

NPY1-R (A-17): sc-21990

BACKGROUND

The NPY1-R gene, located on human chromosome 4q32.2, 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.

REFERENCES

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2. Herzog, H., Hort, Y.J., Ball, H.J., Hayes, G., Shine, J. and Selbie, L.A. 1992. Cloned human neuropeptide Y receptor couples to two different second messenger systems. *Proc. Natl. Acad. Sci. USA* 89: 5794-5798.
3. Herzog, H., Baumgartner, M., Vivero, C., Selbie, L.A., Auer, B. and Shine, J. 1993. Genomic organization, localization, and allelic differences in the gene for the human neuropeptide Y Y1 receptor. *J. Biol. Chem.* 268: 6703-6707.
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5. Chen, Z., Eriste, E., Jonsson, A.P., Norberg, A., Nepomuceno, D., Lovenberg, T.W., Bergman, T., Efendic, S., Jornvall, H. and Sillard, R. 2001. Ser13-phosphorylated PYY from porcine intestine with a potent biological activity. *FEBS Lett.* 492: 119-122.

CHROMOSOMAL LOCATION

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

SOURCE

NPY1-R (A-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NPY1-R of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-21990 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NPY1-R (A-17) is recommended for detection of NPY1-R of mouse, rat, human origin by Western Blotting (starting dilution 1:200, 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).

NPY1-R (A-17) is also recommended for detection of NPY1-R in additional species, including equine and porcine.

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: SK-N-MC cell lysate: sc-2237, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **NPY1-R (E-4): sc-393192**, our highly recommended monoclonal alternative to NPY1-R (A-17).