SANTA CRUZ BIOTECHNOLOGY, INC.

β_3-AR (C-5): sc-515763

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 carboxy-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 (C-5) is a mouse monoclonal antibody raised against amino acids 351-400 mapping within a C-terminal cytoplasmic domain of β_3-AR of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β_3-AR (C-5) is available conjugated to agarose (sc-515763 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515763 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515763 PE), fluorescein (sc-515763 FITC), Alexa Fluor® 488 (sc-515763 AF488), Alexa Fluor® 546 (sc-515763 AF546), Alexa Fluor® 594 (sc-515763 AF594) or Alexa Fluor® 647 (sc-515763 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515763 AF680) or Alexa Fluor® 790 (sc-515763 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

β_3-AR (C-5) is recommended for detection of β_3-AR of mouse and rat origin by Western Blotting (starting dilution 1:100, 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.

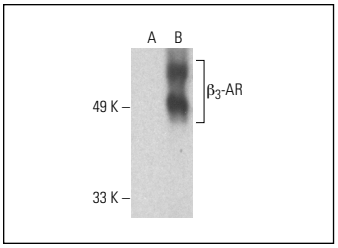
Molecular Weight of glycosylated β_3-AR: 68 kDa.

Positive Controls: mouse adipose tissue extract: sc-395042.

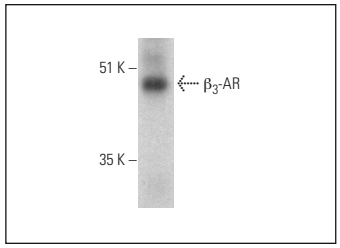
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



β_3-AR (C-5): sc-515763. Western blot analysis of β_3-AR expression in non-transfected (**A**) and mouse β_3-AR transfected (**B**) 293T whole cell lysates.



β_3-AR (C-5): sc-515763. Western blot analysis of β_3-AR expression in mouse adipose tissue extract.

SELECT PRODUCT CITATIONS

1. Hong, S., et al. 2018. Phosphorylation of β_3 adrenergic receptor at serine 247 by ERK MAP kinase drives lipolysis in obese adipocytes. Mol. Metab. 12: 25-38.
2. Grzelka, K., et al. 2019. Effects of β_3-adrenergic receptor stimulation on the resting holding current of medial prefrontal cortex pyramidal neurons in young rats. Neurosci. Lett. 698: 192-197.
3. Fang, D., et al. 2019. The glycoprotein follistatin-like 1 promotes brown adipose thermogenesis. Metab. Clin. Exp. 98: 16-26.
4. Wang, Z., et al. 2020. The protective effects of the β_3 adrenergic receptor agonist BRL37344 against liver steatosis and inflammation in a rat model of high-fat diet-induced nonalcoholic fatty liver disease (NAFLD). Mol. Med. 26: 54.
5. Gencarelli, M., et al. 2020. 3-iodothyronamine affects thermogenic substrates' mobilization in brown adipocytes. Biology 9: 95.

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.