

APLNR (C-17): sc-33838

BACKGROUND

The apelin receptor (APLNR) is a G protein-coupled integral membrane protein exhibiting a hypothalamic distribution in brain, glial cells, astrocytes and neuronal subpopulations. APLNR is bound by its cognate neuropeptide ligand, apelin, promoting receptor internalization to the nucleus and dose-dependent inhibition of forskolin-induced cAMP production. However, deletion studies of the apelin agonist have shown that internalization is not mandatory for decreasing vasopressin release, a hypotensive action of APLNR signaling. Further evidence for functional dissociation of APLNR stimulation and internalization was exhibited *in vitro* using mutational studies of a nuclear localization signal sequence. These findings may suggest the presence of multiple, functionally-differing conformational states for the receptor. Stress studies in rodents have shown APLNR is under negative regulation by glucocorticoids and may be involved in controlling hypothalamic function. APLNR also functions as an alternate coreceptor with CD4 for HIV-1 infection.

REFERENCES

1. De Mota, N., et al. 2000. Cloning, pharmacological characterization and brain distribution of the rat apelin receptor. *Neuroendocrinology* 72: 400-407.
2. Reaux, A., et al. 2001. Physiological role of a novel neuropeptide, apelin, and its receptor in the rat brain. *J. Neurochem.* 77: 1085-1096.
3. O'Carroll, A.M., et al. 2003. APJ receptor mRNA expression in the rat hypothalamic paraventricular nucleus: regulation by stress and glucocorticoids. *J. Neuroendocrinol.* 15: 1095-1101.
4. El Messari, S., et al. 2004. Functional dissociation of apelin receptor signaling and endocytosis: implications for the effects of apelin on arterial blood pressure. *J. Neurochem.* 90: 1290-1301.
5. Lee, D.K., et al. 2004. Agonist-independent nuclear localization of the apelin, angiotensin AT1, and bradykinin B2 receptors. *J. Biol. Chem.* 279: 7901-7908.
6. Kleinz, M.J., et al. 2005. Immunocytochemical localisation of the apelin receptor, APJ, to human cardiomyocytes, vascular smooth muscle and endothelial cells. *Regul. Pept.* 126: 233-240.

CHROMOSOMAL LOCATION

Genetic locus: APLNR (human) mapping to 11q12.1; Aplin (mouse) mapping to 2 D.

SOURCE

APLNR (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of APLNR 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-33838 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

APLNR (C-17) is recommended for detection of APLNR 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).

APLNR (C-17) is also recommended for detection of APLNR in additional species, including equine, canine and avian.

Suitable for use as control antibody for APLNR siRNA (h): sc-44732, APLNR siRNA (m): sc-44733, APLNR shRNA Plasmid (h): sc-44732-SH, APLNR shRNA Plasmid (m): sc-44733-SH, APLNR shRNA (h) Lentiviral Particles: sc-44732-V and APLNR shRNA (m) Lentiviral Particles: sc-44733-V.

Molecular Weight of APLNR: 42 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. Pan, C.S., et al. 2010. Apelin antagonizes myocardial impairment in sepsis. *J. Card. Fail.* 16: 609-617.

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 **APLNR (Y-18): sc-73713**, our highly recommended monoclonal alternative to APLNR (C-17).