Recombinant Human UNC5H1 Fc Chimera

Catalog Number: 6767-UN

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived

N-terminal Sequence Analysis	No results obtained: Gln26 predicted
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	57.9 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	80-90 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Netrin-1 (Catalog # 6419-N1) is immobilized at 2 µg/mL (100 µL/well), the concentration of Recombinant Human UNC5H1 Fc Chimera that produces 50% of the optimal binding response is found to be approximately 0.3-1.5 µg/mL.
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 100 µg/mL in 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

UNC5H1, also known as UNC5A, is a member of the UNC5 (*Drosophila* uncoordinated-5 homology) family of type I transmembrane proteins within the immunoglobulin (Ig) superfamily. UNC5H1-4 (UNC5A-D, respectively) have two Ig and one or two thrombospondin type 1 (TSP1) domains in their extracellular regions, and a ZU-5 domain, a DCC (Deleted in Colorectal Cancer)-binding domain (DB) and a C-terminal death domain (DD) in their cytoplasmic regions (1, 2). Human UNC5H1 cDNA encodes 842 amino acids (aa) including a 25 aa signal peptide, a 281 aa extracellular domain with one TSP1 domain, and a 515 aa cytoplasmic domain. Within the extracellular domain, human UNC5A shares approximately 99%, 99%, 98%, 98%, 97% and 96% aa sequence identity with mouse, equine, rat, canine, bovine and porcine one-TSP1 isoforms of UNC5H1. UNC5 proteins are receptors for the netrin/UNC6 family of laminin-related secreted axon guidance cues; UNC5H1 has been shown to bind netrin 1, 3 and 4 (2 - 4). Netrins can act as a chemoattractant for some axons in the presence of DCC (Deleted in Colorectal Cancer) proteins. However, UNC5H1 association with netrins changes them to chemorepellents (1, 5, 6). UNC5H1 is expressed after developmental migration of motor neurons, presumably halting their migration (7). UNC5H1 can be removed from the cell surface via endocytosis following phosphorylation by protein kinase C (PKC) in complex with PICK1. In turn, PKC activity is regulated by the neuronal G protein-coupled adenosine receptor A2b R (6, 8, 9). The UNC5 and DCC families also act as dependence receptors, and are pro-apoptotic in the absence of netrins (10 - 13). UNC5H1 transcription is enhanced by the tumor suppressor p53, allowing increased apoptosis of tumor cells in the absence of netrin and the presence of NRAGE (13, 14).

References:

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