Phospho-Tyrosine Hydroxylase (Ser40) Antibody

Background: Tyrosine hydroxylase (TH) catalyzes the rate-limiting step in the synthesis of the neurotransmitter dopamine and other catecholamines. TH functions as a tetramer, with each subunit composed of a regulatory and catalytic domain, and exists in several different isoforms (1,2). This enzyme is required for embryonic development since TH knockout mice die before or at birth (3). Levels of transcription, translation and posttranslational modification regulate TH activity. The amino-terminal regulatory domain contains three serine residues: Ser9, Ser31 and Ser40. Phosphorylation at Ser40 by PKA positively regulates the catalytic activity of TH (4-6). Phosphorylation at Ser31 by CDK5 also increases the catalytic activity of TH through stabilization of TH protein levels (7-9).

Specificity/Sensitivity: Phospho-Tyrosine Hydroxylase (Ser40) Antibody detects endogenous levels of tyrosine hydroxylase only when phosphorylated at serine 40.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to the sequence surrounding Ser40 of human tyrosine hydroxylase. Antibodies are purified by protein A and peptide affinity chromatography.

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.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:
Western blotting 1:1000
Immunofluorescence (IF-IC) 1:400

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

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

Entrez-Gene ID #7054
Swiss-Prot Acc. #P07101-2

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