

SPATA31D4 | CTA / Pass

ENSG00000189357

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.8 nTPM; adipose tissue/dendritic cells; hpa_single_cell_tissue; vital; 0.0019 TPM; blood/naive CD4 T-cell; hpa_immune_cell_samples; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May play a role in spermatogenesis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6ZUB0 | HPA portal (live; not the pinned values)

SPATA31E1 | CTA / Pass

ENSG00000177992

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.1 nTPM; fallopian tube/macrophages; hpa_single_cell_tissue; vital; 0.6523 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Glioblastoma Multiforme (validation): 1/58 (1.7%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. May play a role in spermatogenesis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6ZUB1 | HPA portal (live; not the pinned values)

SPATA31F1 | CTA / Pass

ENSG00000205108

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.3608 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6ZU69 | HPA portal (live; not the pinned values)

SPATS1 | CTA / Pass

ENSG00000249481

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.7 nTPM; lung/ciliated cells; hpa_single_cell_tissue; vital; 1 TPM; blood/neutrophil; hpa_immune_monaco; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 14/99 (14.1%); Uterine Corpus Endometrial Carcinoma (TCGA): 18/176 (10.2%); Testicular Germ Cell Tumor (TCGA): 7/133 (5.3%)

Cancer IHC. ovarian cancer: 5/12 (41.7%); pancreatic cancer: 3/10 (30.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q496A3 | HPA portal (live; not the pinned values)

SPDYE4 | CTA / Pass

ENSG00000183318

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.8 nTPM; bone marrow/bulk; hpa_rna_consensus; vital; 4.6 TPM; blood/basophil; hpa_immune_monaco; vital

Cancer RNA. Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 2/283 (0.7%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Predominantly expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NLX3 | HPA portal (live; not the pinned values)

SPEM1 | CTA / Pass

ENSG00000181323

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.302 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Required for proper cytoplasm removal during spermatogenesis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N4L4 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SPMAP2 | CTA / Pass

ENSG00000105549

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.7 nTPM; skin/bulk; hpa_rna_consensus; manageable; 0.5557 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 8/50 (16.0%); Testicular Germ Cell Tumor (TCGA): 10/133 (7.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 11/283 (3.9%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May be involved (but not essential) in spermatogenesis

Curated tissue note. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9P2T0 | HPA portal (live; not the pinned values)

SPMIP10 | CTA / Pass

ENSG00000196900

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.8 nTPM; rectum/intestinal goblet cells; hpa_single_cell_tissue; protected; 4.624 TPM; blood/CD8_STIM; dice_cd8_stim; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 10/207 (4.8%); Rectum Adenocarcinoma (TCGA): 3/88 (3.4%); Colon Adenocarcinoma (validation): 8/486 (1.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Microtubule inner protein (MIP) part of the dynein-decorated doublet microtubules (DMTs) in flagellum axoneme, which is required for flagellum beating. May serve to reinforce and thus stabilize the microtubule structure in the sperm flagella. Involved in the regulation of sperm motility

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6ZNM6 | HPA portal (live; not the pinned values)

SPMIP11 | CTA / Pass

ENSG00000257987

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.2 nTPM; thymus/plasma cells; hpa_single_cell_tissue; vital; 1.865 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 8/133 (6.0%); Stomach Adenocarcinoma (TCGA): 4/346 (1.2%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Microtubule inner protein (MIP) part of the dynein-decorated doublet microtubules (DMTs) in flagellum axoneme. May serve to reinforce and thus stabilize the microtubule structure in the sperm flagella

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A0A1B0GTD5 | HPA portal (live; not the pinned values)

SPMIP2 | CTA / Pass

ENSG00000164123

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 19.7 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 4.373 TPM; blood/M2; dice_m2; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96LM5 | HPA portal (live; not the pinned values)

SPMIP9 | CTA / Pass

ENSG00000172073

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.015 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 35/133 (26.3%); Liver Hepatocellular Carcinoma (TCGA): 4/362 (1.1%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%)

Cancer IHC. cervical cancer: 4/10 (40.0%); colorectal cancer: 1/11 (9.1%)

Biology. Microtubule inner protein (MIP) part of the dynein-decorated doublet microtubules (DMTs) in flagella axoneme

Curated tissue note. Testis-specific (PubMed:17091336, PubMed:26168773). Detected in the germ cell lineage at all stages (PubMed:26168773)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96LM6 | HPA portal (live; not the pinned values)

SPO11 | CTA / Pass

ENSG00000054796

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.3331 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Breast Invasive Carcinoma (TCGA): 1/1022 (0.1%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. DNA endonuclease, which specifically mediates DNA cleavage that forms the double-strand breaks (DSB) that initiate meiotic recombination. SPO11 covalently attaches itself to the 5' DNA strand during DSB formation and each strand is cleaved by a composite active site assembled at the interface of two SPO11 monomers, with the two cleavages staggered to produce a two-nucleotide 5' overhang. SPO11 cleavage site selection is driven by a ... [full text in table]

Curated tissue note. Highly expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9Y5K1 | HPA portal (live; not the pinned values)

SPPL2C | CTA / Pass

ENSG00000185294

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2658 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Sperm-specific intramembrane-cleaving aspartic protease (I-CLiP) that cleaves distinct tail-anchored proteins and SNARE proteins (PubMed:30733281). In elongated spermatids, modulates intracellular Ca(2+) homeostasis by controlling PLN abundance through proteolytic cleavage (By similarity). During spermatogenesis, processes SNARE proteins and impacts vesicular trafficking which supports compartmental reorganization in maturating ... [full text in table]

Curated tissue note. Highly expressed in testis where it is primarily localized in spermatids (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IUH8 | HPA portal (live; not the pinned values)

SPZ1 | CTA / Pass

ENSG00000164299

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.1751 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 7/133 (5.3%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Prostate Adenocarcinoma (TCGA): 1/480 (0.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Transcription factor that binds to the DNA sequence 5'-CANNTG-3'(E box) and the G-box motif. May play an important role in the regulation of cell proliferation and differentiation during spermatogenesis (By similarity)

Curated tissue note. Specifically and strongly expressed in the testis. Expressed in several tumor cell lines

