Biotinylated Recombinant Human TrkB Fc Chimera Avi-tag

Catalog Number: AVI11645

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human TrkB protein

Human TrkB (Cys32-His430) Accession # Q16620.1	DIEGRMD	Human IgG1 (Pro100-Lys330)	Avi-tag

N-terminus C-terminus

N-terminal Sequence Analysis	Cys32
Structure / Form	Disulfide linked homodimer, Biotinylated via Avi-tag
Predicted Molecular Mass	73 kDa

SPECIFICATIONS

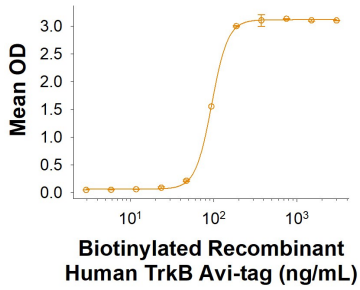
SDS-PAGE	106-120 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human TrkB Fc Chimera Avi-tag (Catalog # AVI11645) binds Recombinant Human BDNF (Catalog # BT-BDNF) with an ED_{50} of 25.0-375 ng/mL.
Endotoxin Level	<0.10 EU per 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 250 µg/mL in water.
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.

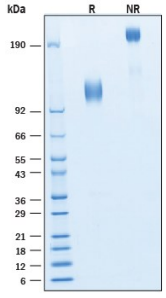
DATA

Binding Activity



Biotinylated Recombinant Human TrkB Fc Chimera Avi-tag Protein Binding Activity. Biotinylated Recombinant Human TrkB Fc Chimera Avi-tag Protein (Catalog # AVI11645) binds Recombinant Human BDNF (Catalog # BT-BDNF) with an ED_{50} of 25.0-375 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human TrkB Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human TrkB Fc Chimera Avi-tag Protein (Catalog # AVI11645) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 106-120 kDa and 212-240 kDa, respectively.

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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. Our Avi-tag Biotinylated human TrkB features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

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.

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