

NPY1-R (E-4): sc-393192

BACKGROUND

The NPY1R gene, located on human chromosome 4q32, encodes a 384 amino acid protein, NPY1-R (also designated Neuropeptide Y receptor Y1). NPY1-R is a member of the G protein-coupled receptor superfamily, and like other members has seven putative transmembrane domains. However, NPY1-R gene consists of three exons, unlike the contiguous structure of other G protein-coupled receptor genes. NPY1-R is expressed in the postsynaptic membrane of spleen, small intestine, kidney, testis, placenta, aortic smooth muscle, and throughout the central nervous system. NPY1-R associates with Neuropeptide Y, unphosphorylated Peptide YY (PYY) and particularly strongly with phosphorylated PYY. Depending on the cell type, NPY1-R couples with different G proteins, which act as second messengers. NPY1-R activation is necessary and sufficient for the release of Substance P, a pain neurotransmitter, and the initiation of neurogenic inflammation. NPY1-R stimulates feeding behaviors, through an interaction with NPY.

CHROMOSOMAL LOCATION

Genetic locus: NPY1R (human) mapping to 4q32.2; Npy1r (mouse) mapping to 8 B3.3.

SOURCE

NPY1-R (E-4) is a mouse monoclonal antibody raised against amino acids 181-271 mapping within an internal region of NPY1-R 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.

NPY1-R (E-4) is available conjugated to agarose (sc-393192 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393192 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393192 PE), fluorescein (sc-393192 FITC), Alexa Fluor[®] 488 (sc-393192 AF488), Alexa Fluor[®] 546 (sc-393192 AF546), Alexa Fluor[®] 594 (sc-393192 AF594) or Alexa Fluor[®] 647 (sc-393192 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393192 AF680) or Alexa Fluor[®] 790 (sc-393192 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NPY1-R (E-4) is recommended for detection of NPY1-R of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NPY1-R siRNA (h): sc-36097, NPY1-R siRNA (m): sc-36098, NPY1-R shRNA Plasmid (h): sc-36097-SH, NPY1-R shRNA Plasmid (m): sc-36098-SH, NPY1-R shRNA (h) Lentiviral Particles: sc-36097-V and NPY1-R shRNA (m) Lentiviral Particles: sc-36098-V.

Molecular Weight (predicted) of NPY1-R: 44 kDa.

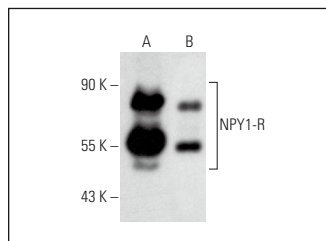
Molecular Weight (observed) of NPY1-R: 43-53 kDa.

Positive Controls: mouse brain extract: sc-2253, Neuro-2A whole cell lysate: sc-364185 or human hippocampus tissue extract.

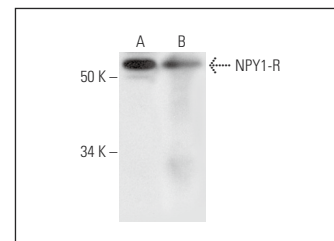
STORAGE

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

DATA



NPY1-R (E-4): sc-393192. Western blot analysis of NPY1-R expression in mouse brain tissue extract (A) and Neuro-2A whole cell lysate (B).



NPY1-R (E-4): sc-393192. Western blot analysis of NPY1-R expression in mouse brain (A) and human hippocampus (B) tissue extracts.

SELECT PRODUCT CITATIONS

- Xu, K., et al. 2018. Neural crest-derived cells migrate from nerve to participate in Achilles tendon remodeling. *Wound Repair Regen.* 26: 54-63.
- Zahr, S.K., et al. 2018. A translational repression complex in developing mammalian neural stem cells that regulates neuronal specification. *Neuron* 97: 520-537.e6.
- Kang, X., et al. 2020. Neuropeptide Y acts directly on cartilage homeostasis and exacerbates progression of osteoarthritis through NPY2R. *J. Bone Miner. Res.* 35: 1375-1384.
- Sun, K., et al. 2021. Neuropeptide Y prevents nucleus pulposus cells from cell apoptosis and IL-1β-induced extracellular matrix degradation. *Cell Cycle* 20: 960-977.
- Chen, Y., et al. 2021. Early treadmill running delays rotator cuff healing via Neuropeptide Y mediated inactivation of the Wnt/β-catenin signaling. *J. Orthop. Translat.* 30: 103-111.
- Zhang, Q., et al. 2022. Involvement of neuropeptide Y within paraventricular nucleus in electroacupuncture inhibiting sympathetic activities in hypertensive rats. *Int. J. Hypertens.* 2022: 9990854.
- Klinger, K., et al. 2023. Increasing NPYergic transmission in the hippocampus rescues aging-related deficits of long-term potentiation in the mouse dentate gyrus. *Front. Aging Neurosci.* 15: 1283581.

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.

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