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BXG8 | HPA portal (live; not the pinned values)

SSMEM1 | CTA / Pass

ENSG00000165120

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.267 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Essential for regulating the timely and localized migration of the Golgi apparatus during spermiogenesis, facilitating proper sperm head formation and motility, thus playing a crucial role in male fertility

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WWF3 | HPA portal (live; not the pinned values)

SSX1 | CTA / Pass

ENSG00000126752

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Low normal expression review. Curated tissue annotation reports low thyroid expression. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0.4 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.4537 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Thyroid Carcinoma (TCGA): 173/495 (34.9%); Liver Hepatocellular Carcinoma (validation): 75/231 (32.5%); Liver Hepatocellular Carcinoma (TCGA): 99/362 (27.3%)

Cancer IHC. melanoma: 3/10 (30.0%); liver cancer: 2/11 (18.2%)

Biology. Could act as a modulator of transcription (PubMed:7539744). Plays a role in spermatogenesis (PubMed:36796361)

Curated tissue note. Expressed at high level in the testis. Expressed at low level in thyroid. Not detected in tonsil, colon, lung, spleen, prostate, kidney, striated and smooth muscles. Detected in rhabdomyosarcoma and ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q16384 | HPA portal (live; not the pinned values)

SSX2 | CTA / Pass

ENSG00000241476

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Low normal expression review. Curated tissue annotation reports low thyroid expression; SSX2 and SSX2B share the UniProt entry. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0.2 nTPM; thyroid gland/bulk; hpa_rna_consensus; manageable; 0.1 TPM; blood/Central memory CD8 T-cell; hpa_immune_monaco; vital

Cancer RNA. Bladder Urothelial Carcinoma (TCGA): 7/169 (4.1%); Liver Hepatocellular Carcinoma (TCGA): 13/362 (3.6%); Ovary Serous Cystadenocarcinoma (validation): 2/81 (2.5%)

Cancer IHC. melanoma: 3/10 (30.0%); liver cancer: 2/11 (18.2%)

Biology. Could act as a modulator of transcription

Curated tissue note. Expressed at high level in the testis. Expressed at low level in thyroid. Not detected in tonsil, colon, lung, spleen, prostate, kidney, striated and smooth muscles. Detected in rhabdomyosarcoma and ... [full text in table]

Therapeutic evidence. Trial registration only.

UniProt Q16385 | Trial/source record | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SSX2B | CTA / Pass

ENSG00000268447

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Low normal expression review. Curated tissue annotation reports low thyroid expression; SSX2 and SSX2B share the UniProt entry. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0.3 nTPM; thyroid gland/bulk; hpa_rna_consensus; manageable; 0.1 TPM; blood/Central memory CD8 T-cell; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 14/133 (10.5%); Liver Hepatocellular Carcinoma (TCGA): 37/362 (10.2%); Bladder Urothelial Carcinoma (TCGA): 16/169 (9.5%)

Cancer IHC. melanoma: 3/10 (30.0%); liver cancer: 2/11 (18.2%)

Biology. Could act as a modulator of transcription

Curated tissue note. Expressed at high level in the testis. Expressed at low level in thyroid. Not detected in tonsil, colon, lung, spleen, prostate, kidney, striated and smooth muscles. Detected in rhabdomyosarcoma and ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q16385 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SSX3 | CTA / Pass

ENSG00000165584

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.4036 nTPM; blood/memory B-cell; hpa_immune_cell_samples; vital; 0.3559 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Liver Hepatocellular Carcinoma (TCGA): 14/362 (3.9%); Bladder Urothelial Carcinoma (TCGA): 4/169 (2.4%); Liver Hepatocellular Carcinoma (validation): 4/231 (1.7%)

Cancer IHC. melanoma: 3/10 (30.0%); liver cancer: 2/11 (18.2%)

Biology. Could act as a modulator of transcription

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q99909 | HPA portal (live; not the pinned values)

SSX4 | CTA / Pass

ENSG00000268009

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.2 nTPM; choroid plexus/bulk; hpa_rna_consensus; vital; 0.0265 TPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (TCGA): 39/349 (11.2%); Liver Hepatocellular Carcinoma (TCGA): 29/362 (8.0%); Stomach Adenocarcinoma (TCGA): 25/346 (7.2%)

Cancer IHC. melanoma: 3/10 (30.0%); liver cancer: 2/11 (18.2%)

Biology. Could act as a modulator of transcription

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O60224 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SSX4B | CTA / Pass

ENSG00000269791

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.1 nTPM; heart muscle/bulk; hpa_rna_consensus; vital; 0.0265 TPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital

Cancer RNA. Ovary Serous Cystadenocarcinoma (TCGA): 23/349 (6.6%); Stomach Adenocarcinoma (TCGA): 10/346 (2.9%); Liver Hepatocellular Carcinoma (TCGA): 10/362 (2.8%)

Cancer IHC. melanoma: 3/10 (30.0%); liver cancer: 2/11 (18.2%)

Biology. Could act as a modulator of transcription

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O60224 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

SSX5 | CTA / Pass

ENSG00000165583

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; lung/endothelial cells; hpa_single_cell_tissue; vital; 0.7 TPM; blood/basophil; hpa_immune_monaco; vital

Cancer RNA. Lung Adenocarcinoma (validation): 6/105 (5.7%); Ovary Serous Cystadenocarcinoma (validation): 4/81 (4.9%); Uterine Corpus Endometrial Carcinoma (TCGA): 5/176 (2.8%)

Cancer IHC. melanoma: 3/10 (30.0%); liver cancer: 2/11 (18.2%)

Biology. Could act as a modulator of transcription

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O60225 | HPA portal (live; not the pinned values)

STARD6 | CTA / Pass

ENSG00000174448

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.7 nTPM; stomach/t-cells; hpa_single_cell_tissue; vital; 1.076 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Glioblastoma Multiforme (validation): 2/58 (3.4%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 3/283 (1.1%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May be involved in the intracellular transport of sterols or other lipids. May bind cholesterol or other sterols (By similarity)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P59095 | HPA portal (live; not the pinned values)

