

## DESCRIPTION

<b>Source</b>	Mouse myeloma cell line, NS0-derived human IGSF4D/CADM2 protein	
	Human IGSF4D/CADM2 (Ala21-Asp335) Accession # AAI06000	6-His tag
	N-terminus	C-terminus
<b>N-terminal Sequence Analysis</b>	Ala21	
<b>Predicted Molecular Mass</b>	35.5 kDa (monomer)	

## SPECIFICATIONS

<b>SDS-PAGE</b>	36-55 kDa, reducing conditions
<b>Activity</b>	Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons. Able to significantly enhance neurite outgrowth when immobilized as a 3 µL droplet containing 50 ng on a nitrocellulose-coated microplate.
<b>Endotoxin Level</b>	<0.01 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 100 µg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

IGSF4D is an immunoglobulin superfamily member that is also designated as synaptic cell adhesion molecule 2 (SynCAM 2) and nectin-like protein 3 (Nect-3) (1). The four IGSF4 proteins, designated A, B, C and D, are type I transmembrane glycoproteins expressed mainly in epithelial cells that contain one V-type Ig-like and two C2-type Ig-like domains in their extracellular regions. These domains are characteristically responsible for Ca<sup>++</sup>-independent homophilic and heterophilic interactions in the brain, lung, kidney, bladder, prostate and testis (1-3). Based on homology with other family members, the 437 amino acid (aa) human IGSF4D contains a 355 aa extracellular domain (ECD) that shares > 99% aa identity with corresponding regions of canine and bovine, and 93% aa identity with rat and mouse IGSF4D. Rat and mouse IGSF4D lack an exon at the end of the putative ECD. If this exon is disregarded, aa identity with human IGSF4D rises to > 98%. IGSF4A, B, C and D proteins share 35-50% aa identity within the ECD. Amino acids found to be critical in other IGSF4 proteins for adhesion and intracellular binding of MAGUK guanylate kinase subfamily proteins are conserved in IGSF4D (3). The expression and function of IGSF4D has not been well characterized. However, in-house quality control data at R&D Systems has shown that, like other family members, IGSF4D has a positive effect on *in vitro* outgrowth of cortical neurons.

## References:

1. Biederer, T. *et al.* (2006) Genomics **87**:139.
2. Sakisaka T. and Y. Takai (2004) Curr. Opin. Cell Biol. **16**:513.
3. Kakunaga, S. *et al.* (2004) J. Cell Sci. **118**:1267.