

CADM1 Protein, Human, Recombinant (His)

General Information

Synonyms:	Necl-2; cell adhesion molecule 1; SYNCAM; BL2; sTSLC-1; ST17; synCAM1; IGSF4; TSLC1; RA175; sglIGSF; IGSF4A; NECL2
Protein Construction:	A DNA sequence encoding the human CADM1 (NP_055148.3) extracellular domain (Met 1-His 374) was expressed, fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 45
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q9BY67-1
Molecular Weight:	38.5 kDa (predicted); 70-80 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized recombinant human CADM1 at 2 µg/ml (100 µl/well) can bind biotinylated human CRTAM with a linear range of 12.5-400 ng/ml.
Purity:	> 94 % 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:
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.

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

Members of the immunoglobulin superfamily often play key roles in intercellular adhesion. IGSF4 is a novel immunoglobulin (Ig)-like intercellular adhesion molecule. Three Ig-like domains are included in the extracellular

domain of IGSF4 and mediate homophilic or heterophilic interactions independently of Ca²⁺. The cytoplasmic domain of IGSF4 contains the binding motifs that connect to actin fibers. Since IGSF4 has been characterized by several independent research groups, this molecule is called by three names, TSLC1, SgIGSF and SynCAM. IGSF4 was first characterized as a tumor suppressor of non-small cell lung cancer and termed TSLC1. It is a single-pass type I membrane protein which belongs to the nectin family, which may be involved in neuronal migration, axon growth, pathfinding, and fasciculation on the axons of differentiating neurons. In addition, CADM1 may play diverse roles in the spermatogenesis including in the adhesion of spermatocytes and spermatids to Sertoli cells and for their normal differentiation into mature spermatozoa. In neuroblastoma, loss of CADM1 expression has recently been found in disseminated tumours with adverse outcome, prompting us to investigate its role in neuroblastoma tumour progression. The downregulation of CADM1 tumour suppressor gene expression is a critical event in neuroblastoma pathogenesis resulting in tumour progression.

Reference

Watabe K, et al. (2003) IGSF4: a new intercellular adhesion molecule that is called by three names, TSLC1, SgIGSF and SynCAM, by virtue of its diverse function. *Histol Histopathol.* 18(4): 1321-9.

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Fujita E, et al. (2006) Oligo-astheno-teratozoospermia in mice lacking RA175/TSLC1/SynCAM/IGSF4A, a cell adhesion molecule in the immunoglobulin superfamily. *Mol Cell Biol.* 26(2): 718-26.

Nowacki S, et al. (2008) Expression of the tumour suppressor gene CADM1 is associated with favourable outcome and inhibits cell survival in neuroblastoma. *Oncogene.* 27(23): 3329-38.

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