STPG4 | CTA / Pass

ENSG00000239605

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9 nTPM; unsited/Astrocytes; hpa_single_cell; unresolved; 2.973 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 12/207 (5.8%); Colon Adenocarcinoma (validation): 23/486 (4.7%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%)

Cancer IHC. glioma: 2/11 (18.2%); renal cancer: 1/11 (9.1%)

Biology. Maternal factor that plays a role in epigenetic chromatin reprogramming during early development of the zygote. Involved in the regulation of gametic DNA demethylation by inducing the conversion of the modified genomic base 5-methylcytosine (5mC) into 5-hydroxymethylcytosine (5hmC)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N801 | HPA portal (live; not the pinned values)

SUN5 | CTA / Pass

ENSG00000167098

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Conflicting tissue studies. UniProt explicitly records conflicting reports of widespread versus testis-specific expression. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 0.9 nTPM; pancreas/mixed immune cells; hpa_single_cell_tissue; vital; 0.4726 TPM; blood/CD8_STIM; dice_cd8_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/11 (0.0%)

Biology. Required for male fertility (PubMed:38870534). Plays an essential role in maintenance of sperm head-to-tail attachment during late stages of spermiogenesis, via promoting secure attachment of the nuclear envelope to the flagellum coupling apparatus (Probable) (PubMed:38870534). Component of the LMNB1/SUN5/SEPT12 bridge that connects the sperm proximal centriole to the implantation fossa, the bridge functions to prevent detachment of ... [full text in table]

Curated tissue note. Sperm (at protein level) (PubMed:27640305). Widely expressed (PubMed:12621555). Conflictingly shown to be specifically expressed in testis (PubMed:21711156)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TC36 | HPA portal (live; not the pinned values)

SYCP1 | CTA / Pass

ENSG00000198765

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5 nTPM; placenta/mixed immune cells; hpa_single_cell_tissue; vital; 2.405 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 3/80 (3.8%); Breast Invasive Carcinoma (TCGA): 8/1022 (0.8%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%)

Cancer IHC. breast cancer: 0/9 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Major component of the transverse filaments of synaptonemal complexes, formed between homologous chromosomes during meiotic prophase. Required for normal assembly of the central element of the synaptonemal complexes. Required for normal centromere pairing during meiosis. Required for normal meiotic chromosome synapsis during oocyte and spermatocyte development and for normal male and female fertility

Curated tissue note. Testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q15431 | HPA portal (live; not the pinned values)

TBC1D21 | CTA / Pass

ENSG00000167139

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.9262 TPM; blood/THSTAR; dice_thstar; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Breast Invasive Carcinoma (TCGA): 1/1022 (0.1%)

Cancer IHC. pancreatic cancer: 1/10 (10.0%); urothelial cancer: 1/12 (8.3%)

Biology. Acts as a GTPase-activating protein for Rab family protein(s) (PubMed:19077034, PubMed:28067790). Essential for the establishment of male fertility, and is required for both the production of normal sperm number and sperm function (By similarity). Plays an important role in the formation of intact mitochondria, outer dense fibers and axoneme within the sperm tail (By similarity). Essential for sperm mitochondrial sheath formation and ... [full text in table]

Curated tissue note. Expressed in round and elongated spermatids (at protein level). Expressed specifically in adult testis and very weakly in fetal brain

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IYX1 | HPA portal (live; not the pinned values)

TBC1D28 | CTA / Pass

ENSG00000189375

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1 nTPM; eye/bipolar cells; hpa_single_cell_tissue; vital; 0.4206 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q2M2D7 | HPA portal (live; not the pinned values)

TCP11 | CTA / Pass

ENSG00000124678

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 16.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.8651 TPM; blood/NK; dice_nk; vital

Cancer RNA. Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 112/283 (39.6%); Head and Neck Squamous Cell Carcinoma (TCGA): 43/492 (8.7%); Ovary Serous Cystadenocarcinoma (validation): 5/81 (6.2%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Plays a role in the process of sperm capacitation and acrosome reactions. Probable receptor for the putative fertilization-promoting peptide (FPP) at the sperm membrane that may modulate the activity of the adenylyl cyclase cAMP pathway

Curated tissue note. Isoform 2 and isoform 3 are expressed in sperm. Isoform 1 is not detected in sperm (at protein level) (PubMed:21597245). Testis-specific (PubMed:11756566). Isoform 1, isoform 2 and isoform 3 are expressed in ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WWU5 | HPA portal (live; not the pinned values)

TEKT5 | CTA / Pass

ENSG00000153060

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 7.8 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 1.457 TPM; blood/NK; dice_nk; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 5/50 (10.0%); Skin Cuteneous Melanoma (TCGA): 7/99 (7.1%); Bladder Urothelial Carcinoma (TCGA): 8/169 (4.7%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Sperm-specific microtubule inner protein (MIP) part of the dynein-decorated doublet microtubules (DMTs) in flagellar axoneme. Forms an extensive interaction network in different conformations that reinforces the helix bundle composed by other tektin proteins (TEKT1 to TEKT4) and MIPs to anchor the tektin bundle onto the tubulin wall of A-tubule of the sperm flagellum

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96M29 | HPA portal (live; not the pinned values)

TERB2 | CTA / Pass

ENSG00000167014

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 14.8 nTPM; liver/hepatocytes; hpa_single_cell_tissue; vital; 3.969 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 2/207 (1.0%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Meiosis-specific telomere-associated protein involved in meiotic telomere attachment to the nucleus inner membrane, a crucial step for homologous pairing and synapsis. Component of the MAJIN-TERB1-TERB2 complex, which promotes telomere cap exchange by mediating attachment of telomeric DNA to the inner nuclear membrane and replacement of the protective cap of telomeric chromosomes: in early meiosis, the MAJIN-TERB1-TERB2 complex ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NHR7 | HPA portal (live; not the pinned values)

TEX13A | CTA / Pass

ENSG00000268629

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0.2166 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Binds to ssRNA containing the consensus sequence 5'-AGGUAA-3' (PubMed:21256132). Plays a role in transcriptional repression (By similarity). Required for rapid sperm motility and timely degradation of mRNA via its interaction with CNOT1 (By similarity)

Curated tissue note. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BXU3 | HPA portal (live; not the pinned values)

