Recombinant Human ROBO2 Fc Chimera

Catalog Number: 3147-RB

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived

N-terminal Sequence Analysis	Ser22
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	120 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	146-160 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Biotinylated recombinant mouse Slit-3 immobilized on a streptavidin-coated plate at 1 µg/mL can bind Recombinant Human ROBO2 Fc Chimera with an apparent K_d <10 nM.
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

Human ROBO2 is a 175 kDa member of the ROBO family of guidance molecules (1-3). The term ROBO derives from round-about, a description of the circuitous pathway axons take in the absence of a functional ROBO gene (3, 4). Human ROBO2 is a type I transmembrane (TM) glycoptotein that is synthesized as a 1378 amino acid (aa) precursor. It contains a 21 aa signal sequence, an 838 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 498 aa cytoplasmic region (5, 6). The ECD contains five C2-type Ig-like domains (aa 31-504) and three fibronectin (FN) type III domains (aa 522-826). The cytoplasmic region contains multiple 15-20 aa long CC (conserved cytoplasmic) motifs (C0-C2) that are found in ROBO-1 (7, 8). Human ROBO2 has at least two potential isoforms. One isoform shows a cytoplasmic truncation of the C-terminus (aa 1186-1378) (9). A second isoform is a 570 aa soluble form that shows a deletion of the first two and one-half C2-type Ig-like domains (aa 22 - 285) and terminates after the third fibronectin domain with a unique 20 aa sequence (10). Based on mouse and rat ROBO2 GenBank sequences, considerably more alternate splice forms may occur. Human ROBO2 ECD is 98% aa identical to the ECD in mouse and canine ROBO2. ROBO2 would appear to play a number of roles in cell adhesion. In the neural tube, it is the receptor for a chemorepulsant. Axons that cross the midline are directed, presumably by ROBO2/SLIT chemorepulsion, to lateral positions in the contralateral spinal cord (6, 11, 12). In addition, ROBO2 is both permissive for neurite outgrowth (via ROBO1-ROBO2 interaction) and inhibitory for neurite outgrowth (via ROBO2-SLIT interaction) (13, 14).

References:

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