# Recombinant Mouse SLITRK1

Catalog Number: 9460-SK

## DESCRIPTION

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| **Source** | Mouse myeloma cell line, NS0-derived<br>Asn18-Ser616, with a C-terminal 6-His tag<br>Accession # Q810C1 |
| **N-terminal Sequence Analysis** | Asn18 |
| **Predicted Molecular Mass** | 68 kDa |

## SPECIFICATIONS

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| **SDS-PAGE** | 84-108 kDa, reducing conditions |
| **Activity** | Measured by its ability to enhance neurite outgrowth of dissociated E13 chick embryonic dorsal root ganglia (DRG) neurons.<br>Able to significantly enhance neurite outgrowth when immobilized as a 3 µL droplet containing 25 ng on a nitrocellulose-coated microplate. |
| **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 PBS. See Certificate of Analysis for details. |

## PREPARATION AND STORAGE

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| **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.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

## BACKGROUND

SLITRK1 (Slit and Trk-like family member 1) is a charter member of the SLITRK family of proteins (1, 2). This family currently includes six members, all of which contain a slit-like extracellular region and a Trk-like cytoplasmic region except SLITRK1 (3). Mouse SLITRK1 is a type I transmembrane protein of 696 amino acids (aa). It contains a 17 aa signal sequence, a 605 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 53 aa cytoplasmic region. The ECD is characterized by the presence of two leucine-rich domains (LRD) that resemble those found in Slit. Each LRD contains six leucine-rich repeats (LRRs), followed by a Cys-rich, C-terminal LRR. The exact function of the LRRs is not known. Based on other LRRs, it might be assumed that they mediate protein-protein-interaction (4). There are multiple, single aa mutations in the ECD, their significance is unclear (5). One truncating frameshift mutation (a unique 27 aa substitution after Arg421) is associated with Tourette's Syndrome (6). As noted, the cytoplasmic region of SLITRK1 is unique among SLITRK family members. It contains no known signaling motifs, which is in contrast to SLITRK2-6 which show TrkA-like tyrosine phosphorylation sites. This difference is reflected in their function. SLITRK1 is a protein that is found in adult neurons of the cerebrum, thalamus and hippocampus. It induces neurite outgrowth whereas SLITRK2-6 block neurite extension (3) and bind and form complexes with LAR-RPTP's at functional synapses (7). Mouse SLITRK1 shares 98% and 94% aa sequence identity with human and rat SLITRK1, respectively.

**References:**


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5. Zuchner, S. *et al.* (2006) Mol. Psychiat. **11**:888.
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7. Um, J.W. *et al.* (2014) Nat. Commun. **5**:5423.




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