SANTA CRUZ BIOTECHNOLOGY, INC.

p-β_2-AR (Ser 345/Ser 346): sc-16718

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

β_2 adrenergic receptors (β_2-ARs) bind cathecholamines (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 Ca^{2+} 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.
5. LocusLink Report. LocusID: 153. http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: ADRB2 (human) mapping to 5q32.

SOURCE

p-β_2-AR (Ser 345/Ser 346) is available as either goat (sc-16718) or rabbit (sc-16718-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 345 and Ser 346 phosphorylated β_2-AR 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-16718 P (100 µg 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.

PROTOCOLS

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

APPLICATIONS

p-β_2-AR (Ser 345/Ser 346) is recommended for detection of Ser 345 and Ser 346 dually phosphorylated β_2-AR 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).

p-β_2-AR (Ser 345/Ser 346) is also recommended for detection of correspondingly phosphorylated β_2-AR in additional species, including equine, canine and bovine.

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.

SELECT PRODUCT CITATIONS

1. Wang, J. and Liu, X.J. 2004. Progesterone inhibits protein kinase A (PKA) in *Xenopus* oocytes: demonstration of endogenous PKA activities using an expressed substrate. J. Cell Sci. 117: 5107-5116.
2. Lynch, M.J., et al. 2005. RNA silencing identifies PDE4D5 as the functionally relevant cAMP phosphodiesterase interacting with β-Arrestin to control the protein kinase A/AKAP79-mediated switching of the β_2-adrenergic receptor to activation of ERK in HEK293B2 cells. J. Biol. Chem. 280: 33178-33189.
3. Li, X., et al. 2006. Phosphodiesterase-4 influences the PKA phosphorylation status and membrane translocation of G-protein receptor kinase 2 (GRK2) in HEK-293β2 cells and cardiac myocytes. Biochem. J. 394: 427-435.
4. Gao, S., et al. 2014. Probing the stoichiometry of β_2-adrenergic receptor phosphorylation by targeted mass spectrometry. J. Mol. Signal. 9: 3.

RESEARCH USE

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