Recombinant Mouse Slit3

Catalog Number: 3629-SL

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Ser27-His901, with a C-terminal 10-His tag Accession # Q9WVB4
N-terminal Sequence Analysis	Ser27
Predicted Molecular Mass	99.1 kDa

SPECIFICATIONS

SDS-PAGE	115-130 kDa, reducing conditions
Activity	Measured by its ability to enhance neurite outgrowth of dissociated E13 chick embryonic dorsal root ganglia (DRG) neurons. Able to significantly enhance neurite outgrowth when immobilized at 6-12 µg/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>80%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS and NaCl. 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

Slit3 is a member of the slit family of large secreted axon guidance molecules that are ligands for Robo receptors (1). Like other mammalian family members, the 1523 amino acid (aa), 200 kDa Slit3 contains a signal sequence followed by 23 leucine-rich repeats (LRR) and nine EGF-like sequences (1). Mammalian Slits also contain a laminin-G domain between EGF6 and EGF7, and a C-terminal cysteine-rich domain (1). In Drosophila Slit, specific LRR are sites of ROBO interaction and homodimerization (2). Drosophila Slit shows equal similarities with all three mouse slit proteins, which are 59-66% identical with each other (1). During development, Slit3 is expressed in the ventral neural tube, developing sensory organs, limb buds and developing areas of the limbs in patterns that overlap with but are discrete from Slit1 and Slit2 (1). Axons will not be allowed to recross the floor plate unless all three Slit genes are disrupted, suggesting some overlap in function (3). Slit3 is also expressed in the lung, kidney, skeletal muscle and heart, both during development and postnatally (1, 4-6). ROBO2 is often found in complementary areas (4). Mice with genetically disrupted Slit3 have thin diaphragms with disorganized collagen fibrils and frequently develop diaphragmatic hernias (5, 6). Abnormalities in kidney development may also occur (5). Although Slit proteins are generally considered to be secreted, significant amounts of Slit3 may be retained in the mitochondria because of features in the signal sequence that indicate a high probability of mitochondrial targeting (7). Secreted Slit is often membrane-associated (7). Mouse Slit3 shows 98% and 94% amino acid identity with rat and human Slit3, respectively.

References:

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5. Liu, J. *et al.* (2003) Mech. Dev. **120**:1059.
6. Yuan, W. *et al.* (2003) Proc. Natl. Acad. Sci. USA **100**:5217.
7. Little, M. H. *et al.* (2001) Am. J. Physiol. Cell Physiol. **281**:C486.