SANTA CRUZ BIOTECHNOLOGY, INC.

β_3-AR (M-20): sc-1473

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

β_3-adrenergic receptors (β_3-ARs) bind cathecholamines (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

1. Danforth, E., Jr., et al. 1997. Obesity and diabetes and the β_3 adrenergic receptor. Eur. J. Endocrinol. 136: 362-365.
2. 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.

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 µg 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 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β_3-AR (M-20) is recommended for detection of β_3-AR of mouse and rat 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 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 of β_3-AR: 44 kDa.

Molecular Weight of glycosylated β_3-AR: 68 kDa.

Positive Controls: rat brain extract: sc-2392.

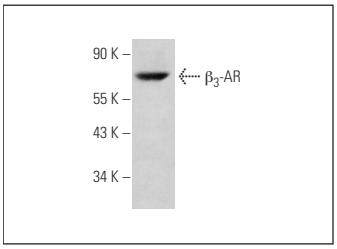
STORAGE

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.

DATA



β_3-AR (M-20): sc-1473. Western blot analysis of β_3-AR expression in rat brain tissue extract.

SELECT PRODUCT CITATIONS

1. 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.
2. 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.
3. Vasina, V., et al. 2008. The β_3-adrenoceptor agonist SR58611A ameliorates experimental colitis in rats. Neurogastroenterol. Motil. 20: 1030-1041.
4. 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.
5. Arruda, A.P., et al. 2010. Hypothalamic actions of tumor necrosis factor α provide the thermogenic core for the wastage syndrome in cachexia. Endocrinology 151: 683-694.
6. Mattsson, C.L., et al. 2010. Caveolin-1-ablated mice survive in cold by nonshivering thermogenesis despite desensitized adrenergic responsiveness. Am. J. Physiol. Endocrinol. Metab. 299: E374-E383.
7. Füllhase, C., et al. 2011. β_3-adrenoceptors in the rat sacral spinal cord and their functional relevance in micturition under normal conditions and in a model of partial urethral obstruction. Neurourol. Urodyn. 30: 1382-1387.
8. Zhou, L., et al. 2011. Altered circadian rhythm of cardiac β_3-adrenoceptor activity following myocardial infarction in the rat. Basic Res. Cardiol. 106: 37-50.
9. Estrany, M.E., et al. 2011. Isocaloric intake of a high-fat diet modifies adiposity and lipid handling in a sex dependent manner in rats. Lipids Health Dis. 10: 52.