

**#2792**  
Store at -20C

# Tyrosine Hydroxylase Antibody

**Cell Signaling**  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	55-60	Rabbit	#P07101	7054

<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	Tyrosine Hydroxylase Antibody detects endogenous levels of total tyrosine hydroxylase.	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the amino-terminal sequence of human tyrosine hydroxylase. Antibodies are purified by protein A and peptide affinity chromatography.	
<b>Background</b>	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 post-translational 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).	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Kumer, S.C. and Vrana, K.E. (1996) <i>J Neurochem</i> 67, 443-62.</li> <li>2. Bodeau-Péan, S. et al. (1999) <i>J Biol Chem</i> 274, 3469-75.</li> <li>3. Kobayashi, K. et al. (1995) <i>J Biol Chem</i> 270, 27235-43.</li> <li>4. Lew, J.Y. et al. (1999) <i>Mol Pharmacol</i> 55, 202-9.</li> <li>5. Vié, A. et al. (1999) <i>J Biol Chem</i> 274, 16788-95.</li> <li>6. Lindgren, N. et al. (2000) <i>J Neurochem</i> 74, 2470-7.</li> <li>7. Moy, L.Y. and Tsai, L.H. (2004) <i>J Biol Chem</i> 279, 54487-93.</li> <li>8. Lehmann, I.T. et al. (2006) <i>J Biol Chem</i> 281, 17644-51.</li> <li>9. Saraf, A. et al. (2007) <i>J Biol Chem</i> 282, 573-80.</li> </ol>	
<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).	
<b>Western Blot Buffer</b>	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.	
<b>Applications Key</b>	<b>WB:</b> Western Blotting	
<b>Cross-Reactivity Key</b>	<b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected	
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