

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Thr1114-Ser1521, with a C-terminal 6-His tag
Accession # Q9R1B9

N-terminal Sequence Analysis Thr1114

Predicted Molecular Mass 45 kDa

SPECIFICATIONS

SDS-PAGE 53-65 kDa, reducing conditions

Activity Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons.
Recombinant Mouse Slit2, immobilized at 625 ng/mL on a 96 well plate, is able to significantly enhance neurite outgrowth.

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

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

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

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 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

Slit Homolog 2 (Slit2) is a member of the Slit family of secreted extracellular matrix glycoproteins that are best known for their role in axon guidance (1). It is expressed in the developing and adult brain and spinal cord, as well as in fetal lung and kidney, and the adult adrenal gland, thyroid gland, and trachea (1-3). Slit2 is composed of multiple domains including nine EGF-like domains, 20 Leucine-rich repeats (LRRs), one Laminin G-like domain, one C-terminal cysteine knot-like (CTCK) domain, and 4 N-terminal and 4 C-terminal LRR domains (1, 3). Slit2 has a molecular weight of approximately 200 kDa (4). However, proteolytic cleavage between the fifth and sixth EGF-like domains produces a membrane-bound 140 kDa N-terminal protein, termed Slit2-N, and a 55-60 kDa C-terminal fragment, termed Slit2-C (4, 5). Mature mouse Slit2 shares 96% and 98% amino acid sequence identity with the human and rat orthologs, respectively.

Slit2 has been shown to bind to multiple receptors including ROBO-1, -2, -3, and -4, Laminin-1, DAN, Gremlin, and Glypican 1 (1, 6-8). Depending upon the target, Slit2 can promote a number of diverse effects. Slit2 regulates axon guidance by binding to ROBO receptors and initiating axon repulsion (1, 5, 9-12). Slit2 has also been shown to induce growth cone collapse, inhibit oligodendrocyte precursor cell migration, and promote axon elongation, branch formation, and fasciculation (5, 13-16). Additionally, Slit2-N and Slit2-C have been shown to have distinct activities. Slit2-N binds to ROBO-1 and repels motor axon migration, while Slit2-C binds to Glypican 1 and promotes motor axon migration (5). Outside the nervous system, C-terminal fragment of Slit-2 activates a thermogenic PKA pathway in adipocytes and improves glucose homeostasis (17).

References:

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