

p- β_2 -AR (Ser 355/ Ser 356)-R: sc-22191-R

BACKGROUND

β_2 adrenergic receptors (β_2 -ARs) bind catecholamines (epinephrine and norepinephrine) and influence development, behavior, cardiac function, smooth muscle tone, and metabolism. β_2 -AR signaling complexes can contain class C L-type calcium channel CaV1.2, G protein, adenylyl cyclase, cAMP-dependent kinase and PP2A phosphatase. β_2 -ARs are present in adipose, blood, lung, brain, heart, nose, pancreas, skeletal muscle, skin and vessels. Phosphorylation of Ser 345/346 and Ser 355/356 by PKA and GRK, respectively, promotes desensitization of the β_2 -AR.

REFERENCES

1. Seibold, A., et al. 2000. Localization of the sites mediating desensitization of the β_2 -adrenergic receptor by the GRK pathway. *Mol. Pharmacol.* 58: 1162-1173.
2. Moffett, S., et al. 2001. The palmitoylation state of the β_2 -adrenergic receptor regulates the synergistic action of cyclic AMP-dependent protein kinase and β -adrenergic receptor kinase involved in its phosphorylation and desensitization. *J. Neurochem.* 76: 269-279.
3. Davare, M.A., et al. 2001. A β_2 -adrenergic receptor signaling complex assembled with the Ca²⁺ channel CaV1.2. *Science* 293: 98-101.
4. Friedman, J., et al. 2002. β_2 -adrenergic receptor lacking the cyclic AMP-dependent protein kinase consensus sites fully activates extracellular signal-regulated kinase 1/2 in human embryonic kidney 293 cells: lack of evidence for G_s/G_i switching. *Mol. Pharmacol.* 62: 1094-1102.

CHROMOSOMAL LOCATION

Genetic locus: ADRB2 (human) mapping to 5q33.1.

SOURCE

p- β_2 -AR (Ser 355/Ser 356)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 355 and Ser 356 phosphorylated β_2 -AR of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-22191-R P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

p- β_2 -AR (Ser 355/ Ser 356)-R is recommended for detection of Ser 355 and Ser 356 dually phosphorylated β_2 -AR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 β_2 -AR siRNA (h): sc-39866, β_2 -AR shRNA Plasmid (h): sc-39866-SH and β_2 -AR shRNA (h) Lentiviral Particles: sc-39866-V.

Molecular Weight of p- β_2 -AR: 68 kDa.

Positive Controls: HeLa + PMA cell lysate: sc-2258 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Shi, Q., et al. 2011. Protective effects of glycyrrhizin against β_2 -adrenergic receptor agonist-induced receptor internalization and cell apoptosis. *Biol. Pharm. Bull.* 34: 609-617.
2. Gao, S., et al. 2014. Probing the stoichiometry of β_2 -adrenergic receptor phosphorylation by targeted mass spectrometry. *J. Mol. Signal.* 9: 3.