Mouse Monoclonal antibody to Tyrosine Hydroxylase clone (LNC 1)

Catalogue No.:	M-1616-100
Description:	Tyrosine hydroxylase is an excellent marker for dopaminergic and noradrenergic neurons. Tyrosine hydroxylase (a.k.a. tyrosine 3-monooxygenase) is the enzyme responsible for catalyzing the conversion of the amino acid L-tyrosine to L-3,4-dihydroxyphenylalanine (L-DOPA). L-DOPA is a precursor for dopamine, which, in turn, is a precursor for the important neurotransmitters norepinephrine (noradrenaline) and epinephrine (adrenaline). Tyrosine hydroxylase catalyzes the rate limiting step in this synthesis of catecholamines. In humans, tyrosine hydroxylase is encoded by the TH gene, and the enzyme is present in the central nervous system (CNS), peripheral symphatic neurons and the adrenal medulla. The enzymatic activity of TH requires ferrous ions as cofactors and is believed to be regulated by phosphorylation. At least four isoforms of human TH have been identified which result from alternative splicing. Tyrosine hydroxylase, phenylalanine hydroxylase and tryptophan hydroxylase together make up the family of aromatic amino acid hydroxylases (AAAHs).
Batch No.:	see product label
Unit size:	100 uL
Antigen:	Tyrosine Hydroxylase purified from PC12 cells
Antigen Location:	Recognizes an epitope on the outside of the regulatory N-terminus
Antibody Type:	monoclonal, mouse IgG1 kappa
Isotype:	IgG1, kappa
Clone:	LNC 1; LNC1;LNC-1
Other Names:	LNC-1; LNC1; TH monoclonal
Accession:	P04177 (TY3H_RAT)
Produced in:	Mouse
Molecular Weight:	59-61 kDa on reduced westerns, LNC 1 recognizes all four known isoforms of mammalian TH.
Purity:	Unpurified ascites fluid, diluted with PBS containing 3% BSA, no preservatives.
Applications:	Western Blotting (WB), Immunohistochemistry (IH), Immunohistochemistry/paraffin embedded IH(P), Immunoprecipitation (IP), Immunofluorescence (IF), Flow cytometry (FC).WB: 1:1000 -1:2000, SDS reduced samples. Detects a 59-61kDa protein. Rat Brain lysates is a suitable control. IHC/IH(P): Reacts in formalin fixed paraffin embedded tissues with HIER antigen recovery. Typical dilution is 1:100-1:200 depending upon incubation time and detection method used. IF: 1:200-1:1000, 4% PFA fixed tissues/cells permeabilized with 0.1-0.4% triton X-100; also works in fresh frozen and acetone fixed tissues/cells.IP: 1:100, immobilized on protein A beads, Fleming-Jones et al (1995) J. Protein Chemistry 14(5):275-282.FC: Fixed, permeabilized dopaminergic nerve terminals from rat striatum, {Wolf, ME, Kapatos, G (1989) The Journal of Neuroscience, January 1989, 9(l): 108-114; Wolf ME, Zigmond, MJ, Kapatos, G (1989) J. Neurochemistry 53(3):879-885}.
Specificity:	Clone LNC 1 recognizes an epitope on the outside of the regulatory N-terminus. The clone

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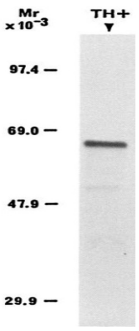
	detects a protein of approximately 59-61 kDa by Western blot and reduced SDS-PAGE. The clone does not react with dopamine-beta-hydroxylase, phenylalanine hydroxylase, trytophan hydroxylase, dehydropteridine reductase, sepiapterin reductase or phenethanolamine-N-methyl transferase (PNMT) by western blots.
Antibody Against:	Rat Tyrosine hydroxylase
Cross-reactivity:	Chicken, Frog, Horse, Human, Monkey, Mouse, Vole, Sheep, Zebrafish other species not yet tested
Form:	Lyophilized, dry powder.
Appearance:	Dry Powder
Reconstitution:	Reconstitute in 100 uL of sterile water. Centrifuge to remove any insoluble material.
Storage:	After reconstitution keep aliquots at -20 to -70C for a higher stability. At 2-8C keep up to one week, insulated, protected from light; use sterile methods and pipettes. Highly purified glycerol (1:1) may be added for an additional stability. Avoid repetitive freeze/thaw cycles. Keep tightly closed when not in use and protected from light
Expiry Date:	12 months from date of receipt
Specific References:	Kapatos G., Kemski V., and Geddes T. (1989) Dopamine neurons in monolayer culture as a model system for the study of tyrosine hydroxylase, in Pteridines and Biogenic Amines in Neuropsychiatry, Pediatrics and Immunology (Levine R. A., KuhnD. M., Milstien S., and Curtius H-C., eds), pp. 243—258. Lakeshore Publishers, Grosse Pointe, Michigan.



Approximately 0.5 µg of protein from purified synaptosomes analyzed by SDS-PAGE, electroblotted, and immunoprobed with LNC 1 Wolf, ME, Kapatos, G (1989) The Journal of Neuroscience, January 1989, 9(l): 108-114.

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