

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse TrkB protein		
	Mouse TrkB (Cys32-His429) Accession # P15209	IEGRMDP	Mouse IgG _{2a} (Glu98-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Cys32		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	72 kDa		

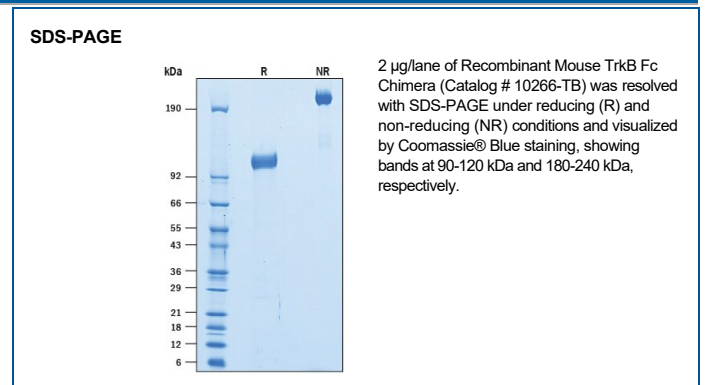
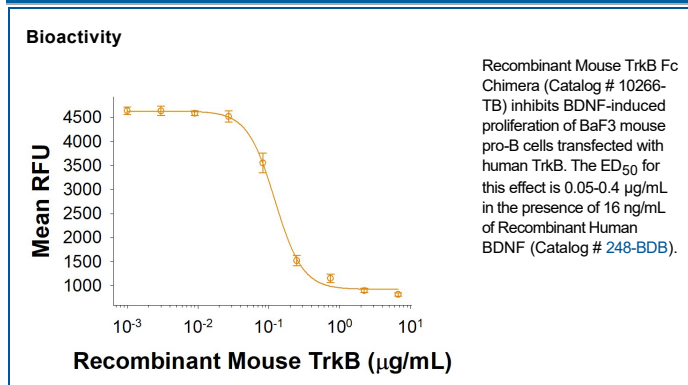
SPECIFICATIONS

SDS-PAGE	90-120 kDa, under 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 0.05-0.4 µg/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. 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



BACKGROUND

Tropomyocin receptor kinase B (TrkB), also named Neurotrophic tyrosine kinase receptor type 3 (NTRK3) is a member of a nerve growth factor tyrosine kinase receptor family. There are three members of the Trk family, TrkA, TrkB and TrkC, and they bind a group of structurally related, secreted proteins termed neurotrophins, which play an important role in the development and function of the nervous system. The Trk family shares a conserved structural motif consisting of two cysteine-rich domains, a cluster of three leucine-rich motifs, and two immunoglobulin-like domains in the extracellular region, a single transmembrane domain and an intracellular tyrosine kinase domain (3). Natural splice variants of the different Trks, 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 (4). Mature mouse TrkB consists of a 398 amino acid (aa) extracellular domain (ECD) which shares 89% and 97% aa identity with human and rat TrkB, respectively. Each Trk family member exhibits different ligand specificities: TrkA binds NGF and NT-3, TrkB binds BDNF, NT-3 and NT-4/5, and TrkC only binds NT-3 (1, 2). The biological activities of the neurotrophins are mediated by binding to and activating two unrelated receptor types: the p75 neurotrophin receptor (p75NTR) and the Trk family of receptors (1, 2). P75NTR is a member of the tumor necrosis factor receptor superfamily (TNFRSF) and has been designated TNFRSF16. It binds all neurotrophins with low-affinity to transduce cellular signaling pathways that synergize or antagonize those activated by the Trk receptors. TrkB is primarily expressed in the nervous system (5). However, low levels of TrkB expression have also been observed in a wide variety of tissues (pancreas, kidneys, ovary) outside the nervous system (7). Trk receptor interactions with NGF play major roles in the development of the sympathetic nervous system and are essential for neuronal survival in vivo (8). Agonists of TrkB have shown enhanced endogenous analgesia by restoring stimuli-response activity in spinal nerve damaged rats (9) and inhibition of the Trk receptors may have a range of therapeutic implications (10).

References:

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