

## Tyrosine Hydroxylase antibody

<b>Alternate names:</b>	PAH antibody, TRH antibody, TYH antibody, Tyrosine Hydroxylase Antibody
<b>Catalog No.:</b>	AM05146PU-N
<b>Quantity:</b>	0.5 mg
<b>Concentration:</b>	2,0 mg/ml
<b>Background:</b>	TYH is the enzyme which converts tyrosine to dihydroxyphenylalanine (L-dopa), a precursor of the catecholamine neurotransmitters dopamine, noradrenaline and adrenaline. TRH is the enzyme that converts 5-hydroxytryptophan to serotonin. In fresh tissue the antibody binds to TYH and TRH so is a marker for TYH-containing catecholaminergic neurons, and serotonergic neurons, TRH can be used as a marker for serotonin as it converts 5-hydroxytryptophan to serotonin. Serotonin is rapidly metabolized and is unable to be detected by anti-serotonin antibodies in post mortem tissue.
<b>Host / Isotype:</b>	Mouse / IgG
<b>Clone:</b>	PH8
<b>Immunogen:</b>	Monkey phenylalanine hydroxylase
<b>Format:</b>	<b>State:</b> Liquid purified Ig (0.22µm filtered) <b>Purification:</b> >99% pure (SDS-PAGE). Protein G chromatography <b>Buffer System:</b> PBS
<b>Applications:</b>	Immunohistochemistry. Western blot analysis. Immunoprecipitation. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
<b>Specificity:</b>	This antibody binds a common epitope of Tryptophan hydroxylase (TRH), Tyrosine hydroxylase (TYH) and Phenylalanine hydroxylase (PAH). In human tissue that has been formalin-fixed, due to a change in the antigenic determinant of TYH, this product will bind only TRH. The antibody can therefore be used to specifically identify serotonergic neurons in fixed human tissues. PAH can be detected in hepatic tissue sections. <b>Species:</b> Human. Other species not tested.
<b>Storage:</b>	Store the antibody undiluted at 2-8°C. DO NOT FREEZE! Shelf life: one year from despatch.
<b>General Readings:</b>	1. Cotton RG, McAdam W, Jennings I, Morgan FJ. A monoclonal antibody to aromatic amino acid hydroxylases. Identification of the epitope. <i>Biochem J.</i> 1988 Oct 1;255(1):193-6. PubMed PMID: 2461704. 2. Harris T, Muller B, Cotton RG, Borri Voltattorni C, Bell C. Dopaminergic and noradrenergic

sympathetic nerves of the dog have different DOPA decarboxylase activities. *Neurosci Lett.* 1986 Apr 11;65(2):155-60. PubMed PMID: 2872622.

3. Haan EA, Jennings IG, Cuello AC, Nakata H, Fujisawa H, Chow CW, et al. Identification of serotonergic neurons in human brain by a monoclonal antibody binding to all three aromatic amino acid hydroxylases. *Brain Res.* 1987 Nov 17;426(1):19-27. PubMed PMID: 2891407.

4. Baker KG, Halliday GM, Halasz P, Hornung JP, Geffen LB, Cotton RG, et al. Cytoarchitecture of serotonin-synthesizing neurons in the pontine tegmentum of the human brain. *Synapse.* 1991 Apr;7(4):301-20. PubMed PMID: 2042112.

5. Halliday, GM., et al., (1990), Loss of brainstem serotonin and substance P-containing neurons in Parkinson's disease, *Brain Res.*, 510:107 - 107.