

DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human TrkC in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 1% cross-reactivity with recombinant human TrkB is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human TrkC Cys32-Asp428 Accession # Q96CY4
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.	
	Recommended Concentration
	Sample
Western Blot	1 µg/mL See Below
Flow Cytometry	0.25 µg/10 ⁶ cells Human TrkC transfected Baf/3 cells
Immunohistochemistry	5-15 µg/mL Immersion fixed paraffin-embedded sections of human brain (hippocampus) and perfusion fixed frozen sections of mouse brain (cortex)
Simple Western	10 µg/mL See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.
Blockade of Receptor-ligand Interaction	In a functional ELISA, 1-3 µg/mL of this antibody will block 50% of the binding of 5 ng/mL of Recombinant Human NT-3 (Catalog # 267-N3) to immobilized Recombinant Human TrkC Fc Chimera (Catalog # 373-TC) coated at 1 µg/mL (100 µL/well). At 30 µg/mL, this antibody will block >90% of the binding.

DATA	
<p>Western Blot</p> <p>Detection of HAF017 TrkC by Western Blot. Western blot shows lysates of human brain (cerebellum) tissue, human brain (hippocampus) tissue, human brain (hypothalamus) tissue, and human brain stem tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human TrkC Antigen Affinity-purified Polyclonal Antibody (Catalog # AF373) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). Specific bands were detected for TrkC at approximately 140, 95 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Simple Western</p> <p>Detection of Human TrkC by Simple Western™. Simple Western lane view shows lysates of human brain (hypothalamus) tissue, loaded at 0.2 mg/mL. A specific band was detected for TrkC at approximately 164 kDa (as indicated) using 10 µg/mL of Goat Anti-Human TrkC Antigen Affinity-purified Polyclonal Antibody (Catalog # AF373) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.</p>

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

The neurotrophins, including NGF, BDNF, NT-3 and NT-4/5, constitute a group of structurally related, secreted proteins that play an important role in the development and function of the nervous system. 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 receptor tyrosine kinases (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. Three Trk family proteins, TrkA, TrkB and TrkC, exhibiting different ligand specificities, have been identified. TrkA binds NGF and NT-3, TrkB binds BDNF, NT-3 and NT-4/5, and TrkC only binds NT-3 (1, 2). 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 (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). At the protein sequence level, Trks are highly conserved between species with the extracellular domains of human and mouse TrkC's showing 94% amino acid sequence identity (5). The proteins also exhibit cross-species activity. The primary location of TrkC expression is in the nervous system and, specifically, in regions of the CNS. Low level TrkC expression has also been observed in a wide variety of tissues outside the nervous system (6).

References:

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3. Schneider, R. and M. Schweiger (1991) *Oncogene* **6**:1807.
4. Ninkina, N. *et al.* (1997) *J. Biol. Chem.* **272**:13019.
5. Menn, B. *et al.* (1998) *J. Comp. Neurol.* **401**:47.
6. Shelton, D. *et al.* (1995) *J. Neurosci.* **15**:477.