

β_3 -AR (M-20): sc-1473

BACKGROUND

β_3 -adrenergic receptors (β_3 -ARs) bind catecholamines (epinephrine, norepinephrine), and primarily regulate lipolysis and thermogenesis in adipose. β_3 -ARs are present in adipose tissues, heart, and in smooth muscle of bladder, colon, small intestine, and stomach. The human corpus cavernosum exhibits basal β_3 -AR-mediated vasorelaxant tone and activity is linked to inhibition of the RhoA/Rho-kinase pathway. β_3 -AR interacts directly with the SH3 domain of Src through proline-rich motifs (PXXP) in the third intracellular loop and the carboxyl terminus.

REFERENCES

- Danforth, E., Jr., et al. 1997. Obesity and diabetes and the β_3 adrenergic receptor. *Eur. J. Endocrinol.* 136: 362-365.
- Gros, J., et al. 1999. Expression of human β_3 adrenergic receptor induces adipocyte-like features in CHO/K1 fibroblasts. *J. Cell. Sci.* 112: 3791-3797.
- Cao, W., et al. 2000. Direct binding of activated c-Src to the β_3 -adrenergic receptor is required for MAP kinase activation. *J. Biol. Chem.* 275: 38131-38134.
- Dixon, T.M., et al. 2001. CCAAT/enhancer-binding protein α is required for transcription of the β_3 adrenergic receptor gene during adipogenesis. *J. Biol. Chem.* 276: 722-728.
- Steinle, J.J., et al. 2003. β_3 -adrenergic receptors regulate retinal endothelial cell migration and proliferation. *J. Biol. Chem.* 278: 20681-6.
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- Hao, K., et al. 2004. β_3 adrenergic receptor polymorphism and obesity-related phenotypes in hypertensive patients. *Obes. Res.* 12: 125-30.
- LocusLink Report: <http://www.ncbi.nlm.nih.gov/LocusLink/> (LocusID: 155)

CHROMOSOMAL LOCATION

Genetic locus: *Adrb3* (mouse) mapping to 8 A2.

SOURCE

β_3 -AR (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of β_3 -AR of mouse 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-1473 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.

APPLICATIONS

β_3 -AR (M-20) is recommended for detection of β_3 -adrenergic receptor of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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_3 -AR siRNA (m): sc-39869, β_3 -AR shRNA Plasmid (m): sc-39869-SH and β_3 -AR shRNA (m) Lentiviral Particles: sc-39869-V.

Molecular Weight (predicted) of β_3 -AR: 44 kDa.

Molecular Weight (glycosylated) of β_3 -AR: 68 kDa.

SELECT PRODUCT CITATIONS

- Diebold, Y., et al. 2001. Presence of nerves and their receptors in mouse and human conjunctival goblet cells. *Invest. Ophthalmol. Vis. Sci.* 42: 2270-2282.
- Dincer, U.D., et al. 2001. The effect of diabetes on expression of β_1 -, β_2 -, and β_3 -adrenoreceptors in rat hearts. *Diabetes* 50: 455-461.
- Rautureau, Y., et al. 2002. β_3 -adrenoceptor in rat aorta: molecular and biochemical characterization and signalling pathway. *Br. J. Pharmacol.* 137: 153-161.
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- Dallner, O.S., et al. 2006. β_3 -adrenergic receptors stimulate glucose uptake in brown adipocytes by two mechanisms independently of glucose transporter 4 translocation. *Endocrinology* 147: 5730-5739.
- Oliver, E., et al. 2009. The impact of α_1 -adrenoceptors upregulation accompanied by the impairment of β -adrenergic vasodilatation in hypertension. *J. Pharmacol. Exp. Ther.* 328: 982-990.

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.