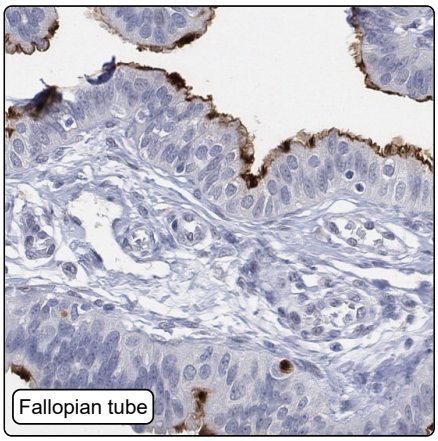
CPTC-PROM1-1 (CAB080375)

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

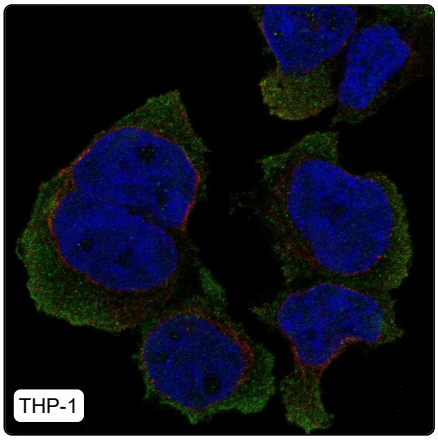
Comment: Staining agree with HPA antibodies./Charlotte

Immunohistochemistry



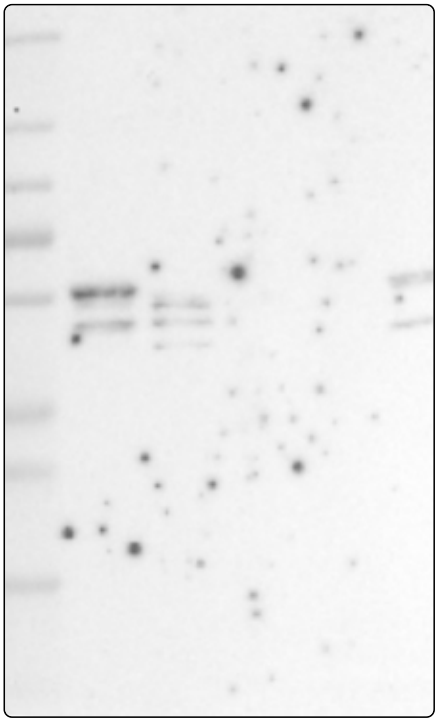
IHC protocol:	HIER pH6, Dilution 1:700
IHC test staining:	Membranous positivity in fallopian tube, pancreas and intestine. Cytoplasmic positivity in kidney.
Literature conformance:	Consistent with extensive gene/protein characterization data
Literature significance:	
RNA similarity:	Medium consistency 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 similar IHC staining pattern

Immunofluorescence



IF Overlay:	antibody (green), anti-tubulin (red) and DAPI (blue)
IF main location:	Plasma membrane - 8: **Approved** (manual)
IF additional location:	
IF approved for publication on HPA:	Yes
IF in THP-1:	Plasma membrane
IF in U2OS:	Plasma membrane

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 (Only bands not corresponding to the predicted size.)