**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 Aa33-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

<table>
<thead>
<tr>
<th>Sample</th>
<th>Western Blot</th>
<th>1 μg/mL</th>
<th>See Below</th>
</tr>
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<tbody>
<tr>
<td>Immunohistochemistry</td>
<td>5-15 μg/mL</td>
<td>See Below</td>
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</table>

**DATA**

**Western Blot**

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.

**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.

*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at 20 to 70 °C as supplied.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 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:**