

CPTC-PROM1-2 (CAB080376)

Uniprot ID: [O43490](#)

Protein name: PROM1_HUMAN

Full name: Prominin-1

Tissue specificity: Isoform 1 is selectively expressed on CD34 hematopoietic stem and progenitor cells in adult and fetal bone marrow, fetal liver, cord blood and adult peripheral blood. Isoform 1 is not detected on other blood cells. Isoform 1 is also expressed in a number of non-lymphoid tissues including retina, pancreas, placenta, kidney, liver, lung, brain and heart. Found in saliva within small membrane particles. Isoform 2 is predominantly expressed in fetal liver, skeletal muscle, kidney, and heart as well as adult pancreas, kidney, liver, lung, and placenta. Isoform 2 is highly expressed in fetal liver, low in bone marrow, and barely detectable in peripheral blood. Isoform 2 is expressed on hematopoietic stem cells and in epidermal basal cells (at protein level). Expressed in adult retina by rod and cone photoreceptor cells (at protein level).

Function: May play a role in cell differentiation, proliferation and apoptosis (PubMed:24556617). Binds cholesterol in cholesterol-containing plasma membrane microdomains and may play a role in the organization of the apical plasma membrane in epithelial cells. During early retinal development acts as a key regulator of disk morphogenesis. Involved in regulation of MAPK and Akt signaling pathways. In neuroblastoma cells suppresses cell differentiation such as neurite outgrowth in a RET-dependent manner (PubMed:20818439).

Subcellular location:

Apical cell membrane (*by similarity*) (Topo: Multi-pass membrane protein (*by similarity*))

Cell projection > Microvillus membrane (*by similarity*) (Topo: Multi-pass membrane protein (*by similarity*))

Cell projection > Cilium > Photoreceptor outer segment (*by similarity*)

Endoplasmic reticulum

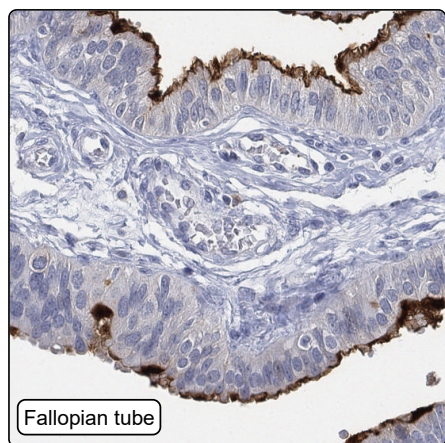
Endoplasmic reticulum-Golgi intermediate compartment

NOTE: Found in extracellular membrane particles in various body fluids such as cerebrospinal fluid, saliva, seminal fluid and urine.

Protein existence: Experimental evidence at protein level

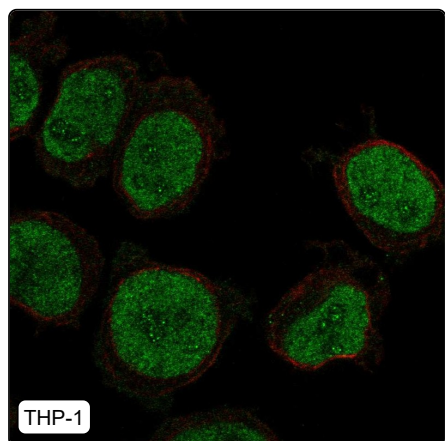
Comment: IF not consistent with gene/protein characterization data/Charlotte

Immunohistochemistry



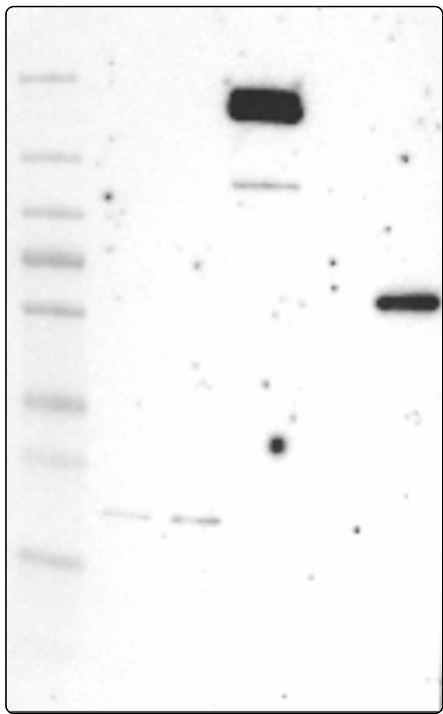
IHC protocol:	HIER pH6, Dilution 1:800
IHC test staining:	Membranous positivity in fallopian tube, gastrointestinal tract, kidney and pancreas.
Literature conformance:	Consistent with extensive gene/protein characterization data
Literature significance:	
RNA similarity:	Low consistency between antibody staining and RNA expression data
RNA tissue specificity:	Tissue enriched (retina)
RNA tissue distribution:	Detected in many
IHC Sibling similarity:	Other antibody shows partly similar IHC staining pattern

Immunofluorescence



IF Overlay:	antibody (green), anti-tubulin (red) and DAPI (blue)
IF main location:	Nucleoplasm - 12: Uncertain (auto)
IF additional location:	Nucleoli fibrillar center - 12: Uncertain (auto)
IF approved for publication on HPA:	No
IF in THP-1:	Nucleoplasm Nucleoli Fibrillar center
IF in U2OS:	Nucleoplasm

Western blot



WB Size markers (kDa):	250, 130, 100, 70, 55, 35, 25, 15, 10
WB Lanes:	Marker (1), RT-4 (2), U-251MG (3), Plasma (4), Liver (5), Tonsil (6)
WB Target weight (kDa):	1, 4, 6, 93, 94, 94, 95, 96, 96, 97, 97
WB Validation:	Uncertain (Weak band of predicted size but with additional bands of higher intensity also present.)