

# NPY (E-17): sc-14727

## 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  $\alpha$ -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.
3. Terenghi, G., et al. 1987. Localization of neuropeptide Y mRNA in neurons of human cerebral cortex by means of *in situ* hybridization with a complementary RNA probe. *Proc. Natl. Acad. Sci. USA* 84: 7315-7318.
4. Monks, S.A., et al. 1996. Solution structure of human neuropeptide Y. *J. Biomol. NMR* 8: 379-390.

## CHROMOSOMAL LOCATION

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

## SOURCE

NPY (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NPY of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14727 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## RESEARCH USE

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

## APPLICATIONS

NPY (E-17) is recommended for detection of NPY of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (E-17) is also recommended for detection of NPY in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NPY siRNA (h): sc-42099, NPY siRNA (m): sc-42100, NPY siRNA (r): sc-270204, NPY shRNA Plasmid (h): sc-42099-SH, NPY shRNA Plasmid (m): sc-42100-SH, NPY shRNA Plasmid (r): sc-270204-SH, NPY shRNA (h) Lentiviral Particles: sc-42099-V, NPY shRNA (m) Lentiviral Particles: sc-42100-V and NPY shRNA (r) Lentiviral Particles: sc-270204-V.

Molecular Weight of NPY: 11 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Yang, C.L., et al. 2005. Gene expression profiling of the ageing rat vibrissa follicle. *Br. J. Dermatol.* 153: 22-28.
2. Frisch, C., et al. 2009. Positive correlation between the density of neuropeptide Y positive neurons in the amygdala and parameters of self-reported anxiety and depression in mesiotemporal lobe epilepsy patients. *Biol. Psychiatry* 66: 433-440.
3. Glass, J.D., et al. 2010. On the intrinsic regulation of neuropeptide Y release in the mammalian suprachiasmatic nucleus circadian clock. *Eur. J. Neurosci.* 31: 1117-1126.
4. Nagasu, H., et al. 2010. Renal denervation reduces glomerular injury by suppressing NAD(P)H oxidase activity in Dahl salt-sensitive rats. *Nephrol. Dial. Transplant.* 25: 2889-2898.
5. Cintra, D.E., et al. 2012. Unsaturated fatty acids revert diet-induced hypothalamic inflammation in obesity. *PLoS ONE* 7: e30571.


 MONOS  
Satisfation  
Guaranteed

Try **NPY (F-6): sc-133080**, our highly recommended monoclonal alternative to NPY (E-17).