

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived TrkA protein		
	Cynomolgus Monkey/Rhesus Macaque TrkA (Ser34-Gly423) Accession # XP_005541454.3	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Ser34		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	69 kDa		

SPECIFICATIONS

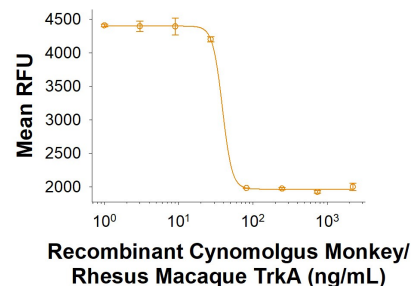
SDS-PAGE	93-103 kDa, under reducing conditions.
Activity	Measured by its ability to inhibit NGF-induced proliferation of TF-1 human erythroleukemic cells. The ED ₅₀ for this effect is 8.00-80.0 ng/mL in the presence of 10 ng/mL of Recombinant Human beta-NGF Protein (Catalog # 256-GF).
Endotoxin Level	<1.0 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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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.

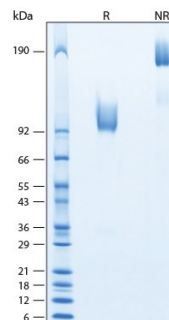
DATA

Bioactivity



Recombinant Cynomolgus Monkey/Rhesus Macaque TrkA Fc Chimera Protein Bioactivity. Measured by its ability to inhibit NGF-induced proliferation of TF-1 human erythroleukemic cells. The ED₅₀ for this effect is 8.00-80.0 ng/mL in the presence of 10 ng/mL of Recombinant Human beta-NGF Protein (Catalog # 256-GF).

SDS-PAGE



Recombinant Cynomolgus/Rhesus Macaque TrkA Fc Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Cynomolgus/Rhesus Macaque TrkA Fc Chimera Protein (Catalog # 11316-TK) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 93-103 kDa and 180-200 kDa, respectively.

BACKGROUND

TrkA (Tyrosine kinase receptor A), also known as High affinity NGF receptor, is a member of the neurotrophic tyrosine kinase receptor family that has three members, TrkA, Trk B and Trk C, which preferentially bind NGF, NT-4 and BDNF, and NT-3, respectively (1). 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. Two distinct TrkA isoforms that differ by virtue of a 6-amino acid insertion in their extracellular domain have been identified. The longer TrkA isoform is the only isoform expressed within neuronal tissues whereas the shorter TrkA is expressed mainly in non-neuronal tissues (1). Mature cynomolgus TrkA consists of a 391 amino acid (aa) extracellular domain (ECD) which shares 98.5% aa identity with human TrkA. NGF binds to TrkA with low affinity and activates its cytoplasmic kinase, initiating a signaling cascade that mediates neuronal survival and differentiation. Higher affinity binding of NGF requires the coexpression of TrkA with the p75 NGF receptor (NGFR), a member of the tumor necrosis factor receptor superfamily (2). NGFR binds all neurotrophins with low affinity and modulates Trk activity as well as alters the specificity of Trk receptors for their ligands. NGFR can also mediate cell death when being expressed independent of Trk (3).

References:

1. Shelton D.L. *et al.* (1995) *J. Neurosci.* **15**:477.
2. Esposito, D. *et al.* (2001) *J. Biol. Chem.* **276**:32687.
3. Sofroniew, M.V. *et al.* (2001) *Annu. Rev. Neurosci.* **24**:1217.