

TH (TOH A1.1): sc-47708

BACKGROUND

The enzyme tyrosine hydroxylase (TH), also designated tyrosine 3-monooxygenase (TY3H), catalyzes the conversion of tyrosine to L-DOPA, which is the rate limiting step in the biosynthesis of catecholamines such as dopamine, adrenalin and noradrenalin. TH is thought to play a role in the pathogenesis of Parkinson's disease, which is associated with reduced dopamine levels. Two transcription factor binding sites in the proximal region of the TH gene, the TPA-responsive element (TRE) and the c-AMP responsive element (CRE), have been implicated in the complex regulation of the TH gene. TH is also known to be upregulated by the glia maturation factor (GMF), a Cdc 10/SWI6 motif-containing protein called V-1 and a variety of additional compounds.

CHROMOSOMAL LOCATION

Genetic locus: TH (human) mapping to 11p15.5; Th (mouse) mapping to 7 F5.

SOURCE

TH (TOH A1.1) is a mouse monoclonal antibody raised against tyrosine hydroxylase purified from pheochromocytoma cells of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TH (TOH A1.1) is recommended for detection of TH of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for TH siRNA (h): sc-36662, TH siRNA (m): sc-36661, TH siRNA (r): sc-270461, TH shRNA Plasmid (h): sc-36662-SH, TH shRNA Plasmid (m): sc-36661-SH, TH shRNA Plasmid (r): sc-270461-SH, TH shRNA (h) Lentiviral Particles: sc-36662-V, TH shRNA (m) Lentiviral Particles: sc-36661-V and TH shRNA (r) Lentiviral Particles: sc-270461-V.

Molecular Weight of TH: 60 kDa.

Positive Controls: COLO 205 whole cell lysate: sc-364177, SW480 cell lysate: sc-2219 or human adrenal gland extract: sc-363761.

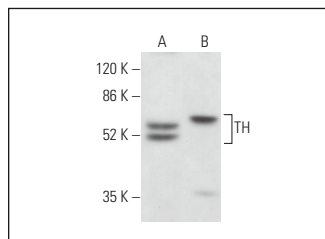
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

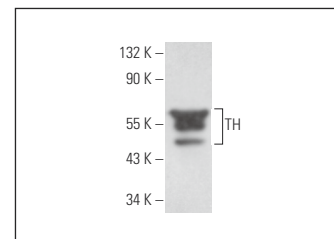
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



TH (TOH A1.1): sc-47708. Western blot analysis of TH expression in COLO 205 (A) and SW480 (B) whole cell lysates.



TH (TOH A1.1): sc-47708. Western blot analysis of TH expression in human adrenal gland tissue extract.

SELECT PRODUCT CITATIONS

- Bavithra, S., et al. 2011. Polychlorinated biphenyl (PCBs)-induced oxidative stress plays a critical role on cerebellar dopaminergic receptor expression: ameliorative role of quercetin. *Neurotox. Res.* 21: 149-159.
- Martinez, Y., et al. 2012. Cellular diversity within embryonic stem cells: pluripotent clonal sublines show distinct differentiation potential. *J. Cell. Mol. Med.* 16: 456-467.
- Zhu, H.J., et al. 2012. Impaired N-cadherin-mediated adhesion increase the risk of inducible ventricular arrhythmias in isolated rat hearts. *Sci. Res. Essays* 7: 2983-2991.
- Huang, Y., et al. 2012. Bone marrow-derived mesenchymal stem cells increase dopamine synthesis in the injured striatum. *Neural Regen. Res.* 7: 2653-2662.
- Kurnik, M., et al. 2015. Neuropathic alterations of the myenteric plexus neurons following subacute intraperitoneal administration of salsolinol. *Folia Histochem. Cytobiol.* 53: 49-61.
- Jang, J.H., et al. 2020. Acupuncture inhibits neuroinflammation and gut microbial dysbiosis in a mouse model of Parkinson's disease. *Brain Behav. Immun.* 89: 641-655.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **TH (F-11): sc-25269** for TH antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.