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PROM1 Antibody

Catalog # ASC11795

Product Information

Application	WB, IF, ICC, E
Primary Accession	O43490
Other Accession	NP_006008, 5174387
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	97202
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PROM1 antibody can be used for detection of PROM1 by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunocytochemistry at 2.5 g/mL. For Immunoflorescence start at 20 g/mL.

Additional Information

Gene ID	8842
Other Names	Prominin-1, Antigen AC133, Prominin-like protein 1, CD133, PROM1, PROML1
Target/Specificity	PROM1; PROM1 antibody is human, mouse and rat reactive. Multiple isoforms of PROM1 are known to exist.
Reconstitution & Storage	PROM1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	PROM1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PROM1
Synonyms	PROML1
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).

Cellular Location	Apical cell membrane; Multi-pass membrane protein. Cell projection, microvillus membrane; Multi-pass membrane protein. Cell projection, cilium, photoreceptor outer segment 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
Tissue Location	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)

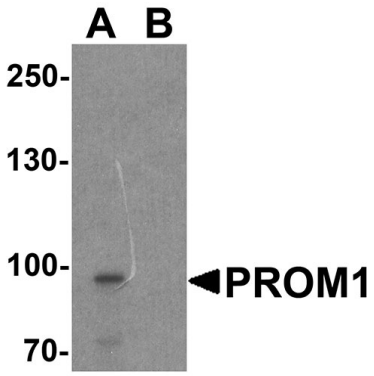
Background

PROM1 is a pentaspan transmembrane glycoprotein that localizes to membrane protrusions and is often expressed on adult stem cells, where it is thought to function in maintaining stem cell properties by suppressing differentiation (1). Mutations in this gene have been shown to result in retinitis pigmentosa (2). Expression of this gene is also associated with several types of cancer (3).

References

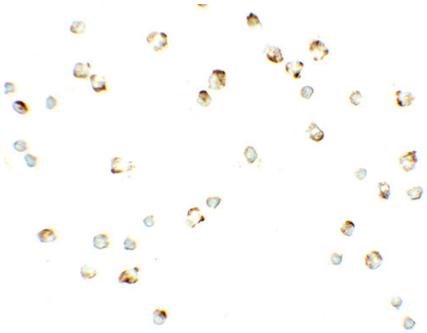
Yin AH, Miraglia S, Zanjani ED, et al. AC133, a novel marker for human hematopoietic stem and progenitor cells. Blood 1997; 90:5002-12.
Zhang Q, Zulfiqar F, Xiao X, et al. Severe retinitis pigmentosa mapped to 4p15 and associated with a novel mutation in the PROM1 gene. Hum. Genet. 2007; 122:293-9.
Tabu K, Bizen N, Taga T, et al. Gene regulation of Prominin-1 (CD133) in normal and cancerous tissues. Adv. Exp. Med. Biol. 2013; 777:73-85.

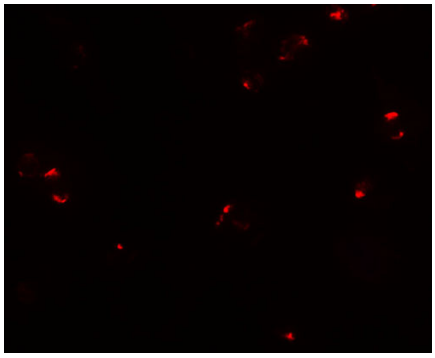
Images



Western blot analysis of PROM1 in Jurkat cell lysate with PROM1 antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.

Immunocytochemistry of PROM1 in Jurkat cells with PROM1 antibody at 2.5 µg/mL.





Immunofluorescence of PROM1 in Jurkat cells with PROM1 antibody at 20 µg/mL.