

TrkB Protein, Human (HEK293, His-Fc)

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| Cat. No.: | HY-P73462 |
| Synonyms: | BDNF/NT-3 Growth Factors Receptor; Trk-B; NTRK2; TRKB |
| Species: | Human |
| Source: | HEK293 |
| Accession: | Q16620 (C32-H430) |
| Gene ID: | 4915 |
| Molecular Weight: | 95-130 kDa |

PROPERTIES

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| AA Sequence | <pre> C P T S C K C S A S R I W C S D P S P G I V A F P R L E P N S V D P E N I T E I F I A N Q K R L E I I N E D D V E A Y V G L R N L T I V D S G L K F V A H K A F L K N S N L Q H I N F T R N K L T S L S R K H F R H L D L S E L I L V G N P F T C S C D I M W I K T L Q E A K S S P D T Q D L Y C L N E S S K N I P L A N L Q I P N C G L P S A N L A A P N L T V E E G K S I T L S C S V A G D P V P N M Y W D V G N L V S K H M N E T S H T Q G S L R I T N I S S D D S G K Q I S C V A E N L V G E D Q D S V N L T V H F A P T I T F L E S P T S D H H W C I P F T V K G N P K P A L Q W F Y N G A I L N E S K Y I C T K I H V T N H T E Y H G C L Q L D N P T H M N N G D Y T L I A K N E Y G K D E K Q I S A H F M G W P G I D D G A N P N Y P D V I Y E D Y G T A A N D I G D T T N R S N E I P S T D V T D K T G R E H </pre> |
| Biological Activity | The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet. |
| Appearance | Lyophilized powder. |
| Formulation | Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. |
| Endotoxin Level | <1 EU/µg, determined by LAL method. |
| Reconstitution | It is not recommended to reconstitute to a concentration less than 100 µg/mL in PBS, pH 7.4. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose). |
| Storage & Stability | Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. |
| Shipping | Room temperature in continental US; may vary elsewhere. |

DESCRIPTION

Background

TrkB protein, a receptor tyrosine kinase, plays a critical role in the development and maturation of the central and peripheral nervous systems. It regulates various processes including neuron survival, proliferation, migration, differentiation, synapse formation, and plasticity. TrkB acts as a receptor for BDNF, NTF4, and also has the ability to bind NTF3, although less efficiently. Upon ligand binding, TrkB undergoes homodimerization, autophosphorylation, and activation. This activates downstream effectors such as SHC1, FRS2, SH2B1, SH2B2, and PLCG1, which control distinct signaling cascades. The GRB2-Ras-MAPK cascade, regulated by SHC1, FRS2, SH2B1, and SH2B2, is involved in neuronal differentiation and neurite outgrowth. The Ras-PI3 kinase-AKT1 cascade, also controlled by these effectors, primarily regulates cell growth and survival. TrkB also plays a role in synaptic plasticity and is involved in learning and memory. Through PLCG1, TrkB activates NF-Kappa-B and promotes the transcription of genes associated with cell survival. Furthermore, TrkB is implicated in neutrophin-dependent calcium signaling in glial cells and facilitates communication between neurons and glia. Overall, TrkB is a crucial player in cell survival and various neural processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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