TEX14 | CTA / Pass

ENSG00000121101

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Boundary. Within 20% below the 30 ceiling in at least one native RNA unit

Normal RNA / IHC. 29.7 nTPM; breast/macrophages; hpa_single_cell_tissue; vital; 5.402 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 14/50 (28.0%); Breast Invasive Carcinoma (TCGA): 40/1022 (3.9%); Glioblastoma Multiforme (validation): 2/58 (3.4%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Required both for the formation of intercellular bridges during meiosis and for kinetochore-microtubule attachment during mitosis. Intercellular bridges are evolutionarily conserved structures that connect differentiating germ cells and are required for spermatogenesis and male fertility. Acts by promoting the conversion of midbodies into intercellular bridges via its interaction with CEP55: interaction with CEP55 inhibits the ... [full text in table]

Curated tissue note. Expression restricted to testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IWB6 | HPA portal (live; not the pinned values)

TEX15 | CTA / Pass

ENSG00000133863

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Boundary. Within 20% below the 30 ceiling in at least one native RNA unit

Normal RNA / IHC. 24 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 0.9489 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Glioblastoma Multiforme (validation): 6/58 (10.3%); Pancreatic Adenocarcinoma (validation): 5/80 (6.2%); Kidney Renal Clear Cell Carcinoma (validation): 4/100 (4.0%)

Cancer IHC. breast cancer: 1/9 (11.1%); skin cancer: 1/11 (9.1%)

Biology. Required during spermatogenesis for normal chromosome synapsis and meiotic recombination in germ cells. Necessary for formation of DMC1 and RAD51 foci on meiotic chromosomes, suggesting a specific role in DNA double-stranded break repair (By similarity). Essential executor of PIWIL4-piRNA pathway directed transposon DNA methylation and silencing in the male embryonic germ cells (By similarity). PIWIL4-piRNA binds to nascent transposon ... [full text in table]

Curated tissue note. Expressed in testis, predominantly in germ cells (PubMed:11279525, PubMed:26199321). Low expression, if any, in ovary (PubMed:11279525, PubMed:26199321). Also expressed in several cancers (PubMed:12704671)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BXT5 | HPA portal (live; not the pinned values)

TEX19 | CTA / Pass

ENSG00000182459

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.5 nTPM; colon/undifferentiated cells; hpa_single_cell_tissue; protected; 1.305 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 2/50 (4.0%); Uterine Corpus Endometrial Carcinoma (TCGA): 5/176 (2.8%); Lung Adenocarcinoma (TCGA): 9/497 (1.8%)

Cancer IHC. breast cancer: 0/10 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Required during spermatogenesis and placenta development, participating in the repression of retrotransposable elements and prevent their mobilization. Collaborates with the Piwi-interacting RNA (piRNA) pathway, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins. Interacts with Piwi proteins and directly binds piRNAs, a class of 24 to 30 nucleotide RNAs that ... [full text in table]

Curated tissue note. Expressed in testis. Expressed in undifferentiated embryonic stem cells

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NA77 | HPA portal (live; not the pinned values)

TEX36 | CTA / Pass

ENSG00000175018

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2238 TPM; blood/TH17; dice_th17; vital

Cancer RNA. Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 5/283 (1.8%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5VZQ5 | HPA portal (live; not the pinned values)

TEX38 | CTA / Pass

ENSG00000186118

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 15.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 6.385 TPM; blood/NK; dice_nk; vital

Cancer RNA. Kidney Chromophobe (TCGA): 3/64 (4.7%); Uterine Corpus Endometrial Carcinoma (TCGA): 4/176 (2.3%); Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Plays an essential role in male fertility. TEX38 and ZDHHC19 form a complex in developing sperm. This complex may regulate S-palmitoylation of the proteins that are essential for generating functional sperm with the correct morphology

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6PEX7 | HPA portal (live; not the pinned values)

TEX44 | CTA / Pass

ENSG00000177673

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 10.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.085 TPM; blood/CD8_STIM; dice_cd8_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Testis. Detected in germ cells at all stages of the seminiferous epithelium, strong expression in elongating spermatids (at protein level) (PubMed:26168773)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q53QW1 | HPA portal (live; not the pinned values)

TEX46 | CTA / Pass

ENSG00000227868

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 7.628 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Kidney Chromophobe (TCGA): 1/64 (1.6%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Glioblastoma Multiforme (TCGA): 1/141 (0.7%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Essential for male fertility, sperm head formation and sperm penetration through the egg zona pellucida

Curated tissue note. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt H3BTG2 | HPA portal (live; not the pinned values)

TEX47 | CTA / Pass

ENSG00000164645

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%); Lung Squamous Cell Carcinoma (TCGA): 1/489 (0.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8TBZ9 | HPA portal (live; not the pinned values)

TEX51 | CTA / Pass

ENSG00000237524

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; kidney/proximal tubular cells; hpa_single_cell_tissue; vital; 0.2166 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A0A1B0GUA7 | HPA portal (live; not the pinned values)

TGIF2LX | CTA / Pass

ENSG00000153779

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.6 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2516 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 9/133 (6.8%); Lung Squamous Cell Carcinoma (validation): 3/68 (4.4%); Breast Invasive Carcinoma (validation): 2/50 (4.0%)

Cancer IHC. colorectal cancer: 1/10 (10.0%); urothelial cancer: 1/12 (8.3%)

Biology. May have a transcription role in testis

Curated tissue note. Specifically expressed in adult testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IUE1 | HPA portal (live; not the pinned values)

TMCO2 | CTA / Pass

ENSG00000188800

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 9.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 7.258 TPM; blood/NK; dice_nk; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q7Z6W1 | HPA portal (live; not the pinned values)

TMCO5A | CTA / Pass

ENSG00000166069

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.7 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.1 TPM; blood/Switched memory B-cell; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 1/283 (0.4%)

Cancer IHC. glioma: 2/12 (16.7%); breast cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N6Q1 | HPA portal (live; not the pinned values)

TMEM202 | CTA / Pass

ENSG00000187806

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.4 nTPM; eye/rod photoreceptor cells; hpa_single_cell_tissue; vital; 0.5647 TPM; blood/TREG_MEM; dice_treg_mem; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 7/133 (5.3%); Kidney Renal Papillary Cell Carcinoma (TCGA): 2/282 (0.7%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NGA9 | HPA portal (live; not the pinned values)

