SANTA CRUZ BIOTECHNOLOGY, INC.

TH (F-11): sc-25269

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (F-11) is a mouse monoclonal antibody raised against amino acids 1-196 (with a deletion at 31-61) of tyrosine hydroxylase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TH (F-11) is available conjugated to agarose (sc-25269 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-25269 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-25269 PE), fluorescein (sc-25269 FITC), Alexa Fluor® 488 (sc-25269 AF488), Alexa Fluor® 546 (sc-25269 AF546), Alexa Fluor® 594 (sc-25269 AF594) or Alexa Fluor® 647 (sc-25269 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-25269 AF680) or Alexa Fluor® 790 (sc-25269 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TH (F-11) is recommended for detection of TH of mouse, rat and human origin by Western Blotting (starting dilution 1:1,000, dilution range 1:1,000-1:5,000), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

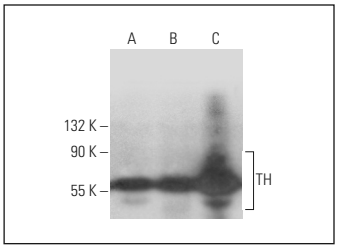
Molecular Weight of TH: 60 kDa.

Positive Controls: human adrenal gland extract: sc-363761, mouse brain extract: sc-2253 or human kidney extract: sc-363764.

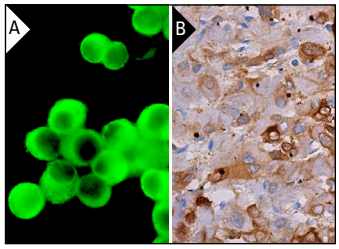
STORAGE

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

DATA



TH (F-11): sc-25269. Western blot analysis of TH expression in human adrenal gland (**A**), human kidney (**B**) and mouse brain (**C**) tissue extracts.



TH (F-11): sc-25269. Immunofluorescence staining of methanol-fixed PC-12 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Shin, N., et al. 2008. LRRK2 regulates synaptic vesicle endocytosis. Exp. Cell Res. 314: 2055-2065.
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3. Di, X., et al. 2012. L-theanine inhibits nicotine-induced dependence via regulation of the nicotine acetylcholine receptor-dopamine reward pathway. Sci. China Life Sci. 55: 1064-1074.
4. Deslauriers, J., et al. 2013. Combination of prenatal immune challenge and restraint stress affects prepulse inhibition and dopaminergic/GABAergic markers. Prog. Neuropsychopharmacol. Biol. Psychiatry 45: 156-164.
5. Sharpe, M.A., et al. 2015. Successful treatment of intracranial glioblastoma xenografts with a monoamine oxidase B-activated Pro-drug. EBioMedicine 2: 1122-1132.
6. Pijacka, W., et al. 2016. Purinergic receptors in the carotid body as a new drug target for controlling hypertension. Nat. Med. 22: 1151-1159.
7. Tuesta, L.M., et al. 2017. GLP-1 acts on habenular avoidance circuits to control nicotine intake. Nat. Neurosci. 20: 708-716.
8. Singh, S.S., et al. 2018. Effect of chlorogenic acid supplementation in MPTP-intoxicated mouse. Front. Pharmacol. 9: 757.
9. Chiricozzi, E., et al. 2019. Parkinson's disease recovery by GM1 oligosaccharide treatment in the B4galnt1$^{+/-}$ mouse model. Sci. Rep. 9: 19330.
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11. Cascella, R., et al. 2021. The release of toxic oligomers from α-synuclein fibrils induces dysfunction in neuronal cells. Nat. Commun. 12: 1814.

RESEARCH USE

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