

Product Specification Sheet

Tyrosine Hydroxylase Antibodies

Cat # THYD11-M

Mouse Monoclonal Anti-Rat Tyrosine Hydroxylase ascites

SIZE: 100 ul

3

(TH, tyrosine 3-monoxy-genase, EC 1.14.16.2) is a tetrameric enzyme composed of four 60-68 kD subunits. TH catalyzes the hydroxylation of L-tyrosine to L-3,4-dihydroxyphenylalanine (L-dopa) in brain and adrenal medulla. This is the initial and rate limiting step in the biosynthesis of catecholamines (dopamine, norepinephrine, and epinephrine), that serve as neurotransmitters and hormones. TH is produced from a single gene; its synthesis is regulated by transcriptional, translational, and post-translational mechanisms. In most species, a single form of TH mRNA is produced and translated, resulting in a single, homotetrameric form of the protein. However, in the monkey, ape, and human, TH RNA undergoes alternative splicing resulting in either two (monkey, ape) or four (human) isoforms of TH subunit protein. The four human isoforms are TH-1 (M.W. 55,600), TH-2 (4 additional amino acids; M.W. 56,000), TH-3 (27 additional amino acids; M.W. 58,100), and TH-4 (31 additional amino acids; 58,500). Only humans express all four isoforms; all other anthropoids express only the TH-1 and TH-2 isoforms.

Source of Antigen and Antibodies

Purified rat tyrosine hydroxylase (TH) was injected into Balb/c mice to produce mouse monoclonal antibodies. A clone producing IgG1 anti-TH was expanded as ascites (cat # THYD11-M).

Recommended Secondary Antibodies: Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available).

Form & Storage

Ascites

100ul solution	50 ul lyophilized powder
Buffer: PBS contains 0.05% sodium azide	
Reconstitute powder 50 ul or 100 ul PBS	

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Specificity and crossreactivity

Antibody # 1, produced by clone XSM-1 (IgG1) recognizes the N-terminal (1-20 aa) region of rat TH and it recognizes the intact TH protein. The monoclonal antibody has broad species crossreactivity. Antibodies recognize TH from rat, mouse, human, bovine, monkey, sheep, G. Pig, and rabbit.

Recommended Usage

Western Blotting (1:1K-5K) using Chemiluminescence substrates.

Histochemistry & Immunofluorescence: We recommend using perfusion-fixed rat brain (4% paraformaldehyde, 0.2% glutaraldehyde) tissues. Staining of perikaryons and fibers is obtained. Pretreatment of tissues with Triton X-100 is critical to staining of fibers which are otherwise poorly stained with the antibody. We recommend an initial dilution of 1:500 to 1:1K. Users must optimize antibody dilution based upon their specific requirement.

Immunoprecipitation

Antibodies can be used to immunoprecipitate both native and denatured TH. Use 10-20 ul antibody per 100-200 ug of protein extracts. Users must optimize antibody dilution based upon their specific requirement.

General References:

Seger, R. and Krebs, E.G (1995) FASAB J., **9**, 726-735; Nagatsu, T., et al., J. Biol. Chem., **239**, 2910 (1964); Wessels-Reiker, M., et al., J. Biol. Chem., **266**, 9347 (1991); Grima, B., et al., Nature, **326**, 707 (1987). Ichinose, H., et al., Biochem. Biophys. Res. Commun., **195**, 158 (1993). 5. Haycock, J., J. Neurochem., **56**, 2139 (1991). Lewis, D., et al., Neurosci., **54**, 477 (1993); Haycock, J., Schizophrenia Res., **9**, 220 (1993); Haycock, J., Analyt. Biochem., **208**, 397 (1993);

*This product is for In vitro research use only.

Related material available from ADI

Anti-Rabbit IgG-HRP Conjugate and ECL Reagents

Western Blot Recycling Kit (Strips blots in 5 minutes) and re-use the same blot with multiple antibodies

THYD11-M

80530A

India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com