

DESCRIPTION

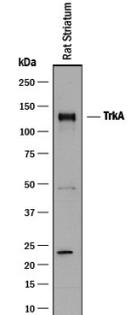
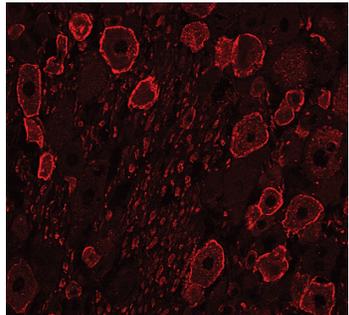
Species Reactivity	Rat
Specificity	Detects rat TrkA in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 5% cross-reactivity with recombinant human TrkA and less than 1% cross-reactivity with recombinant mouse (rm) TrkB and rmTrkC is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat TrkA Ala33-Pro418 Accession # P35739
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the [Technical Information](#) section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

DATA

<p>Western Blot</p>  <p>Detection of Rat TrkA by Western Blot. Western blot shows lysate of rat striatum tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Rat TrkA Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1056) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for TrkA at approximately 140 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunohistochemistry</p>  <p>TrkA in Rat Dorsal Root Ganglion. TrkA was detected in perfusion fixed frozen sections of rat dorsal root ganglion using 15 µg/mL Rat TrkA Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1056) overnight at 4 °C. Tissue was stained (red). View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.</p>
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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

TrkA, the product of the proto-oncogene *trk*, is a member of the neurotrophic tyrosine kinase receptor family that has three members. TrkA, TrkB, and TrkC preferentially bind NGF, NT-4, and BDNF and NT-3, respectively. 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 rat TrkA isoforms (TrkA-I and TrkA-II) that differ by 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-I is expressed mainly in non-neuronal tissues. 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 co-expression of TrkA with the p75 NGF receptor (NGF R), a member of the tumor necrosis factor receptor superfamily. NGF R binds all neurotrophins with low affinity and modulates Trk activity as well as alters the specificity of Trk receptors for their ligands. NGF R can also mediate cell death when expressed independent of Trk.

References:

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