

Recombinant Mouse Ntrk2 Protein, Myc/DDK-tagged

Cat. No. Ntrk2-4523M Lot. No. (See product label)

SPECIFICATION

Product Overview

Purified recombinant protein of mouse full-length neurotrophic tyrosine kinase, receptor, type 2 (Ntrk2), with C-terminal MYC/DDK tag, expressed in HEK293T cells.

Species

Mouse

Source

HEK293

Description

Receptor tyrosine kinase involved in the development and the maturation of the central and the peripheral nervous systems through regulation of neuron survival, proliferation, migration, differentiation, and synapse formation and plasticity. Receptor for BDNF/brain-derived neurotrophic factor and NTF4/neurotrophin-4. Alternatively can also bind NTF3/neurotrophin-3 which is less efficient in activating the receptor but regulates neuron survival through NTRK2. Upon ligand-binding, undergoes homodimerization, autophosphorylation and activation. Recruits, phosphorylates and/or activates several downstream effectors including SHC1, FRS2, SH2B1, SH2B2 and PLCG1 that regulate distinct overlapping signaling cascades. Through SHC1, FRS2, SH2B1, SH2B2 activates the GRB2-Ras-MAPK cascade that regulates for instance neuronal differentiation including neurite outgrowth. Through the same effectors controls the Ras-PI3 kinase-AKT1 signaling cascade that mainly regulates growth and survival. Through PLCG1 and the downstream protein kinase C-regulated pathways controls synaptic plasticity. Thereby, plays a role in learning and memory by regulating both short term synaptic function and long-term potentiation. PLCG1 also leads to NF-Kappa-B activation and the transcription of genes involved in cell survival. Hence, it is able to suppress anoikis, the apoptosis resulting from loss of cell-

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matrix interactions. Isoform GP95-TRKB may also play a role in neutrophin-dependent calcium signaling in glial cells and mediate communication between neurons and glia.

Molecular Mass	92.6 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Ntrk2 neurotrophic tyrosine kinase, receptor, type 2 [Mus musculus (house mouse)]
Official Symbol	Ntrk2
Synonyms	NTRK2; neurotrophic tyrosine kinase, receptor, type 2; BDNF/NT-3 growth factors receptor; trk-B; GP145-TrkB/GP95-TrkB; trkB tyrosine kinase; Tkrb; trkB; AI848316; C030027L06Rik
Gene ID	18212
mRNA Refseq	NM_001025074

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Protein Refseq NP_001020245

UniProt ID P15209

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