

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived human TrkB protein
Cys32-His430, with a C-terminal 6-His tag
Accession # Q16620.1

N-terminal Sequence Analysis Cys 32

Predicted Molecular Mass 45 kDa

SPECIFICATIONS

SDS-PAGE 74-82 kDa, under reducing conditions

Activity Measured by its binding ability in a functional ELISA.
Recombinant Human TrkB His-tag (Catalog # 11549-TK) binds Recombinant Human BDNF (Catalog # BT-BDNF) with an ED₅₀ of 1.50-20.0 ng/mL.

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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 µg/mL in PBS.

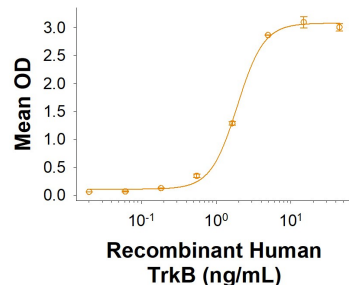
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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.

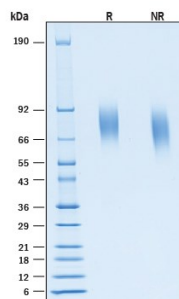
DATA

Binding Activity



Recombinant Human TrkB His-tag Protein Binding Activity. Recombinant Human TrkB His-tag Protein (Catalog # 11549-TK) binds Recombinant Human BDNF (Catalog # BT-BDNF) with an ED₅₀ of 1.50-20.0 ng/mL.

SDS-PAGE



Recombinant Human TrkB His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human TrkB His-tag Protein (Catalog # 11549-TK) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 74-82 kDa, under reducing conditions.

BACKGROUND

The neurotrophins, including NGF, BDNF, NT-3, and NT-4/5 constitute a group of structurally related, secreted proteins that play an important role in the development and function of the nervous system. The biological activities of the neurotrophins are mediated by binding to the different members of the Trk family tyrosine kinase receptors. Three Trk family proteins, TrkA, TrkB, and TrkC, exhibiting different ligand specificities, have been identified. TrkA binds NGF, TrkB binds BDNF and NT-4/5 and TrkC binds NT-3. All Trk family proteins share a conserved complex subdomain organization consisting of a signal peptide, two cysteine-rich domains, a cluster of three leucine-rich motifs, and two immunoglobulin-like domains in the extracellular region, as well as an intracellular region that contains the tyrosine kinase domain. Natural splice variants of the different Trks, including TrkB variants lacking the first cysteine-rich domain, the first and second or all three of the leucine-rich motifs, or the tyrosine kinase domain, have been described. The role of the different extracellular subdomains of TrkB in mediating neurotrophin binding and discrimination is currently being investigated. At the protein sequence level, human and rat TrkB are greater than 90% identical and the proteins exhibit cross-species activity. TrkB is primarily expressed in the nervous system. However, low levels of TrkB expression have also been observed in a wide variety of tissues (pancreas, kidneys, ovary) outside the nervous system.

References:

1. Ninkina, N. *et al.* (1997) *J. Biol. Chem.* **272**:13019.
2. Middlemas, D.S. *et al.* (1991) *Mol. Cell Biol.* **11**:143.
3. Soppet, D. *et al.* (1991) *Cell* **65**:895.