

CADM3 Protein, Rat, Recombinant (hFc)

General Information

Synonyms:	cell adhesion molecule 3
Protein Construction:	A DNA sequence encoding the rat CADM3 (Q1WIM3) (Met1-His328) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Asn 23
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	Q1WIM3
Molecular Weight:	60.5 kDa (predicted); 61 kDa (reducing condition, due to glycosylation)

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:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm 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:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Cell Adhesion Molecules (CAMs) are proteins located on the cell surface involved with the binding with other cells or with the extracellular matrix (ECM) in the process called cell adhesion. These proteins are typically transmembrane receptors and are composed of three domains: an intracellular domain that interacts with the cytoskeleton, a transmembrane domain, and an extracellular domain that interacts either with other CAMs of the same kind (homophilic binding) or with other CAMs or the extracellular matrix (heterophilic binding). Cell adhesion

molecule 3, also known as Immunoglobulin superfamily member 4B, CADM3, and NECL1, is a neural tissue-specific immunoglobulin-like cell-cell adhesion molecule which has Ca(2+)-independent homo- or heterophilic cell-cell adhesion activity and plays an important role in the formation of synapses, axon bundles and myelinated axons. Isoform 1 of CADM3 is expressed mainly in adult and fetal brain. Isoform 2 of CADM3 is highly expressed in adult brain and weakly expressed in placenta. In brain, Isoform 2 is highly expressed in cerebellum. CADM3 is involved in the cell-cell adhesion. It has both calcium-independent homophilic cell-cell adhesion activity and calcium-independent heterophilic cell-cell adhesion activity with IGSF4, PVRL1 and PVRL3. The interaction with EPB41L1 may regulate structure or function of cell-cell junctions. CADM3 may act as a tumor suppressor in glioma and loss of it in glioma may be caused by histone deacetylation.

Reference

Dong X, et al. (2006) Crystal structure of the V domain of human Nectin-like molecule-1/Syncam3/Tsll1/Igsf4b, a neural tissue-specific immunoglobulin-like cell-cell adhesion molecule. *J Biol Chem.* 281(15): 10610-7.

Gao J, et al. (2008) Nectin-like molecule 1 is a glycoprotein with a single N-glycosylation site at N290KS which influences its adhesion activity. *Biochim Biophys Acta.* 1778(6): 1429-35.

Gao J, et al. (2009) Loss of NECL1, a novel tumor suppressor, can be restored in glioma by HDAC inhibitor-Trichostatin A through Sp1 binding site. *Glia.* 57(9): 989-99.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481