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# Tyrosine Hydroxylase Rabbit pAb

Catalog # AP96171

## Product Information

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| **Application** | WB, IHC-P, IHC-F, IF |
| **Primary Accession** | P24529 |
| **Other Accession** | P24529 |
| **Reactivity** | Rat, Human, Mouse |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 55993 |
| **Physical State** | Liquid |
| **Immunogen** | KLH conjugated synthetic peptide derived from mouse TH |
| **Epitope Specificity** | 101-165/528 |
| **Isotype** | IgG |
| **Purity** | affinity purified by Protein A |
| **Buffer** | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. |
| **SUBCELLULAR LOCATION** | Mainly expressed in the brain and adrenal glands. |
| **SIMILARITY** | Belongs to the biopterin-dependent aromatic amino acid hydroxylase family. |
| **SUBUNIT** | Homotetramer. |
| **Post-translational modifications** | In vitro, phosphorylation of Ser-19 increases the rate of Ser-40 phosphorylation, which results in enzyme opening and activation. |
| **DISEASE** | Defects in TH are the cause of Segawa syndrome autosomal recessive (ARSEGS) [MIM:605407]. A form of DOPA-responsive dystonia presenting in infancy or early childhood. Dystonia is defined by the presence of sustained involuntary muscle contractions, often leading to abnormal postures. Some cases present with parkinsonian symptoms in infancy. Unlike all other forms of dystonia, it is an eminently treatable condition, due to a favorable response to L-DOPA. Note=May play a role in the pathogenesis of Parkinson disease (PD). A genome-wide copy number variation analysis has identified a 34 kilobase deletion over the TH gene in a PD patient but not in any controls. |
| **Important Note** | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. |
| **Background Descriptions** | bs-0016P is one synthetic peptide derived from human TH. 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. [provided by RefSeq, Jul 2008] |

## Additional Information

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| **Gene ID** | 21823 |
| **Other Names** | DYT14; DYT5b; TYH; The; TY3H_HUMAN; TH; Tyrosine 3-hydroxylase (TH); |

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| | 1.14.16.2; TY3H_MOUSE; TY3H_RAT; tyrosine hydroxylase; tyrosine 3-monooxygenase |
| **Target/Specificity** | Mainly expressed in the brain and adrenal glands. |
| **Dilution** | WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1:100-200,ICC/IF=1:50-200 |
| **Storage** | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C. |

## Protein Information

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| **Name** | Th |
| **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 (By similarity). 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 (PubMed:30936473). |
| **Cellular Location** | Cytoplasm, perinuclear region. Nucleus {ECO:0000250\|UniProtKB:P04177} Cell projection, axon. 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 as at Ser-40 shows a cytosolic distribution (By similarity). Expressed in dopaminergic axons and axon terminals (PubMed:17296554). {ECO:0000250\|UniProtKB:P04177, ECO:0000269\|PubMed:17296554} |
| **Tissue Location** | Expressed in the adrenal gland (PubMed:1674869). Expressed in the retina (PubMed:30936473). Expressed in the in the striatum (at protein level) (PubMed:17296554) |

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.