

# Anti-Tyrosine Hydroxylase Antibody



**PhosphoSolutions®**  
Antibodies that work™

**Catalog #:** 2025-THRAB

**Size:** 100 µl

www.phosphosolutions.com  
orders@phosphosolutions.com  
888-422-7100

Host	Applications	Species Tested	Species Reactivity*	Molecular Reference
Rabbit	WB 1:1000 IF 1:1000 (frozen sections) IHC 1:1000 (frozen sections)	All Mammalian		~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).

**Antigen:** SDS-denatured rat tyrosine hydroxylase, purified from pheochromocytoma.

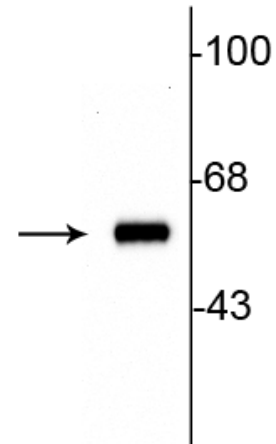
**Antibody Specificity:** Specific for endogenous levels of the ~60 kDa tyrosine hydroxylase protein.

**Purification Method:** Prepared from pooled rabbit serum by affinity purification using a column to which the fusion protein immunogen was coupled.

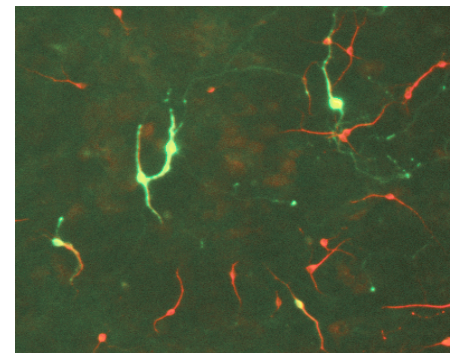
**Quality Control Tests:** Western blots performed on each lot.

**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 10 µg of rat striatal lysate showing specific immunolabeling of the ~60 kDa tyrosine hydroxylase protein.



Immunostaining of E17 rat midbrain mixed neuronal cultures showing TH positive neurons in green and MAP2 (cat. # 1100-MAP2) in red. Image courtesy of Aurélie de Rus Jacquet, laboratory of Dr. Jean-Christophe Rochet, Purdue University.

### Product Specific References:

Kish SJ, Kalasinsky KS, Derkach P, Schmunk GA, Guttman M, Ang L, Adams V, Furukawa Y, Haycock JW (2001) Striatal dopaminergic and serotonergic markers in human heroin users. *Neuropsychopharmacology* 24:561-567.

Salvatore MF, Waymire JC, Haycock JW (2001) Depolarization-stimulated catecholamine biosynthesis: involvement of protein kinases and tyrosine hydroxylase phosphorylation sites *in situ*. *J Neurochem* 79:349-360.

Witkovsky P, Gabriel R, Haycock JW, Meller E (2000) Influence of light and neural circuitry on tyrosine hydroxylase phosphorylation in the rat retina. *J Chem Neuroanat* 19:105-116.

Zhu MY, Klimek V, Haycock JW, Ordway GA (2000) Quantitation of tyrosine hydroxylase protein in the locus coeruleus from postmortem human brain. *J Neurosci Meth* 99:37-44.

Zhu MY, Klimek V, Dilley GE, Haycock JW, Stockmeier C, Overholser JC, Meltzer HY, Ordway GA (1999) Elevated levels of tyrosine hydroxylase in the locus coeruleus in major depression. *Biol Psychiatry* 46:1275-1286.

Xu ZQ, Lew JY, Harada K, Aman K, Goldstein M, Deutch A, Haycock JW, Hokfelt T (1998) Immunohistochemical studies on phosphorylation of tyrosine hydroxylase in central catecholamine neurons using site- and phosphorylation state-specific antibodies. *Neurosci* 82:727-738.

### General References:

Dunkley PR, Bobrovskaya L, Graham ME, Von Nagy-Felsobuki EI, Dickson PW (2004) Tyrosine hydroxylase phosphorylation: regulation and consequences. *J Neurochem* 91:1025-1043.