

**AC133 (CD133) Antibody (N-term) Blocking Peptide**  
Synthetic peptide  
Catalog # BP2003a**Specification**

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**AC133 (CD133) Antibody (N-term) Blocking Peptide - Product Information**Primary Accession [O43490](#)**AC133 (CD133) Antibody (N-term) Blocking Peptide - Additional Information**

Gene ID 8842

**Other Names**

Prominin-1, Antigen AC133, Prominin-like protein 1, CD133, PROM1, PROML1

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP2003a](/product/products/AP2003a) was selected from the N-term region of human AC133. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**AC133 (CD133) Antibody (N-term) Blocking Peptide - Protein Information**

Name PROM1

Synonyms PROML1

**Function**

May play a role in cell differentiation, proliferation and apoptosis (PubMed: [24556617](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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)

#### **AC133 (CD133) Antibody (N-term) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

#### **AC133 (CD133) Antibody (N-term) Blocking Peptide - Images**

#### **AC133 (CD133) Antibody (N-term) Blocking Peptide - Background**

The CD133 gene codes for a pentaspan transmembrane glycoprotein. The CD133 antigen 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.

#### **AC133 (CD133) Antibody (N-term) Blocking Peptide - 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).