TMEM210 | CTA / Pass

ENSG00000185863

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 21.6 nTPM; pbmc/dendritic cells; hpa_single_cell_tissue; vital; 4.973 TPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital

Cancer RNA. Prostate Adenocarcinoma (TCGA): 7/480 (1.5%); Stomach Adenocarcinoma (TCGA): 1/346 (0.3%); Breast Invasive Carcinoma (TCGA): 2/1022 (0.2%)

Cancer IHC. prostate cancer: 2/10 (20.0%); liver cancer: 1/12 (8.3%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NLX4 | HPA portal (live; not the pinned values)

TMEM225 | CTA / Pass

ENSG00000204300

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.6972 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Probably inhibits protein phosphatase 1 (PP1) in sperm via binding to catalytic subunit PPP1CC

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6GV28 | HPA portal (live; not the pinned values)

TMEM270 | CTA / Pass

ENSG00000175877

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.9 nTPM; colon/distal enterocytes; hpa_single_cell_tissue; protected; 1.081 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Kidney Renal Papillary Cell Carcinoma (TCGA): 22/282 (7.8%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 18/283 (6.4%); Bladder Urothelial Carcinoma (TCGA): 9/169 (5.3%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6UE05 | HPA portal (live; not the pinned values)

TMPRSS12 | CTA / Pass

ENSG00000186452

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 6.4 nTPM; tongue/suprabasal keratinocytes; hpa_single_cell_tissue; protected; 0.7331 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Uterine Corpus Endometrial Carcinoma (TCGA): 7/176 (4.0%); Kidney Renal Papillary Cell Carcinoma (TCGA): 2/282 (0.7%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Required for male fertility (By similarity). Plays a critical role in sperm capacitation and acrosome reactions during fertilization, and also plays a role in the regulation of proteins involved in spermatogenesis (By similarity). Regulates protein pathways that promote chromosomal synapsis formation, double-strand break repair, formation of the inner mitochondrial membrane cristae and apoptosis in developing sperm (By similarity). ... [full text in table]

Curated tissue note. In testis, expressed in spermatocytes and spermatids (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q86WS5 | HPA portal (live; not the pinned values)

TNP2 | CTA / Pass

ENSG00000178279

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.8953 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 1/283 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Plays a key role in the replacement of histones to protamine in the elongating spermatids of mammals. In condensing spermatids, loaded onto the nucleosomes, where it promotes the recruitment and processing of protamines, which are responsible for histone eviction

Curated tissue note. Expressed by spermatids (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q05952 | HPA portal (live; not the pinned values)

TPD52L3 | CTA / Pass

ENSG00000170777

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 11.8 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.1177 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Clear Cell Carcinoma (TCGA): 1/521 (0.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Specifically expressed in testis. Expressed at 5.6-fold higher levels in adult testis than in fetal testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q96J77 | HPA portal (live; not the pinned values)

TPTE | CTA / Pass

ENSG00000274391

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.8 nTPM; unsited/Microglial cells; hpa_single_cell; unresolved; 0.4892 TPM; blood/TFH; dice_tfh; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 69/133 (51.9%); Liver Hepatocellular Carcinoma (validation): 26/231 (11.3%); Skin Cuteneous Melanoma (TCGA): 8/99 (8.1%)

Cancer IHC. breast cancer: 0/12 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. Could be involved in signal transduction

Curated tissue note. Exclusively expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P56180 | HPA portal (live; not the pinned values)

TPTE2 | CTA / Pass

ENSG00000132958

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Isoform review. Primary work describes TPIP splice variants in brain and stomach as well as testis. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 10.3 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 2.254 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 11/133 (8.3%); Glioblastoma Multiforme (validation): 3/58 (5.2%); Breast Invasive Carcinoma (validation): 2/50 (4.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Acts as a lipid phosphatase, removing the phosphate in the D3 position of the inositol ring from phosphatidylinositol 3,4,5-trisphosphate Shows no phosphoinositide phosphatase activity

Curated tissue note. Isoform 3 is expressed in testis, brain and stomach while isoform 4 seems to be testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6XPS3 | HPA portal (live; not the pinned values)

TRIM42 | CTA / Pass

ENSG00000155890

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2555 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8IWZ5 | HPA portal (live; not the pinned values)

TRIML1 | CTA / Pass

ENSG00000184108

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.4 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 0.0095 TPM; blood/NK-cell; hpa_immune_cell_samples; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Probable E3 ubiquitin-protein ligase which plays an important role in blastocyst development

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N9V2 | HPA portal (live; not the pinned values)

TRPC5OS | CTA / Pass

ENSG00000204025

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 10.9 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 3.512 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 2/133 (1.5%); Ovary Serous Cystadenocarcinoma (TCGA): 2/349 (0.6%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NMA1 | HPA portal (live; not the pinned values)

TSBP1 | CTA / Pass

ENSG00000204296

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 10.3 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 3.705 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Skin Cuteneous Melanoma (TCGA): 1/99 (1.0%); Uterine Corpus Endometrial Carcinoma (TCGA): 1/176 (0.6%)

Cancer IHC. prostate cancer: 5/11 (45.5%); breast cancer: 1/11 (9.1%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5SRN2 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

TSGA10IP | CTA / Pass

ENSG00000175513

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.5 nTPM; skin/macrophages; hpa_single_cell_tissue; vital; 2.341 TPM; blood/M2; dice_m2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 9/133 (6.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Thyroid Carcinoma (TCGA): 2/495 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q3SY00 | HPA portal (live; not the pinned values)

TSPY1 | CTA / Pass

ENSG00000258992

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 35/133 (26.3%); Lung Squamous Cell Carcinoma (validation): 3/68 (4.4%); Liver Hepatocellular Carcinoma (validation): 8/231 (3.5%)

Cancer IHC. testis cancer: 3/12 (25.0%); breast cancer: 0/10 (0.0%)

