Recombinant Human DSCAM-L1

Catalog Number: 3315-DL

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Glu79-Lys1651, with a C-terminal 6-His tag Accession # NP_065744
N-terminal Sequence Analysis	Glu79
Predicted Molecular Mass	173.4 kDa

SPECIFICATIONS

SDS-PAGE	180-200 kDa, reducing conditions
Activity	Measured by its ability to bind biotinylated recombinant human DSCAM-L1 in a functional ELISA with an apparent K_D <30 nM.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, 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 500 µg/mL in PBS.
Shipping	The product is shipped with polar packs. 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

Down syndrome cell adhesion molecule-like protein 1 (DSCAM-L1; also DSCAM2) is a 224 kDa type I transmembrane glycoprotein and member of the immunoglobulin superfamily (1). Human DSCAM-L1 is a DSCAM paralog located on chromosome 11q23. It is synthesized as a 2053 amino acid (aa) precursor that contains an 18 aa signal sequence, a 1573 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 441 aa cytoplasmic tail. The ECD contains ten Ig-like C2-type domains, six fibronectin type-III domains, and 18 potential sites for N-linked glycosylation. A deletion of aa 34 - 244 produces a second isoform. When compared to DSCAM, DSCAM-L1 shows 64% aa identity to the ECD and 45% aa identity to the cytoplasmic domain (1). Human DSCAM-L1 is 95% aa identical to mouse DSCAM-L1. In the mouse brain, DSCAM-L1 is predominantly expressed in Purkinje cells of the cerebellum, granule cells of the dentate gyrus, and in neurons of the cerebral cortex and olfactory bulb (1). DSCAM-L1 exhibits homophilic binding activity that does not require divalent cations (1). Based on its similarities to DSCAM, it is postulated that DSCAM-L1 is involved in the formation and maintenance of neural networks (1). Because of its chromosomal location, DSCAM-L1 is an ideal candidate for neuronal disorders such as Gilles de la Tourette and Jacobsen syndromes (1). DSCAM-L1 mediates homophilic adhesion and is involved in the formation of lamina-specific synaptic connections in the vertebrate retina (2).

References:

1. Agarwala, K.L. *et al.* (2001) Biochem. Biophys. Res. Commun. **285**:760.
2. Yamagata M., Sanes JR. (2008) Nature **451**(7177):465.

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