SANTA CRUZ BIOTECHNOLOGY, INC.

APLNR (Y-18): sc-73713

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The Power to Question

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.

SOURCE

APLNR (Y-18) is a mouse monoclonal antibody raised against cells transfected with APLNR of human origin.

PRODUCT

Each vial contains 100 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

STORAGE

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

APPLICATIONS

APLNR (Y-18) is recommended for detection of APLNR of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

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

Molecular Weight of APLNR: 42 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

1. Brzoskwinia, M., et al. 2020. Flutamide alters the expression of chemerin, Apelin, and vaspin and their respective receptors in the testes of adult rats. Int. J. Mol. Sci. 21: E4439.

RESEARCH USE

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

PROTOCOLS

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