

Rabbit Tyrosine Hydroxylase (Ser40) Polyclonal Antibody | anti-TH antibody

Anti-Phospho-Ser40 Tyrosine Hydroxylase

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA72806	Rabbit	Many Mammalian/ Many Non-mammalian/	Immunohistochemistry, Immunofluorescence, Western Blot

PRODUCT SYNONYMS

Tyrosine Hydroxylase (Ser40); Polyclonal Antibody; Anti-Phospho-Ser40 Tyrosine Hydroxylase; anti-TH antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Many Mammalian/ Many Non-mammalian/
Clonality	Polyclonal
Specificity	Specific for the ~60k tyrosine hydroxylase protein phosphorylated at Ser40. 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 dephospho TH.
Purity/Purification	Affinity Purified (Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.)
Form/Format	100 ul in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 ug per ml BSA and 50% glycerol. Adequate amount of material to conduct 10-mini Western blots.
Sequence Length	498
Applicable Applications for anti-TH antibody	IHC (Immunohistochemistry), IF (Immunofluorescence), WB (Western Blot)
Antigen	Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser40 of rat tyrosine hydroxylase.
Immunogen Information	Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser40 conjugated to KLH
Immunogen Species	Rat
Species Reactivity Note	The antibody has been directly tested for reactivity in Western blots with many mammalian and non-mammalian species.
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). Phospho-specific 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.
Preparation and Storage	For long term storage -20 degree C is recommended. Stable at -20 degree C for at least 1 year.

IMAGES



Application Data

ADDITIONAL INFORMATION

Related Product Information for anti-TH antibody	Affinity purified rabbit polyclonal antibody
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. • Haycock JW, Ahn NG, Cobb MH, Krebs EG (1992) ERK1 and ERK2, two microtubule-associated protein 2 kinases, mediate the phosphorylation of tyrosine hydroxylase at serine-31 in situ. Proc Natl Acad Sci (USA) 89:2365- 2369. • Haycock JW, Bennett WF, George RJ, Waymire JC (1982) Multiple site phosphorylation of tyrosine hydroxylase. Differential regulation in situ by a 8-bromo-cAMP and acetylcholine. J Biol Chem 257:13699-13703. • Jedynak JP, Ali SF, Haycock JW, Hope BT (2002) Acute administration of cocaine regulates the phosphorylation of serine-19,-31 and-40 in tyrosine hydroxylase. J Neurochem 82:382-388. • 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.

NCBI AND UNIPROT INFORMATION

NCBI GI #	6981652
NCBI GeneID	25085
NCBI Accession #	NP_036872.1
NCBI GenBank Nucleotide #	NM_012740.3
UniProt Accession #	P04177
Molecular Weight	60
NCBI Official Full Name	tyrosine 3-monooxygenase
NCBI Official Synonym Full Names	tyrosine hydroxylase
NCBI Official Symbol	Th
NCBI Official Synonym Symbols	The
NCBI Protein Information	tyrosine 3-monooxygenase; tyrosine 3-hydroxylase
UniProt Protein Name	Tyrosine 3-monooxygenase
UniProt Gene Name	Th
UniProt Synonym Gene Names	TH
UniProt Entry Name	TY3H_RAT

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.