SANTA CRUZ BIOTECHNOLOGY, INC.

APLNR (3C3-7): sc-517300

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.

CHROMOSOMAL LOCATION

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

SOURCE

APLNR (3C3-7) is a mouse monoclonal antibody raised against full-length recombinant APLNR of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APLNR (3C3-7) is available conjugated to agarose (sc-517300 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-517300 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517300 PE), fluorescein (sc-517300 FITC), Alexa Fluor® 488 (sc-517300 AF488), Alexa Fluor® 546 (sc-517300 AF546), Alexa Fluor® 594 (sc-517300 AF594) or Alexa Fluor® 647 (sc-517300 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-517300 AF680) or Alexa Fluor® 790 (sc-517300 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

APLNR (3C3-7) 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), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

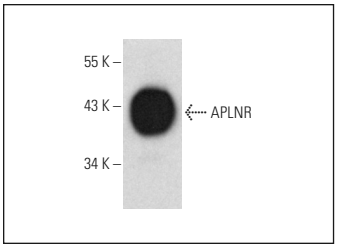
APLNR (3C3-7) is also recommended for detection of APLNR in additional species, including bovine, porcine, caprine and canine.

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.

Positive Controls: human spleen extract: sc-363779.

DATA



APLNR (3C3-7): sc-517300. Western blot analysis of APLNR expression in human spleen tissue extract.

SELECT PRODUCT CITATIONS

1. Xu, W., et al. 2019. Apelin-13/APJ system attenuates early brain injury via suppression of endoplasmic reticulum stress-associated TXNIP/NLRP3 inflammasome activation and oxidative stress in a AMPK-dependent manner after subarachnoid hemorrhage in rats. J. Neuroinflammation 16: 247.
2. Troisi, A., et al. 2020. Presence and expression of Apelin and Apelin receptor in bitch placenta. Theriogenology 147: 192-196.
3. Dall'Aglio, C., et al. 2020. Influence of different feed physical forms on mandibular gland in growing pigs. Animals 10: 910.
4. Troisi, A., et al. 2022. Presence and localization of Apelin and its cognate receptor in canine testes using immunohistochemical and RT-PCR techniques. Vet. Res. Commun. E-published.
5. Xu, P., et al. 2023. Elabela-APJ axis attenuates cerebral ischemia/reperfusion injury by inhibiting neuronal ferroptosis. Free Radic. Biol. Med. 196: 171-186.

RESEARCH USE

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