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Phospho-CD133-pY828 Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3518a

Product Information

Application	DB, E
Primary Accession	O43490
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14231;RB14232
Calculated MW	97202

Additional Information

Gene ID	8842
Other Names	Prominin-1, Antigen AC133, Prominin-like protein 1, CD133, PROM1, PROML1
Target/Specificity	This Phospho-CD133-pY828 antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Y828 of human CD133.
Dilution	DB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Phospho-CD133-pY828 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

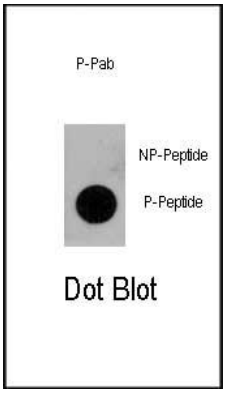
CD133 is a pentaspan transmembrane glycoprotein. It appears to belong to a new molecular family of 5-TM proteins, as the characterization of the CD133 antigen and prominin in the mouse were the first descriptions of a 5-TM glycoprotein structure. This 'family' includes members from several different species (which may be homologs) including human, mouse, rat, fly, and worm. The 5-TM structure includes an extracellular N-terminus, two short intracellular loops, two large extracellular loops and an intracellular C-terminus CD133 was initially shown to be expressed on primitive hematopoietic stem and progenitor cells and retinoblastoma. CD133 has since been shown to be expressed on hemangioblasts, and neural stem cells as well as on developing epithelium. Expression patterns for CD133 generally mimic those of the murine prominin molecule, although CD133 antigen has not yet been demonstrated on adult epithelial tissue. The CD133 positive fraction of human bone marrow, cord blood and peripheral blood have been shown to efficiently engraft in xenotransplantation models, and have been shown to contain the majority of the granulocyte/macrophage precursors, NOD/SCID repopulating cells and CD34 + dendritic cell precursors. Phenotypically, CD133 positive cells in blood and marrow are CD34 bright, with CD34 dim CD71 bright cells being negative for CD133 expression. Many leukemias express CD133 as well as CD34 , but some investigators have noted leukemic blasts which are CD133+ and CD34 negative. No natural ligand has yet been demonstrated for the CD133 molecule, and its function in hematopoietic tissue is unknown.

References

Giebel, B., et al., Blood 104(8):2332-2338 (2004). Torrente, Y., et al., J. Clin. Invest. 114(2):182-195 (2004). Shmelkov, S.V., et al., Blood 103(6):2055-2061 (2004). Yu, Y., et al., J. Biol. Chem. 277(23):20711-20716 (2002). Corbeil, D., et al., Biochem. Biophys. Res. Commun. 285(4):939-944 (2001).

Images

Dot blot analysis of anti-CD133 Phospho-specific Pab (Cat.#AP3518a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per



ml.

Citations

- The Interaction between Cancer Stem Cell Marker CD133 and Src Protein Promotes Focal Adhesion Kinase (FAK) Phosphorylation and Cell Migration.