Rabbit TrkA / NTRK1 Protein (His Tag)

Catalog Number: **65159-T08H**

General Information

Gene Name Synonym:

NTRK1

Protein Construction:

A DNA sequence encoding the rabbit NTRK1 (XP_008262512.1) (Ala33-Glu414) was expressed with a polyhistidine tag at the C-terminus.

Source: Rabbit

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE.

Endotoxin:

< 1.0 EU per μg protein as determined by the LAL method.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Ala 33

Molecular Mass:

The recombinant rabbit NTRK1 consists of 393 amino acids and predicts a molecular mass of 43.4 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

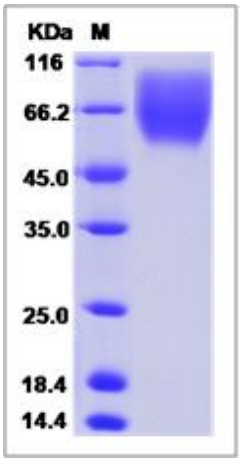
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

TRKA is a member of the neurotrophic tyrosine kinase receptor (NTKR) family. It is a membrane-bound receptor that, upon neurotrophin binding, phosphorylates itself and members of the MAPK pathway. Isoform TrkA-III promotes angiogenesis and has oncogenic activity when overexpressed. Isoform TrkA-I is found in most non-neuronal tissues. Isoform TrkA-II is primarily expressed in neuronal cells. TrkA-III is specifically expressed by pluripotent neural stem and neural crest progenitors. The presence of NTRK1 leads to cell differentiation and may play a role in specifying sensory neuron subtypes. Mutations in TRKA gene have been associated with congenital insensitivity to pain, anhidrosis, self-mutilating behavior, mental retardation and cancer. It was originally identified as an oncogene as it is commonly mutated in cancers, particularly colon and thyroid carcinomas. TRKA is required for high-affinity binding to , neurotrophin-3 and neurotrophin-4/5 but not brain-derived neurotrophic factor (BDNF). Known substrates for the Trk receptors are SHC1, PI 3-kinase, and PLC-gamma-1. NTRK1 has a crucial role in the development and function of the nociceptive reception system as well as establishment of thermal regulation via sweating. It also activates ERK1 by either SHC1- or PLC-gamma-1-dependent signaling pathway. Defects in NTRK1 are a cause of congenital insensitivity to pain with anhidrosis and thyroid papillary carcinoma.

References

1.Lambiase A, *et al.* (2005) Molecular basis for keratoconus: lack of TrkA expression and its transcriptional repression by Sp3. Natl Acad Sci. 102 (46):16795-800. 2.Benito-Gutiérrez E, *et al.* (2006) Origin and evolution of the Trk family of neurotrophic receptors. Mol Cell Neurosci. 31(2):179-92. 3.Martin-Zanca D, *et al.* (1986) A human oncogene formed by the fusion of truncated tropomyosin and protein tyrosine kinase sequences. Nature. 319(6056):743-8.