

## Product Information

### Anti-phospho-TrkA (phosphotyrosine 490)

Produced in Rabbit, Affinity Isolated Antibody

Product Number **T 9691**

#### Product Description

Anti-phospho-TrkA (phosphotyrosine 490) is produced in rabbit using as immunogen a synthetic phosphopeptide corresponding to residues surrounding Tyr490 of human TrkA, conjugated to KLH. The antibody is affinity-purified using protein A and peptide affinity chromatography.

Anti-phospho-TrkA (phosphotyrosine 490) detects endogenous levels of TrkA when phosphorylated at Tyr490. It also detects TrkB and TrkC when phosphorylated at the corresponding residues. The antibody reacts with rat, human, and mouse. It may be used in immunoblotting (140 kDa), immunoprecipitation, immunohistochemistry, and immunofluorescence.

Anti-phospho-TrkA (phosphotyrosine 490) is a high affinity Nerve Growth Factor (NGF). The Trk proto-oncogene family contains four members, TrkA, TrkB, TrkC, and TrkE, which are variably expressed throughout the central and peripheral nervous systems. TrkA binds to NGF and autophosphorylates on tyrosine residues (Tyr490, Tyr674, Tyr675, Tyr751, and Tyr785) to activate multiple downstream effector proteins. Phosphorylation at Tyr490 is required for Shc association and subsequent activation of the Ras-MAP kinase signaling cascade which leads to activation of Elk-1-dependent gene transcription and neurite growth. Phosphorylations at Tyr674 and Tyr675 lie within the catalytic domain of TrkA tyrosine kinase and reflect Trk kinase activity. Additionally, phosphorylation at Tyr751 is required for PI3-kinase association and activation of the Akt signaling cascade.

#### Reagent

The antibody is supplied as a solution in 10 mM sodium HEPES, pH 7.5, containing 150 mM sodium chloride, 100 µg/mL bovine serum albumin, and 50% glycerol.

#### Storage/Stability

Store at 0 ° to -20 °C. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

#### Product Profile

Recommended working antibody dilution is 1:1,000 for immunoblotting (chemiluminescent) using an extract from NGF-treated PC12 cells. Incubate membrane with diluted antibody in 5% BSA, 1X TBS, and 0.1% Tween-20 at 4 °C with gentle shaking, overnight.

Recommended working antibody dilution is 1:250 for immunoprecipitation.

Recommended working antibody dilution is 1:10 for immunohistochemistry using frozen tissue sections.

Recommended working antibody dilution is 1:100 for immunocytochemistry using 4% paraformaldehyde-fixed cells.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working dilution by titration.

#### References

1. Segal, R.A. and Greenberg, M.E., *Annu. Rev. Neurosci.*, **19**, 463-489 (1996).
2. Stephens, R.M., et al., *Neuron*, **12**, 691-705 (1994).
3. Obermeier, A., et al., *EMBO J.*, **12**, 933-941 (1993).
4. Obermeier, A., et al., *EMBO J.*, **13**, 1585-1590 (1994).
5. Yao, R., and Cooper, G.M., *Science*, **267**, 2003-2006 (1995).
6. Yoon, S.O., et al., *J. Biol. Chem.*, **272**, 23231-23238 (1997).
7. Encinas, M., et al., *J. Neurochem.*, **73**, 1409-1421 (1999).

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