

## CD133/PROM1 Protein, Rat, Recombinant (His)

### General Information

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|-----------------------|--|
| Synonyms:             | prominin 1   |
| Protein Construction: | A DNA sequence encoding the rat PROM1 (NP_001103607.1) (Asn171-Tyr424) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His |
| Species:              | Rat  |
| Expression Host:      | HEK293 Cells   |
| Accession:            | Q7TSL4   |
| Molecular Weight:     | 37.10 kDa (predicted); 47-57 kDa (reducing conditions)   |

### QC Testing

|                      |   |
|----------------------|---|
| Biological Activity: | Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.  |
| Purity:              | > 90 % as determined by SDS-PAGE  |
| Endotoxin:           | < 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.   |
| Formulation:         | Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

### Preparation and Storage

|                      |  |
|----------------------|--|
| Reconstitution:      | Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.   |
| Stability & Storage: | It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.<br><small>Actual storage temperature shall be subject to the COA.</small> |
| Shipping:            | In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.   |

### Protein Background

CD133, also known as PROM1 and Prominin 1, is a pentaspan transmembrane glycoprotein that belongs to the prominin family. It localizes to membrane protrusions and is often expressed on adult stem cells. CD133 is known to play a role in maintaining stem cell properties by suppressing differentiation. CD133 binds cholesterol in cholesterol-containing plasma membrane microdomains. It is proposed to play a role in apical plasma membrane organization of epithelial cells. CD133 is also involved in regulation of MAPK and Akt signaling pathways.

Mutations in PROM1 gene have been shown to result in retinitis pigmentosa and Stargardt disease. PROM1 gene is expressed from at least five alternative promoters that are expressed in a tissue-dependent manner. Expression of this gene is also associated with several types of cancer.

### Reference

Corbeil D. et al., 2001, Biochem Biophys Res Commun. 285 (4): 939-44.

Horn PA. et al., 1999, Blood. 93 (4): 1435-37.

Sanai N. et al., 2005, N Engl J Med. 353 (8): 811-22.

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