

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Ile42-Asp376, with a C-terminal 10-His tag
Accession # NP_061240

N-terminal Sequence Analysis Ile42

Predicted Molecular Mass 38.8 kDa

SPECIFICATIONS

SDS-PAGE 76-87 kDa, reducing conditions

Activity Measured by its binding activity in a functional ELISA. Galiberet, L. *et al.* (2005) J. Biol. Chem. **280**:21955.
Immobilized Recombinant Mouse CRTAM Fc Chimera (Catalog # 3687-CR) at 2 µg/mL (100 µL/well) can bind Recombinant Mouse IGSF4A/SynCAM1 with a linear range of 0.2-10 µg/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >90%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

IGSF4A is a 75 kDa immunoglobulin superfamily protein that mediates calcium-independent adhesive interactions, either homophilic or heterophilic with CRTAM (class I-restricted T cell-associated molecule), Necl-1 (SynCAM3) or Nectin-3 (1 - 4). Alternate names for IGSF4A reflect its activities. As TSLC-1 (tumor suppressor in lung cancer-1), it is downregulated in non-small cell lung cancer (5). This may allow evasion of antitumor responses, since TSLC-1 interaction with CRTAM on activated NK and CD8⁺ T cells stimulates cytotoxicity and upregulates IFN-γ production (3, 6). As Necl-2 (nectin-like 2), it is expressed on T zone-restricted BDCA3⁺ dendritic cells, again interacting with CRTAM (3). As SynCAM-1 (synaptic cell adhesion molecule-1) it binds homotypically across synaptic clefts and, like neuroligin/neurexin adhesion pairs, promotes formation of neural cell synapses (7, 8). Expression on mast cells allows attachment to neurites and fibroblasts (9, 10). As SgIGSF (spermatogenic IgSF), expression on developing sperm allows adhesion to an unknown partner on Sertoli cells that is critical for normal development (11, 12). Mouse IGSF4A cDNA encodes 445 amino acids including a signal peptide, three Ig-like domains (a V-type, a divergent C1-type and an I-type), a transmembrane domain and a cytoplasmic domain with protein 4.1 and PDZ domain binding sites. These sites allow connections to adaptor molecules and are critical in synaptogenesis (7, 8). The outer Ig-like domain most likely mediates adhesion, with altered affinity for splice variants that have either shorter spacing of this domain from the plasma membrane or varied glycosylation (1, 6). The six reported splice variants include a prominently expressed soluble form of about 45 kDa that inhibits adhesion (13). Mouse IGSF4A ECD shares 99%, 96%, 98% and 88% amino acid identity with rat, human, canine, and bovine IGSF4A, respectively.

References:

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