

**TH Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2215a**

**Specification**

**TH Antibody - Product Information**

Application	<b>E, WB, IF, FC, IHC</b>
Primary Accession	<a href="#">P07101</a>
Reactivity	<b>Human, Rat</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>58.6kDa KDa</b>

**Description**

The protein encoded by this gene is involved in the conversion of tyrosine to dopamine. It is the rate-limiting enzyme in the synthesis of catecholamines, hence plays a key role in the physiology of adrenergic neurons. Mutations in this gene have been associated with autosomal recessive Segawa syndrome. Alternatively spliced transcript variants encoding different isoforms have been noted for this gene.

**Immunogen**

Purified recombinant fragment of human TH (AA: 44-208) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**TH Antibody - Additional Information**

**Gene ID** 7054

**Other Names**

Tyrosine 3-monooxygenase, 1.14.16.2, Tyrosine 3-hydroxylase, TH, TH, TYH

**Dilution**

E~~1/10000  
WB~~1/500 - 1/2000  
IF~~1/200 - 1/1000  
FC~~1/200 - 1/400  
IHC~~1/200 - 1/1000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

TH Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**TH Antibody - Protein Information**

Name TH ([HGNC:11782](#))

Synonyms TYH

### Function

Catalyzes the conversion of L-tyrosine to L- dihydroxyphenylalanine (L-Dopa), the rate-limiting step in the biosynthesis of catecholamines, dopamine, noradrenaline, and adrenaline. Uses tetrahydrobiopterin and molecular oxygen to convert tyrosine to L-Dopa (PubMed:<a href="http://www.uniprot.org/citations/15287903" target="\_blank">15287903</a>, PubMed:<a href="http://www.uniprot.org/citations/1680128" target="\_blank">1680128</a>, PubMed:<a href="http://www.uniprot.org/citations/17391063" target="\_blank">17391063</a>, PubMed:<a href="http://www.uniprot.org/citations/24753243" target="\_blank">24753243</a>, PubMed:<a href="http://www.uniprot.org/citations/34922205" target="\_blank">34922205</a>, PubMed:<a href="http://www.uniprot.org/citations/8528210" target="\_blank">8528210</a>, Ref.18). In addition to tyrosine, is able to catalyze the hydroxylation of phenylalanine and tryptophan with lower specificity (By similarity). Positively regulates the regression of retinal hyaloid vessels during postnatal development (By similarity).

### Cellular Location

Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:P24529}. Nucleus {ECO:0000250|UniProtKB:P04177} Cell projection, axon {ECO:0000250|UniProtKB:P24529}. Cytoplasm {ECO:0000250|UniProtKB:P04177}. Cytoplasmic vesicle, secretory vesicle, synaptic vesicle {ECO:0000250|UniProtKB:P04177}. Note=When phosphorylated at Ser-19 shows a nuclear distribution and when phosphorylated at Ser-31 as well at Ser-40 shows a cytosolic distribution (By similarity). Expressed in dopaminergic axons and axon terminals. {ECO:0000250|UniProtKB:P04177}

### Tissue Location

Mainly expressed in the brain and adrenal glands.

### TH Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)