Anti-Phospho-Ser^{40} Tyrosine Hydroxylase Antibody

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Catalog #: p1580-40 **Size:** 100 µl

Cite this Antibody: PhosphoSolutions Cat# p1580-40, RRID:AB_2492279

Host	Applications	Species Tested	Species Reactivity*	Molecular Weight
Rabbit	WB 1:1000 ICC 1:50-1:1000 IHC 1:1000 (frozen sections)	Many Mammals		~60 kDa

Product Description: Affinity purified rabbit polyclonal antibody.

Biological Significance: Tyrosine hydroxylase (TH) is the rate-limiting enzyme in the synthesis of the catecholamines dopamine and norepinephrine. TH antibodies can therefore be used as markers for dopaminergic and noradrenergic neurons in a variety of applications including depression, schizophrenia, Parkinson's disease and drug abuse (Kish et al., 2001; Zhu et al., 2000; Zhu et al., 1999). TH antibodies can also be used to explore basic mechanisms of dopamine and norepinephrine signaling (Witkovsky et al., 2000; Salvatore et al., 2001; Dunkley et al., 2004). The activity of TH is also regulated by phosphorylation (Haycock et al., 1982; Haycock et al., 1992; Jedynak et al., 2002). Phosphospecific antibodies for the phosphorylation sites on TH can be used to great effect in studying this regulation and in identifying the cells in which TH phosphorylation occurs.

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser^{40} of rat tyrosine hydroxylase.

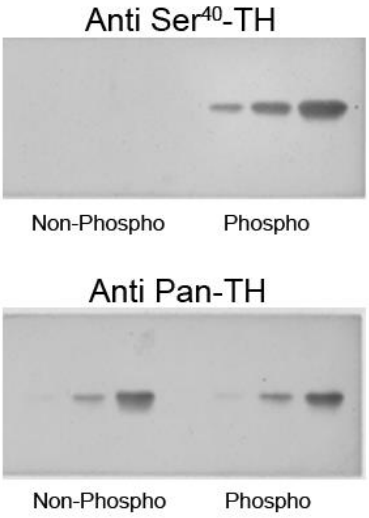
Antibody Specificity: Specific for endogenous levels of the ~60 kDa tyrosine hydroxylase protein phosphorylated at Ser^{40}. Some higher molecular weight bands may be detected by the antibody depending upon the brain region being studied, protein loads and the detection methods used. The antibody has three orders of magnitude selectivity over non-phospho TH.

Purification Method: Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.

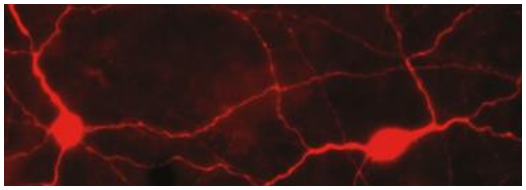
Quality Control Tests: Western blots performed on each lot.

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol.

Storage and Stability: Shipped on blue ice. Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.



Western blot of recombinant phospho-TH and non-phospho-TH showing selective immunolabeling by the phosphospecific antibody of the ~60 kDa TH phosphorylated at Ser^{40}. The pan-specific antibody (anti-pan-TH) recognized both the phospho- and non-phospho-TH; while most importantly, the phospho-specific antibody (anti-Ser^{40} TH) recognized only phospho-TH.



Immunostaining of light-stimulated rabbit retina showing labeling of TH when phosphorylated at Ser^{40}.

Application Key: **WB** = Western Blot **IF** = Immunofluorescence **IHC** = Immunohistochemistry **IP** = Immunoprecipitation
Species Reactivity Key: **All**-All Species **A**-Avian **Amp**-Amphibian **Ar**-*Arabidopsis* **B**-Bovine **C**-Canine **Ch**-Chicken **D**-*Drosophila* **GP**-Guinea Pig **H**-Human **Ha**-Hamster **M**-Mouse **NHP**- Non-human primate **P**-Pig **R**-Rat **S**-Sheep **X**-*Xenopus* **Z**-Zebrafish
*Species assumed based on 100% homology with sequence used as antigen **For Research Use Only**

Product Specific References:

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