

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived			
	HumanTrkB (Cys32-His430) Accession # Q16620.1	DIEGRMD	Human IgG ₁ (Pro100-Lys330)	6-His tag
	N-terminus		C-terminus	

N-terminal Sequence Cys32

Analysis

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 71.7 kDa (monomer)

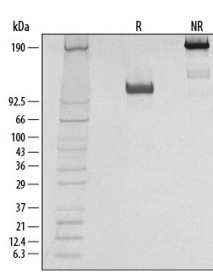
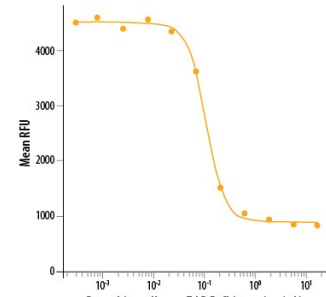
SPECIFICATIONS

SDS-PAGE	120 kDa-130 kDa, reducing conditions
Activity	Measured by its ability to inhibit BDNF-induced proliferation of BaF-TrkB-BD mouse pro-B cells transfected with TrkB. The ED ₅₀ for this effect is typically 0.1-0.4 µg/mL in the presence of 16 ng/mL of recombinant human BDNF.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile 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. <ul style="list-style-type: none"> ● 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

<p>SDS-PAGE</p>  <p>1 µg/lane of Recombinant Human TrkB Fc Chimera was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing single bands at 120 kDa and 200 kDa, respectively.</p>	<p>Bioactivity</p>  <p>Recombinant Human TrkB Fc Chimera (Catalog # 688-TK) inhibits BDNF-induced cell proliferation of the BaF-TrkB-BD mouse pro-B cell line transfected with TrkB. The ED₅₀ for this effect is typically 0.1-0.4 µg/mL in the presence of 16 ng/mL of recombinant human BDNF.</p>
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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.

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.