

β_2 -AR (M-20): sc-570

BACKGROUND

Adrenergic receptors (ARs) (the term "adrenergic" reflects the alternative name for epinephrine, adrenaline) include four general types (α_1 , α_2 , β_1 and β_2) which are found in different target tissues and differ in their affinities and responses to various agonists and antagonists. cDNA clones have been isolated for all of the major AR subtypes and a number of closely related receptors have been identified by this approach. Each of the receptors have been shown to consist of single polypeptide chains which transverse the plasma membrane seven times, presumably forming a bundle of helices within the membrane. These transmembrane regions are hydrophobic and are interconnected by extracellular and intracellular hydrophilic loops. The coupling of ARs to specific intracellular effectors is mediated through diverse heterotrimeric G proteins and is regulated by G protein-coupled receptor kinases (GRKs), cAMP-dependent protein kinase A and protein kinase C directed phosphorylation. β_2 -adrenergic receptors bind catecholamines (epinephrine, norepinephrine) and influence development, behavior, cardiac function, smooth muscle tone, and metabolism. β_2 -AR signaling complexes can contain C L-type calcium channel Ca(V)1.2, G protein, adenylyl cyclase, cAMP-dependent kinase, and PP2A phosphatase.

CHROMOSOMAL LOCATION

Genetic locus: ADRB2 (human) mapping to 5q32; ADRB2 (mouse) mapping to 18 E1.

SOURCE

β_2 -AR (M-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of β_2 -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-570 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β_2 -AR (M-20) is recommended for detection of β_2 adrenergic receptor of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

β_2 -AR (M-20) is also recommended for detection of β_2 adrenergic receptor 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 siRNA (m): sc-39867, β_2 -AR shRNA Plasmid (h): sc-39866-SH, β_2 -AR shRNA Plasmid (m): sc-39867-SH, β_2 -AR shRNA (h) Lentiviral Particles: sc-39866-V and β_2 -AR shRNA (m) Lentiviral Particles: sc-39867-V.

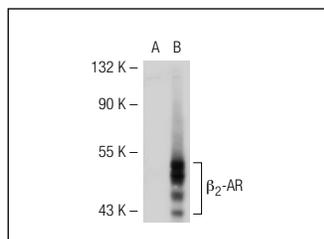
Molecular Weight of β_2 -AR: 56-85 kDa.

Positive Controls: β_2 -AR (h): 293T Lysate: sc-112395.

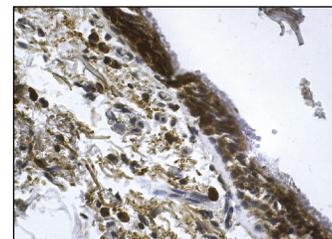
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



β_2 -AR (M-20): sc-570. Western blot analysis of β_2 -AR expression in non-transfected: sc-117752 (A) and human β_2 -AR transfected: sc-112395 (B) 293T whole cell lysates.



β_2 -AR (M-20): sc-570. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic staining of respiratory epithelial cells.

SELECT PRODUCT CITATIONS

- Sanders, V.M., et al. 1997. Differential expression of the β_2 -adrenergic receptor by Th1 and Th2 clones. Implications for cytokine production and B cell help. *J. Immunol.* 158: 4200-4210.
- Shi, J., et al. 2008. Disruption of ROCK1 gene attenuates cardiac dilation and improves contractile function in pathological cardiac hypertrophy. *J. Mol. Cell. Cardiol.* 44: 551-560.
- Ufer, C. and Germack, R. 2009. Cross-regulation between β_1 - and β_3 -adrenoceptors following chronic β -adrenergic stimulation in neonatal rat cardiomyocytes. *Br. J. Pharmacol.* 158: 300-313.
- Zhang, X.H., et al. 2010. Expression and activation of β -adrenoceptors in the colorectal mucosa of rat and human. *Neurogastroenterol. Motil.* 22: e325-e334.
- Hara, M.R., et al. 2011. A stress response pathway regulates DNA damage through β_2 -adrenoceptors and β -arrestin-1. *Nature* 477: 349-353.
- Wu, K.I. and Schmid-Schönbein, G.W. 2011. Nuclear factor κ B and matrix metalloproteinase induced receptor cleavage in the spontaneously hypertensive rat. *Hypertension* 57: 261-268.
- Gray, N.E., et al. 2012. Angiotensin-like 4 (Angptl4) protein is a physiological mediator of intracellular lipolysis in murine adipocytes. *J. Biol. Chem.* 287: 8444-8456.

RESEARCH USE

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



Try β_2 -AR (E-3): sc-271322 or β_2 -AR (R11E1): sc-81577, our highly recommended monoclonal alternatives to β_2 -AR (M-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see β_2 -AR (E-3): sc-271322.