

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.

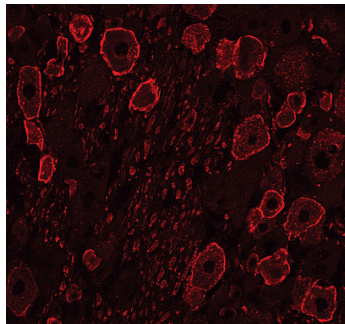
APPLICATIONS

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	0.1 µg/mL	Recombinant Rat TrkA Fc Chimera (Catalog # 1056-TK)
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



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](#).

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.
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 from date of receipt, 2 to 8 °C, reconstituted. • 6 months from date of receipt, -20 to -70 °C, reconstituted.

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.