

#9141 Store at -20°C

Phospho-TrkA (Tyr490) Antibody


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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	R	Endogenous	140	Rabbit	#P04629	4914

Product Usage Information	Application Western Blotting Immunoprecipitation	Dilution 1:1000 1:100
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Phospho-TrkA (Tyr490) Antibody detects endogenous levels of TrkA only when phosphorylated at tyrosine 490. This antibody also detects TrkB and TrkC when phosphorylated at the corresponding residues.	
Species predicted to react based on 100% sequence homology:	Human, Mouse	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr490 of human TrkA. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	<p>The family of Trk receptor tyrosine kinases consists of TrkA, TrkB, and TrkC. While the sequence of these family members is highly conserved, they are activated by different neurotrophins: TrkA by NGF, TrkB by BDNF or NT4, and TrkC by NT3 (1). Neurotrophin signaling through these receptors regulates a number of physiological processes, such as cell survival, proliferation, neural development, and axon and dendrite growth and patterning (1). In the adult nervous system, the Trk receptors regulate synaptic strength and plasticity. TrkA regulates proliferation and is important for development and maturation of the nervous system (2). Phosphorylation at Tyr490 is required for Shc association and activation of the Ras-MAP kinase cascade (3,4). Residues Tyr674/675 lie within the catalytic domain, and phosphorylation at these sites reflects TrkA kinase activity (3-6). Point mutations, deletions, and chromosomal rearrangements (chimeras) cause ligand-independent receptor dimerization and activation of TrkA (7-10). TrkA is activated in many malignancies including breast, ovarian, prostate, and thyroid carcinomas (8-13). Research studies suggest that expression of TrkA in neuroblastomas may be a good prognostic marker as TrkA signals growth arrest and differentiation of cells originating from the neural crest (10).</p>	
Background References	<ol style="list-style-type: none"> Huang, E.J. and Reichardt, L.F. (2003) <i>Annu Rev Biochem</i> 72, 609-42. Segal, R.A. and Greenberg, M.E. (1996) <i>Annu Rev Neurosci</i> 19, 463-89. Stephens, R.M. et al. (1994) <i>Neuron</i> 12, 691-705. Marsh, H.N. et al. (2003) <i>J Cell Biol</i> 163, 999-1010. Obermeier, A. et al. (1993) <i>EMBO J</i> 12, 933-41. Obermeier, A. et al. (1994) <i>EMBO J</i> 13, 1585-90. Arevalo, J.C. et al. (2001) <i>Oncogene</i> 20, 1229-34. Reuther, G.W. et al. (2000) <i>Mol Cell Biol</i> 20, 8655-66. Greco, A. et al. (1997) <i>Genes Chromosomes Cancer</i> 19, 112-23. Pierotti, M.A. and Greco, A. (2006) <i>Cancer Lett</i> 232, 90-8. Lagadee, C. et al. (2009) <i>Oncogene</i> 28, 1960-70. Greco, A. et al. (2010) <i>Mol Cell Endocrinol</i> 321, 44-9. Ødegaard, E. et al. (2007) <i>Hum Pathol</i> 38, 140-6. 	

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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