

TrkA Blocking Peptide



Orders ■ 877-616-CELL (2355)
orders@cellsignal.com

Support ■ 877-678-TECH (8324)
info@cellsignal.com

Web ■ www.cellsignal.com

rev. 06/02/17

For Research Use Only. Not For Use In Diagnostic Procedures.

Description: This peptide is used to block TrkA (14G6) Rabbit mAb #2508 reactivity in peptide dot blot protocols.

Background: 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).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks TrkA (14G6) Rabbit mAb #2508 by peptide dot blot.

Directions for Use: Use as a blocking reagent to evaluate the specificity of antibody reactivity in peptide dot blot protocols. Recommended antibody dilutions can be found on the relevant product data sheet.

Entrez Gene ID #4914
UniProt ID #P04629

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. 1% DMSO Store at -20°C.

Background References:

- (1) Huang, E.J. and Reichardt, L.F. (2003) *Annu Rev Biochem* 72, 609-42.
- (2) Segal, R.A. and Greenberg, M.E. (1996) *Annu Rev Neurosci* 19, 463-89.
- (3) Stephens, R.M. et al. (1994) *Neuron* 12, 691-705.
- (4) Marsh, H.N. et al. (2003) *J Cell Biol* 163, 999-1010.
- (5) Obermeier, A. et al. (1993) *EMBO J* 12, 933-41.
- (6) Obermeier, A. et al. (1994) *EMBO J* 13, 1585-90.
- (7) Arevalo, J.C. et al. (2001) *Oncogene* 20, 1229-34.
- (8) Reuther, G.W. et al. (2000) *Mol Cell Biol* 20, 8655-66.
- (9) Greco, A. et al. (1997) *Genes Chromosomes Cancer* 19, 112-23.
- (10) Pierotti, M.A. and Greco, A. (2006) *Cancer Lett* 232, 90-8.
- (11) Lagadec, C. et al. (2009) *Oncogene* 28, 1960-70.
- (12) Greco, A. et al. (2010) *Mol Cell Endocrinol* 321, 44-9.
- (13) Ødegaard, E. et al. (2007) *Hum Pathol* 38, 140-6.