SANTA CRUZ BIOTECHNOLOGY, INC.

GALR3 (E-18): sc-22938

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Galanin receptor-3 (GALR3), a 368 and 370 amino acid protein in human and rat, respectively, belongs to a family of G protein-coupled receptors that bind the neuropeptide galanin, which is distributed throughout the central and peripheral nervous system, the pituitary gland, the gastrointestinal tract and in the endocrine and exocrine pancreas. GALR3 mRNA is widely distributed, but expressed at low abundance. In human, GALR3 mRNA is highly expressed in the hypothalamus, pituitary and testis, and is expressed to a lesser extent in adrenal gland and pancreas. Rat and human GALR3 co-express with potassium channel subunits GIRK1 and GIRK4. Like GALR1, GALR3 signaling pathways lead to the inhibition of adenylate cyclase and to the activation of potassium channels, which are linked to the regulation of neurotransmitter release. Binding of galanin to galanin receptors results in increased feeding, impaired learning, enhanced opiate analgesia and decreased opiate place preference.

REFERENCES

1. Smith, K.E., Walker, M.W., Artymyshyn, R., Bard, J., Borowsky, B., Tamm, J.A., Yao, W.J., Vaysse, P.J., Branchek, T.A., Gerald, C. and Jones, K.A. 1998. Cloned human and rat galanin GALR3 receptors. Pharmacology and activation of G-protein inwardly rectifying K^+ channels. J. Biol. Chem. 273: 23321-23326.
2. Depczynski, B., Nichol, K., Fathi, Z., Iismaa, T., Shine, J. and Cunningham, A. 1998. distribution and characterizaton of the cell types expressing GALR2 mRNA in brain and ituitary gland. Ann. N.Y. Acad. Sci. 863: 120-128.
3. Kolakowski, L.F. Jr., O'Neill, G.P., Howard, A.D., Broussard, S.R., Sullivan, K.A., Feighner, S.D., Sawzdargo, M., Nguyen, T., Kargman, S., Shiao, L.L., Hreniuk, D.L., Tan, C.P., Evans, J., Abramovitz, M., Chateauneuf, A., Coulombe, N., Ng, G., Johnson, M.P., Tharian, A., Khoshbouei, H., George, S.R., Smith, R.G. and O'Dowd, B.F. 1998. Molecular characterization and expression of cloned human galanin receptors GALR2 and GALR3. J. Neurochem. 71: 2239-2251.
4. Zdrojewicz, Z. and Sowinska, E. 2000. The significance of galanin in physiologic and pathologic processes in humans. Postepy. Hig. Med. Dosw. 54: 819-833.
5. Zachariou, V., Georgescu, D., Kansal, L., Merriam, P. and Picciotto, M.R. 2001. Galanin receptor 1 gene expression is regulated by cyclic AMP through a CREB-dependent mechanism. J. Neurochem. 76: 191-200.

CHROMOSOMAL LOCATION

Genetic locus: GALR3 (human) mapping to 22q13.1

SOURCE

GALR3 (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GALR3 of human origin.

STORAGE

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

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-22938 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GALR3 (E-18) is recommended for detection of GALR3 of 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).

Suitable for use as control antibody for GALR3 siRNA (h): sc-40010, GALR3 shRNA Plasmid (h): sc-40010-SH and GALR3 shRNA (h) Lentiviral Particles: sc-40010-V.

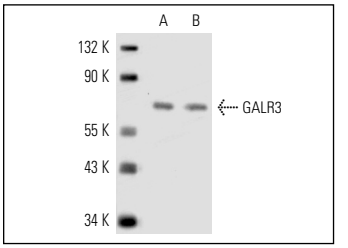
Molecular Weight of GALR3: 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NTERA-2 cl.D1 whole cell lysate or MIA PaCa-2 cell lysate: sc-2285.

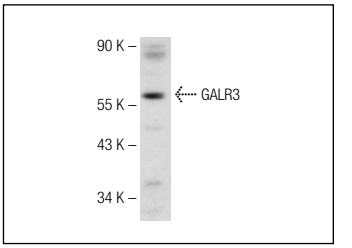
RECOMMENDED SECONDARY REAGENTS

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.

DATA



GALR3 (E-18): sc-22938. Western blot analysis of GALR3 expression in NTERA-2 cl.D1 (**A**) and MIA PaCa-2 (**B**) whole cell lysates



GALR3 (E-18): sc-22938. Western blot analysis of GALR3 expression in HeLa whole cell lysate.

RESEARCH USE

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