Biology. May be involved in sperm differentiation and proliferation

Curated tissue note. Specifically expressed in testicular tissues. Isoform 1 and isoform 2 are expressed in spermatogonia and spermatocytes. Found in early testicular carcinoma in situ, spermatogonial cells in testicular tissues ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q01534 | HPA portal (live; not the pinned values)

TSPY10 | CTA / Pass

ENSG00000236424

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.1 nTPM; adipose tissue/bulk; hpa_rna_consensus; manageable; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 11/133 (8.3%); Lung Squamous Cell Carcinoma (validation): 2/68 (2.9%); Lung Squamous Cell Carcinoma (TCGA): 8/489 (1.6%)

Cancer IHC. testis cancer: 3/12 (25.0%); breast cancer: 0/10 (0.0%)

Biology. May be involved in sperm differentiation and proliferation

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0CW01 | UniProt P0CV98 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

TSPY2 | CTA / Pass

ENSG00000168757

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.9 nTPM; brain/oligodendrocytes; hpa_single_cell_tissue; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 29/133 (21.8%); Liver Hepatocellular Carcinoma (TCGA): 15/362 (4.1%); Lung Squamous Cell Carcinoma (validation): 2/68 (2.9%)

Cancer IHC. testis cancer: 3/12 (25.0%); breast cancer: 0/10 (0.0%)

Biology. May be involved in sperm differentiation and proliferation

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NKD2 | HPA portal (live; not the pinned values)

TSPY3 | CTA / Pass

ENSG00000228927

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.2 nTPM; esophagus/bulk; hpa_rna_consensus; protected; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 24/133 (18.0%); Lung Squamous Cell Carcinoma (validation): 1/68 (1.5%); Lung Squamous Cell Carcinoma (TCGA): 6/489 (1.2%)

Cancer IHC. testis cancer: 3/12 (25.0%); breast cancer: 0/10 (0.0%)

Biology. May be involved in sperm differentiation and proliferation

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0CW01 | UniProt P0CV98 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

TSPY4 | CTA / Pass

ENSG00000233803

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.2 nTPM; adipose tissue/bulk; hpa_rna_consensus; manageable; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 45/133 (33.8%); Liver Hepatocellular Carcinoma (TCGA): 23/362 (6.4%); Lung Squamous Cell Carcinoma (TCGA): 30/489 (6.1%)

Cancer IHC. testis cancer: 3/12 (25.0%); breast cancer: 0/10 (0.0%)

Biology. May be involved in sperm differentiation and proliferation

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0CV99 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

TSPY8 | CTA / Pass

ENSG00000229549

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 17/133 (12.8%); Lung Squamous Cell Carcinoma (TCGA): 3/489 (0.6%); Head and Neck Squamous Cell Carcinoma (TCGA): 1/492 (0.2%)

Cancer IHC. testis cancer: 3/12 (25.0%); breast cancer: 0/10 (0.0%)

Biology. May be involved in sperm differentiation and proliferation

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt P0CW00 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

TSPYL6 | CTA / Pass

ENSG00000178021

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.5 nTPM; skeletal muscle/fibroblasts; hpa_single_cell_tissue; vital; 1.139 TPM; blood/CD4_NAIVE; dice_cd4_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 25/133 (18.8%); Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Lung Adenocarcinoma (validation): 1/105 (1.0%)

Cancer IHC. testis cancer: 5/12 (41.7%); breast cancer: 0/12 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8N831 | HPA portal (live; not the pinned values)

TSSK1B | CTA / Pass

ENSG00000212122

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.0631 TPM; blood/memory CD8 T-cell; hpa_immune_cell_samples; vital

Cancer RNA. Pancreatic Adenocarcinoma (validation): 1/80 (1.2%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Bladder Urothelial Carcinoma (TCGA): 1/169 (0.6%)

Cancer IHC. lymphoma: 1/12 (8.3%); breast cancer: 0/12 (0.0%)

Biology. Testis-specific serine/threonine-protein kinase required during spermatid development. Phosphorylates 'Ser-288' of TSKS. Involved in the late stages of spermatogenesis, during the reconstruction of the cytoplasm. During spermatogenesis, required for the transformation of a ring-shaped structure around the base of the flagellum originating from the chromatoid body

Curated tissue note. Testis-specific. Present in sperm (at protein level)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BXA7 | HPA portal (live; not the pinned values)

TTC23L | CTA / Pass

ENSG00000205838

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 17.6 nTPM; brain/inhibitory neurons; hpa_single_cell_tissue; vital; 3.9 TPM; blood/basophil; hpa_immune_monaco; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 17/50 (34.0%); Glioblastoma Multiforme (validation): 7/58 (12.1%); Uterine Corpus Endometrial Carcinoma (TCGA): 4/176 (2.3%)

Cancer IHC. testis cancer: 1/9 (11.1%); breast cancer: 0/11 (0.0%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6PF05 | HPA portal (live; not the pinned values)

TTLL13 | CTA / Pass

ENSG00000213471

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.7 nTPM; bronchus/ciliated cells; hpa_single_cell_tissue; vital; 1.225 TPM; blood/TH1; dice_th1; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. colorectal cancer: 5/12 (41.7%); melanoma: 1/11 (9.1%)

Biology. Polyglutamylase which modifies tubulin, generating polyglutamate side chains of variable lengths on the gamma-carboxyl group of specific glutamate residues within the C-terminal tail of tubulin (PubMed:40593606). Mediates ATP-dependent polyglutamate side-chain elongation of the polyglutamylation reaction but not the initiation step (By similarity). Preferentially modifies the alpha-tubulin tail over a beta-tail (By similarity). ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt A6NNM8 | HPA portal (live; not the pinned values)

TXNDC8 | CTA / Pass

ENSG00000204193

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 1.1 TPM; blood/Memory CD4 T-cell Th17; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. May be required for post-translational modifications of proteins required for acrosomal biogenesis. May act by reducing disulfide bonds within the sperm

Curated tissue note. Testis-specific. Only expressed during spermiogenesis, prominently in the Golgi apparatus of pachytene spermatocytes and round and elongated spermatids, with a transient localization in the developing acrosome ... [full text in table]

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6A555 | HPA portal (live; not the pinned values)

