

NPY (F-6): sc-133080

BACKGROUND

The NPY hormone family consists of NPY, PP and peptide YY. NPY (neuropeptide Y) is a 36 amino acid protein that consists of a polyproline stretch followed by an amphipathic α -helix. NPY shares a 50% amino acid homology with pancreatic polypeptide gene (PP). NPY is expressed throughout the central and peripheral nervous system, particularly in the deep layers of the cortex and smaller cell bodies in the white matter. NPY interacts with the Y-receptor family of G protein-coupled receptors. NPY interacts with NPY receptor Y1 to increase corticotropin levels and decrease noradrenaline levels in the hypothalamus. Through interactions in the hypothalamus, NPY plays important roles in the regulation of energy balance by stimulating food intake. NPY favors energy storage by increasing lipoprotein lipase activity in white adipose tissue. A Leucine 7 to Proline 7 polymorphism has been implicated in an increase in alcohol preference, and decrease in cholesterol metabolism.

CHROMOSOMAL LOCATION

Genetic locus: NPY (human) mapping to 7p15.3; Npy (mouse) mapping to 6 B2.3.

SOURCE

NPY (F-6) is a mouse monoclonal antibody raised against amino acids 1-97 representing full length NPY of human origin.

PRODUCT

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

NPY (F-6) is available conjugated to agarose (sc-133080 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133080 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133080 PE), fluorescein (sc-133080 FITC), Alexa Fluor® 488 (sc-133080 AF488), Alexa Fluor® 546 (sc-133080 AF546), Alexa Fluor® 594 (sc-133080 AF594) or Alexa Fluor® 647 (sc-133080 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133080 AF680) or Alexa Fluor® 790 (sc-133080 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

NPY (F-6) is recommended for detection of NPY of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 NPY siRNA (h): sc-42099, NPY siRNA (m): sc-42100, NPY shRNA Plasmid (h): sc-42099-SH, NPY shRNA Plasmid (m): sc-42100-SH, NPY shRNA (h) Lentiviral Particles: sc-42099-V and NPY shRNA (m) Lentiviral Particles: sc-42100-V.

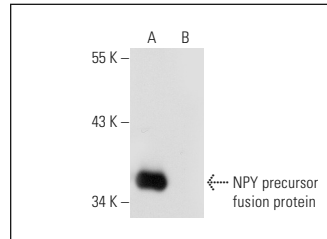
Molecular Weight of NPY: 11 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185.

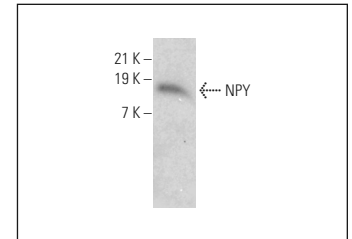
STORAGE

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

DATA



NPY (F-6): sc-133080. Western blot analysis of human recombinant NPY precursor fusion protein (A) and human recombinant NPY fusion protein incubated with active NPY (B).



NPY (F-6): sc-133080. Western blot analysis of NPY expression in Neuro-2A whole cell lysate.

SELECT PRODUCT CITATIONS

1. Maalood, N. and Meister, B. 2010. Nociceptin/orphanin FQ peptide in hypothalamic neurons associated with the control of feeding behaviour. *J. Neuroendocrinol.* 22: 75-82.
2. Colldén, G., et al. 2010. P2X2 purinoreceptor protein in hypothalamic neurons associated with the regulation of food intake. *Neuroscience* 171: 62-78.
3. Kloukina, V., et al. 2012. G protein-gated inwardly rectifying K⁺ channel 4 (GIRK4) immunoreactivity in chemically defined neurons of the hypothalamic arcuate nucleus that control body weight. *J. Chem. Neuroanat.* 44: 14-23.
4. Herzer, S., et al. 2012. Locked nucleic acid-based *in situ* hybridisation reveals miR-7a as a hypothalamus-enriched microRNA with a distinct expression pattern. *J. Neuroendocrinol.* 24: 1492-1504.
5. Gualtieri, F., et al. 2013. Hypoxia markers are expressed in interneurons exposed to recurrent seizures. *Neuromolecular Med.* 15: 133-146.
6. Cohen, S., et al. 2015. Diurnal fluctuations in HPA and neuropeptide Y-ergic systems underlie differences in vulnerability to traumatic stress responses at different zeitgeber times. *Neuropsychopharmacology* 40: 774-790.
7. Matsushita, Y., et al. 2016. Hyperactive mTOR signals in the proopiomelanocortin-expressing hippocampal neurons cause age-dependent epilepsy and premature death in mice. *Sci. Rep.* 6: 22991.
8. Cohen, S., et al. 2016. The wake-promoting drug modafinil stimulates specific hypothalamic circuits to promote adaptive stress responses in an animal model of PTSD. *Transl. Psychiatry* 6: e917.
9. Pascoal, L.B., et al. 2017. Resolvin RvD2 reduces hypothalamic inflammation and rescues mice from diet-induced obesity. *J. Neuroinflammation* 14: 5.

RESEARCH USE

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