

# $\beta_1$ -AR (A-20): sc-567

## BACKGROUND

$\beta_1$  adrenergic receptors (AR) bind catecholamines (epinephrine, norepinephrine), and influence development, behavior, cardiac function, smooth muscle tone, and metabolism.  $\beta_1$ -ARs are present in the heart, juxtaglomerular cells, and in the central and peripheral nervous systems.

## REFERENCES

- Lavoie, C., et al. 2002.  $\beta_1/\beta_2$ -adrenergic receptor heterodimerization regulates  $\beta_2$ -adrenergic receptor internalization and ERK signaling efficacy. *J. Biol. Chem.* 277: 35402-35410.
- Wenzel-Seifert, K., et al. 2002. Similarities and differences in the coupling of human  $\beta_1$ - and  $\beta_2$ -adrenoceptors to  $G_{s\alpha}$  splice variants. *Biochem. Pharmacol.* 64: 9-20.

## CHROMOSOMAL LOCATION

Genetic locus: ADRB1 (human) mapping to 10q25.3.

## SOURCE

$\beta_1$ -AR (A-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of  $\beta_1$ -AR of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-567 P, (100  $\mu$ 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

$\beta_1$ -AR (A-20) is recommended for detection of  $\beta_1$ -adrenergic receptor of human 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  $\beta_1$ -AR siRNA (h): sc-29580,  $\beta_1$ -AR shRNA Plasmid (h): sc-29580-SH and  $\beta_1$ -AR shRNA (h) Lentiviral Particles: sc-29580-V.

Molecular Weight of  $\beta_1$ -AR: 65 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, Hep G2 cell lysate: sc-2227 or A-431 whole cell lysate: sc-2201.

## 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 A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) 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

- Steinle, J.J., et al. 2003.  $\beta_3$ -adrenergic receptors regulate retinal endothelial cell migration and proliferation. *J. Biol. Chem.* 278: 20681-20686.
- Lin, H.C., et al. 2003. Slowing of intestinal transit by fat or peptide YY depends on  $\beta$ -adrenergic pathway. *Am. J. Physiol. Gastrointest. Liver Physiol.* 285: 1310-1316.
- Enriquez de Salamanca, A., et al. 2005. Expression of muscarinic and adrenergic receptors in normal human conjunctival epithelium. *Invest. Ophthalmol. Vis. Sci.* 46: 504-513.
- Christ, M., et al. 2005. Enhancement of  $\beta$ -adrenergic cAMP-signaling by the mineralocorticoid receptor. *Mol. Cell. Endocrinol.* 231: 23-31.
- Gardner, L.A., et al. 2006. AKAP 79-mediated targeting of the cyclic AMP-dependent protein kinase to the  $\beta_1$ -adrenergic receptor promotes recycling and functional resensitization of the receptor. *J. Biol. Chem.* 281: 33537-33553.
- Melling, C.W., et al. 2007. Exercise-mediated regulation of Hsp 70 expression following aerobic exercise training. *Am. J. Physiol. Heart Circ. Physiol.* 293: H3692-H3698.
- Limberg, B.J., et al. 2010.  $\beta$ -adrenergic receptor subtype expression in myocyte and non-myocyte cells in human female bladder. *Cell Tissue Res.* 342: 295-306.
- Cao, D.X., et al. 2010. Role of  $\beta_1$ -adrenoceptor in increased lipolysis in cancer cachexia. *Cancer Sci.* 101: 1639-1645.
- Gabillard, J.C., et al. 2010. *In vitro* characterization of proliferation and differentiation of trout satellite cells. *Cell Tissue Res.* 342: 471-477.
- Davis, H., et al. 2012. Small molecule induction of human umbilical stem cells into MBP-positive oligodendrocytes in a defined three-dimensional environment. *ACS Chem Neurosci.* 3: 31-39.
- Eng, J.W., et al. 2015. Housing temperature-induced stress drives therapeutic resistance in murine tumour models through  $\beta_2$ -adrenergic receptor activation. *Nat. Commun.* 6: 6426.

## RESEARCH USE

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