UBE2U | CTA / Pass

ENSG00000177414

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.3 nTPM; stomach/bulk; hpa_rna_consensus; protected; 0.2104 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Liver Hepatocellular Carcinoma (validation): 7/231 (3.0%); Lung Adenocarcinoma (validation): 3/105 (2.9%); Liver Hepatocellular Carcinoma (TCGA): 5/362 (1.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Catalyzes the covalent attachment of ubiquitin to other proteins

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5VVX9 | HPA portal (live; not the pinned values)

UBQLN3 | CTA / Pass

ENSG00000175520

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 5 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.4625 TPM; blood/TREG_NAIVE; dice_treg_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 3/133 (2.3%); Glioblastoma Multiforme (validation): 1/58 (1.7%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Testis specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H347 | HPA portal (live; not the pinned values)

USP26 | CTA / Pass

ENSG00000134588

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0.1 nTPM; skin/bulk; hpa_rna_consensus; manageable; 0.1886 TPM; blood/M2; dice_m2; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 2/207 (1.0%); Colon Adenocarcinoma (validation): 2/486 (0.4%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/10 (0.0%)

Biology. Deubiquitinase regulating several biological processes through the deubiquitination of components of these processes (PubMed:20501646, PubMed:28839133). Involved in somatic cell reprogramming through the 'Lys-48'-linked deubiquitination and stabilization of CBX4 and CBX6, two components of the polycomb-repressive complex 1 (PRC1) (PubMed:28839133). Also deubiquitinates and probably stabilizes the androgen receptor (AR), regulating the ... [full text in table]

Curated tissue note. Expressed in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BXU7 | HPA portal (live; not the pinned values)

VCX | CTA / Pass

ENSG00000182583

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.1 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.6068 TPM; blood/TH2; dice_th2; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 39/133 (29.3%); Skin Cuteneous Melanoma (TCGA): 11/99 (11.1%); Lung Squamous Cell Carcinoma (TCGA): 46/489 (9.4%)

Cancer IHC. melanoma: 1/11 (9.1%); breast cancer: 0/10 (0.0%)

Biology. May mediate a process in spermatogenesis or may play a role in sex ratio distortion

Curated tissue note. Expressed exclusively in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H320 | HPA portal (live; not the pinned values)

VCX3A | CTA / Pass

ENSG00000169059

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 4.3 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.379 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 27/133 (20.3%); Skin Cuteneous Melanoma (TCGA): 10/99 (10.1%); Bladder Urothelial Carcinoma (TCGA): 11/169 (6.5%)

Cancer IHC. melanoma: 1/11 (9.1%); breast cancer: 0/10 (0.0%)

Biology. May mediate a process in spermatogenesis or may play a role in sex ratio distortion

Curated tissue note. Expressed exclusively in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9NNX9 | HPA portal (live; not the pinned values)

VCX3B | CTA / Pass

ENSG00000205642

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 12.4 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.5093 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 12/133 (9.0%); Skin Cuteneous Melanoma (TCGA): 6/99 (6.1%); Bladder Urothelial Carcinoma (TCGA): 7/169 (4.1%)

Cancer IHC. melanoma: 1/11 (9.1%); breast cancer: 0/10 (0.0%)

Biology. May mediate a process in spermatogenesis or may play a role in sex ratio distortion

Curated tissue note. Expressed exclusively in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H321 | HPA portal (live; not the pinned values)

VCY | CTA / Pass

ENSG00000129864

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0.1 TPM; blood/Memory CD4 T-cell Th2; hpa_immune_monaco; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 13/133 (9.8%); Liver Hepatocellular Carcinoma (TCGA): 23/362 (6.4%); Skin Cuteneous Melanoma (TCGA): 4/99 (4.0%)

Cancer IHC. melanoma: 1/11 (9.1%); breast cancer: 0/10 (0.0%)

Biology. May mediate a process in spermatogenesis or may play a role in sex ratio distortion

Curated tissue note. Expressed exclusively in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O14598 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

VCY1B | CTA / Pass

ENSG00000129862

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 0 nTPM; blood/MAIT T-cell; hpa_immune_cell; vital; 0 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 24/133 (18.0%); Liver Hepatocellular Carcinoma (TCGA): 21/362 (5.8%); Skin Cuteneous Melanoma (TCGA): 3/99 (3.0%)

Cancer IHC. melanoma: 1/11 (9.1%); breast cancer: 0/10 (0.0%)

Biology. May mediate a process in spermatogenesis or may play a role in sex ratio distortion

Curated tissue note. Expressed exclusively in testis

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt O14598 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

WDR87 | CTA / Pass

ENSG00000171804

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.25 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Lung Squamous Cell Carcinoma (validation): 1/68 (1.5%); Lung Adenocarcinoma (validation): 1/105 (1.0%); Lung Adenocarcinoma (TCGA): 3/497 (0.6%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q6ZQQ6 | HPA portal (live; not the pinned values)

WFDC10A | CTA / Pass

ENSG00000180305

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.7 nTPM; rectum/enteroendocrine cells; hpa_single_cell_tissue; protected; 1.377 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Skin Cuteneous Melanoma (TCGA): 3/99 (3.0%); Breast Invasive Carcinoma (validation): 1/50 (2.0%); Bladder Urothelial Carcinoma (TCGA): 3/169 (1.8%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9H1F0 | HPA portal (live; not the pinned values)

WFDC6 | CTA / Pass

ENSG00000243543

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA review. UniProt describes ubiquitous expression with high levels in trachea as well as epididymis and testis. Evidence Frozen classification unchanged; adjudicate before target use.

