

NPY (FL-97): sc-28943

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 polypeptide 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.

REFERENCES

1. Minth, C.D., et al. 1984. Cloning, characterization, and DNA sequence of a human cDNA encoding neuropeptide tyrosine. *Proc. Natl. Acad. Sci.* 81: 4577-4581.
2. Takeuchi, T., et al. 1986. Genes encoding pancreatic polypeptide and neuropeptide Y are on human chromosomes 17 and 7. *J. Clin. Invest.* 77: 1038-1041.

CHROMOSOMAL LOCATION

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

SOURCE

NPY (FL-97) is a rabbit polyclonal antibody raised against amino acids 1-97 representing full length NPY of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

NPY (FL-97) is recommended for detection of NPY and, to a lesser extent, NPY_Y of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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). NPY (FL-97) is also recommended for detection of NPY and, to a lesser extent, NPY_Y in additional species, including equine, canine, bovine and porcine.

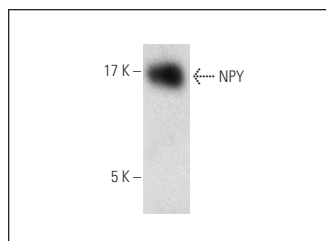
Molecular Weight of NPY: 11 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NPY (FL-97): sc-28943. Western blot analysis of NPY expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Bottaro, M., et al. 2009. First detection of neuropeptide Y (NPY)-like immunoreactivity in the lateral line: presence and distribution in the neuromasts of the Antarctic notothenioid fish *Trematomus bernacchii*. *Neurosci. Lett.* 458: 37-42.
2. Petersen, P.S., et al. 2009. *In vivo* characterization of high Basal signaling from the ghrelin receptor. *Endocrinology* 150: 4920-4930.
3. Kim, S.J., et al. 2009. Ruteccarpine ameliorates bodyweight gain through the inhibition of orexigenic neuropeptides NPY and AgRP in mice. *Biochem. Biophys. Res. Commun.* 389: 437-442.
4. Razolli, D.S., et al. 2012. Hypothalamic action of glutamate leads to body mass reduction through a mechanism partially dependent on JAK2. *J. Cell. Biochem.* 113: 1182-1189.
5. Ma, Y., et al. 2012. Corticosterone regulates the expression of neuropeptide Y and reelin in MLO-Y4 cells. *Mol. Cells* 33: 611-616.

RESEARCH USE

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

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Try **NPY (F-6): sc-133080**, our highly recommended monoclonal alternative to NPY (FL-97).