

PRODUCT INFORMATION



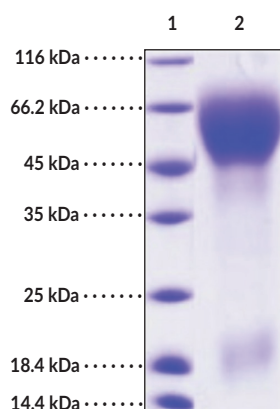
Prominin-1/CD133 Splice Variant s7 EC2 Domain (rat, recombinant) Item No. 43696

Overview and Properties

Synonyms:	Cluster of Differentiation 133, PROM1
Source:	Recombinant rat N-terminal His-tagged CD133 splice variant s7 EC2 domain expressed in HEK293 cells
Amino Acids:	171-424
Uniprot No.:	Q7TSL4
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay
Protein Concentration:	<i>batch specific</i> mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers

Lane 2: Prominin-1/CD133 Splice Variant s7 EC2 Domain

SDS-PAGE Analysis of Prominin-1/CD133 Splice Variant s7 EC2 Domain. This protein has a calculated molecular weight of 30.9 kDa. It has an apparent molecular weight of approximately 47 to 57 kDa by SDS-PAGE under reducing conditions.

Description

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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CD133, also known as prominin-1, is a five-transmembrane domain glycoprotein and stem cell marker.¹ It is composed of an N-terminal extracellular domain (EC1) and two extracellular loops (EC2 and EC3), which are linked *via* two intracellular loops (IC1 and IC2), and a C-terminal cytoplasmic domain (IC3). CD133 localizes to membrane protrusions and undergoes extensive alternative splicing, where each splice variant is expressed in a tissue-dependent manner.¹⁻³ In addition to its expression in stem cells, CD133 is also expressed in some differentiated epithelial cells, such as in the proximal tubules of the kidneys, epididymal tract, and various glands, and differentiated nonepithelial cells, including photoreceptor cells.¹ It is involved in regulating membrane architecture of microvilli and cilia, stem cell transit, autophagy, interactions with lipid rafts, and intercellular communication, among other processes. CD133 is commonly used as an antigen to isolate stem cells, including cancer stem cells, from biological samples.^{1,4} Mutations in *PROM1*, the gene encoding CD133, are associated with macular degeneration.⁵ Cayman's Prominin-1/CD133 Splice Variant s7 EC2 Domain (rat, recombinant) protein consists of 274 amino acids and has a calculated molecular weight of 30.9 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 47 to 57 kDa.

References

1. Pleskač, P., Fargeas, C.A., Veselska, R., *et al.* Emerging roles of prominin-1 (CD133) in the dynamics of plasma membrane architecture and cell signaling pathways in health and disease. *Cell. Mol. Biol. Lett.* **29(1)**, 41 (2024).
2. Fargeas, C.A., Huttner, W.B., and Corbeil, D. Nomenclature of prominin-1 (CD133) splice variants - an update. *Tissue Antigens* **69(6)**, 602-606 (2007).
3. Shmelkov, S.V., Jun, L., St Clair, R., *et al.* Alternative promoters regulate transcription of the gene that encodes stem cell surface protein AC133. *Blood* **103(6)**, 2055-2061 (2004).
4. Haraguchi, N., Utsunomiya, T., Inoue, H., *et al.* Characterization of a side population of cancer cells from human gastrointestinal system. *Stem Cells* (2005).
5. Yang, Z., Chen, Y., Lillo, C., *et al.* Mutant prominin 1 found in patients with macular degeneration disrupts photoreceptor disk morphogenesis in mice. *J. Clin. Invest.* **118(8)**, 2908-2916 (2008).

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