Normal RNA / IHC. 1.3 nTPM; lung/bulk; hpa_rna_consensus; vital; 0.3983 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 10/50 (20.0%); Breast Invasive Carcinoma (TCGA): 72/1022 (7.0%); Uterine Corpus Endometrial Carcinoma (TCGA): 11/176 (6.2%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. Ubiquitously expressed, but the highest levels are found in epididymis, testis and trachea

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9BQY6 | HPA portal (live; not the pinned values)

XAGE1A | CTA / Pass

ENSG00000204379

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.2 nTPM; skin/macrophages; hpa_single_cell_tissue; vital; 0.2371 TPM; blood/classical monocyte; hpa_immune_cell_samples; vital

Cancer RNA. Lung Adenocarcinoma (validation): 81/105 (77.1%); Lung Adenocarcinoma (TCGA): 357/497 (71.8%); Testicular Germ Cell Tumor (TCGA): 55/133 (41.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. In normal tissues, highly expressed in testis. Expressed also in many different types of cancers: highly expressed in breast cancer, prostate cancer and many types of lung cancers, including squamous cell carcinoma, small cell carcinoma, non-small cell carcinoma, and adenocarcinoma, as well as in Ewing's cell lines, in some Ewing's sarcoma patient samples, and in one of one alveolar rhabdomyosarcoma patient sample

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q9HD64 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

XAGE1B | CTA / Pass

ENSG00000204382

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 3.831 nTPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital; 3.195 TPM; blood/plasmacytoid DC; hpa_immune_cell_samples; vital

Cancer RNA. Lung Adenocarcinoma (validation): 71/105 (67.6%); Lung Adenocarcinoma (TCGA): 314/497 (63.2%); Liver Hepatocellular Carcinoma (TCGA): 82/362 (22.7%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. In normal tissues, highly expressed in testis. Expressed also in many different types of cancers: highly expressed in breast cancer, prostate cancer and many types of lung cancers, including squamous cell carcinoma, small cell carcinoma, non-small cell carcinoma, and adenocarcinoma, as well as in Ewing's cell lines, in some Ewing's sarcoma patient samples, and in one of one alveolar rhabdomyosarcoma patient sample

Therapeutic evidence. Trial registration only.

UniProt Q9HD64 | Trial/source record | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

YBX2 | CTA / Pass

ENSG00000006047

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal protein review. Published staining includes vascular smooth muscle in pulmonary artery, myocardium and skeletal muscle, plus adrenal cortical cells. Evidence Frozen classification unchanged; adjudicate before target use.

Boundary. Within 20% below the 30 ceiling in at least one native RNA unit

Normal RNA / IHC. 27 nTPM; colon/distal enterocytes; hpa_single_cell_tissue; protected; 2.067 TPM; blood/CD8_NAIVE; dice_cd8_naive; vital

Cancer RNA. Breast Invasive Carcinoma (validation): 44/50 (88.0%); Ovary Serous Cystadenocarcinoma (validation): 36/81 (44.4%); Cervical Squamous Cell Carcinoma and Endocervical Adenocarcinoma (TCGA): 121/283 (42.8%)

Cancer IHC. breast cancer: 0/11 (0.0%); cervical cancer: 0/12 (0.0%)

Biology. Major constituent of messenger ribonucleoprotein particles (mRNPs). Involved in the regulation of the stability and/or translation of germ cell mRNAs. Binds to Y-box consensus promoter element. Binds to full-length mRNA with high affinity in a sequence-independent manner. Binds to short RNA sequences containing the consensus site 5'-UCCAUCA-3' with low affinity and limited sequence specificity. Its binding with maternal mRNAs is ... [full text in table]

Curated tissue note. Expressed in oocytes and testicular germ cells in the stage of spermatogonia to spermatocyte. Also observed placental trophoblasts, as well as in vascular smooth muscle cells in the pulmonary artery, ... [full text in table]

Therapeutic evidence. Normal protein conflict.

UniProt Q9Y2T7 | Reviewed source 1 | HPA portal (live; not the pinned values)

Shared UniProt entry: annotation is not independently proven for each encoding locus.

ZC2HC1B | CTA / Pass

ENSG00000118491

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 8.2 nTPM; brain/excitatory neurons; hpa_single_cell_tissue; vital; 1.173 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Glioblastoma Multiforme (validation): 4/58 (6.9%); Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q5TFG8 | HPA portal (live; not the pinned values)

ZCCHC13 | CTA / Pass

ENSG00000187969

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.2 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.5977 TPM; blood/CD4_STIM; dice_cd4_stim; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. lymphoma: 3/12 (25.0%); endometrial cancer: 1/12 (8.3%)

Biology. No functional description is linked by an exact Ensembl cross-reference in this reviewed UniProt snapshot.

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WW36 | HPA portal (live; not the pinned values)

ZNRF4 | CTA / Pass

ENSG00000105428

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 1.9 nTPM; testis/macrophages; hpa_single_cell_tissue; vital; 0.2293 TPM; blood/B_CELL_NAIVE; dice_b_cell_naive; vital

Cancer RNA. Testicular Germ Cell Tumor (TCGA): 1/133 (0.8%); Rectum Adenocarcinoma (validation): 1/207 (0.5%); Kidney Renal Papillary Cell Carcinoma (TCGA): 1/282 (0.4%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. E3 ubiquitin-protein ligase that acts as a negative regulator of NOD2 signaling by mediating ubiquitination and degradation of RIPK2 (PubMed:28656966). Also catalyzes ubiquitination and proteasomal degradation of CANX within the endoplasmic reticulum (PubMed:21205830). Could have a role in spermatogenesis (By similarity)

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8WWF5 | HPA portal (live; not the pinned values)

ZSWIM2 | CTA / Pass

ENSG00000163012

Decision. Passes the frozen research screen. Clinical efficacy and safety are not implied.

Normal RNA / IHC. 2.6 nTPM; pancreas/endothelial cells; hpa_single_cell_tissue; vital; 0.8173 TPM; blood/MONOCYTES; dice_monocytes; vital

Cancer RNA. Rectum Adenocarcinoma (validation): 1/207 (0.5%); Bladder Urothelial Carcinoma (TCGA): 0/169 (0.0%); Breast Invasive Carcinoma (TCGA): 0/1022 (0.0%)

Cancer IHC. No exact-ID IHC coverage in the HPA cancer snapshot

Biology. E3 ubiquitin-protein ligase involved in the regulation of Fas-, DR3- and DR4-mediated apoptosis. Functions in conjunction with the UBE2D1, UBE2D3 and UBE2E1 E2 ubiquitin-conjugating enzymes

Curated tissue note. Expression is testis-specific

Therapeutic evidence. No trial link in the curated intake; not an exhaustive negative search.

UniProt Q8NEG5 | HPA portal (live; not the pinned values)