Rabbit antibody to Tyrosine Hydroxylase (TH): whole serum

Catalogue No.:	R-118-100
Description:	Tyrosine hydroxylase (TH) is the rate-limiting enzyme in the synthesis of the catecholamines dopamine, epinephrine and norepinephrine. Therefore the regulation of the TH enzyme represents the central means for controlling the synthesis of these important catecholamines. FUNCTION: Plays an important role in the physiology of adrenergic neurons. CATALYTIC ACTIVITY: L-tyrosine + tetrahydrobiopterin + O2 = 3,4-dihydroxy-L-phenylalanine + 4a-hydroxytetrahydrobiopterin. COFACTOR: Fe(2+) ion. ENZYME REGULATION: Phosphorylation leads to an increase in the catalytic activity. PATHWAY: Catecholamine biosynthesis; first step. SUBUNIT: Homotetramer. PTM: In vitro, phosphorylation of Ser-19 increases the rate of Ser-40 phosphorylation, which results in enzyme opening and activation. SIMILARITY: Belongs to the biopterin-dependent aromatic amino acid hydroxylase family. The presence of different DNA sequences at the TH locus confers susceptibility to various disorders of the brain including manic-depression and schizophrenia. Parkinson's disease is also considered a TH deficiency as low dopamine levels are a consistent neurochemical abnormality.
Batch No.:	See product label
Unit size:	100 µl
Antigen:	A synthetic peptide (PRFIGRRQSLIEDARK) as part of human Tyrosine Hydroxylase (63-78) conjugated to KLH has been used as the immunogen. The peptide is homologous with the corresponding sequence derived from TH protein in rat (31-47).
Other Names:	TH; Tyrosine hydroxylase; Tyrosine 3-monooxygenase; L-tyrosine hydroxylase; Tyrosine 3-hydroxylase
Accession:	P04177 TY3H_RAT;
Produced in:	Rabbit
Purity:	Whole serum
Applications:	IHC. A dilution of 1:2000 to 1: 5000 is recommended for this application. This is a superb antibody for detection of tyrosine hydroxylase containing neurons exhibiting an intense labelling with a negligible background. This antiserum has proven extremely useful for staining of catecholaminergic neurons. It stains nicely and intensely dendritic processes and fine nerve terminals. We recommend mouse or rat brain containing catecholaminergic neurons as a positive control for this antibody, for example brain stem or striatum. Western blotting: A dilution of 1:100 - 1:500 is recommended. Biosensis recommends optimal dilutions/concentrations should be determined by the end user.
Specificity:	IHC on brain shows a pattern of staining specific for TH containing neurons.
Cross-reactivity:	This antibody is known to react with rat, mouse and guinea pig. Cross reactivity with other species has not yet been tested.
Form:	Lyophilised
Reconstitution:	Reconstitute in 100 µl of sterile water. Centrifuge to remove any insoluble material.
Storage:	After reconstitution keep aliquots at -20ºC for a higher stability, and at 4ºC with an appropriate

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antibacterial agent. Glycerol (1:1) may be added for an additional stability. Avoid repetitive freeze/thaw cycles.

Specific References:

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3. Brown R.E. et al (2008) Characterization of GABAergic neurons in rapid-eye-movement sleep controlling regions of the brainstem reticular formation in GAD67-green fluorescent protein knock-in mice. Eur J Neurosci. 2008 Jan;27(2):352-63.
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2. Haavik, J. et al. Mol. Neurobiology 16(3) :285-309, 1998.
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5. Haycock, J. Anal. Biochemistry 181: 259-266, 1989.
6. Haycock, J. Anal. Biochemistry 208: 397-399, 1993.
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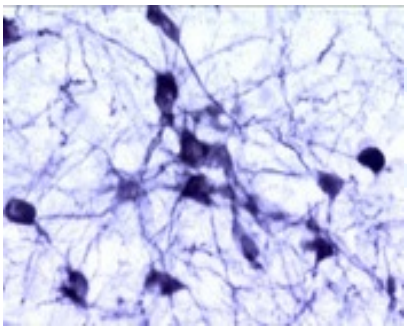

Immunohistochemical staining of catecholaminergic neurons in the rat brain stem.

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