abcam

ab125150

Anti-beta 2 Adrenergic Receptor antibody [6H8]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Constituents: PBS, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human ADRB2. The exact immunogen used to generate this antibody is proprietary information. Database link P07550
Clone number	6H8
Purification technique	Affinity purification Protein G
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	0.1-1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat, Guinea pig
Dilution info	-
Notes	-

Target data

See full target information ADRB2

Function	G protein-coupled receptor for catecholamines that couples to both G(s) and G(i) proteins, activating bifurcated signaling pathways (PubMed:2831218, PubMed:7915137). ADRB2 binds epinephrine (Epi) with an approximately 30-fold greater affinity than norepinephrine (NE) (PubMed:2831218, PubMed:33093660, PubMed:7915137). In the heart, Epi- and NE-activated ADRB2 induces rapid and slow cardiomyocyte contraction rate, respectively (By similarity). Both NE and Epi promote coupling to G(s)/PKA pathway to regulate myocyte contraction rate (By similarity). Epi also promotes ADRB2 coupling to G(i) proteins to exert cardioprotective effects especially in the conditions of hypoxia and oxidative stress through the G(i)/PI3K/Akt signaling pathway (By similarity). ADRB2-G(s) signaling delivers proapoptotic signals in cardiomyocytes although G(i)-mediated survival effect appears to predominate (By similarity). ADRB2 also transduces signals independently of PKA to regulate cellular pH by modulating Na(+)/H(+) exchanger SLC9A3 function (PubMed:9560162).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The beta 2 adrenergic receptor (also known as beta-2 adrenergic receptor B2 adrenergic receptor beta-2 receptor) is a transmembrane protein that acts as a receptor for catecholamines like adrenaline and noradrenaline. It belongs to the G protein-coupled receptors (GPCRs) superfamily and is involved in signal

	transduction by activating adenylate cyclase through the Gs protein. The mass of the beta 2 adrenergic receptor is approximately 46 kDa. This receptor is expressed in various tissues including the lungs skeletal muscle liver and smooth muscle.
Biological function summary	The beta 2 adrenergic receptor is important for mediating the physiological responses to adrenaline and noradrenaline. It plays a significant role in bronchodilation and vasodilation by relaxing airway and vascular smooth muscles. While it does not form a part of any complex its signaling initiates a cascade of intracellular events leading to changes in cellular function. This receptor ensures tissue responsiveness to catecholamines influencing cardiac output metabolic rate and smooth muscle relaxation.
Pathways	This receptor is an important component of the adrenergic signaling pathway and is closely associated with the cAMP-dependent signaling pathway. The activation of the beta 2 adrenergic receptor increases intracellular cAMP levels resulting in the activation of protein kinase A (PKA) and subsequent phosphorylation of various target proteins. The receptor interacts with other proteins within these pathways such as adenylate cyclase and PKA ensuring the propagation of downstream signaling that modulates cellular responses.
Associated diseases and disorders	The beta 2 adrenergic receptor has a notable connection to asthma and chronic obstructive pulmonary disease (COPD). Its role in bronchodilation makes it a therapeutic target for managing these respiratory conditions. Alterations in the function or expression of the beta 2 adrenergic receptor can exacerbate these diseases. Additionally these disorders demonstrate a link with the muscarinic acetylcholine receptors which also affect airway tone regulation. Understanding the interactions between these receptors is essential for developing therapeutic strategies for respiratory diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

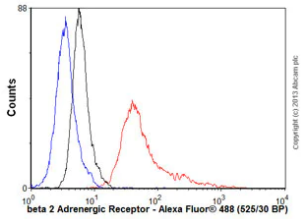
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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1 product image



Flow Cytometry - Anti-beta 2 Adrenergic Receptor antibody [6H8] (ab125150)

Beta 2 Adrenergic Receptor Flow Cytometry staining using mouse Anti-beta 2 Adrenergic Receptor antibody

Overlay histogram showing SHSY-5Y cells stained with ab125150 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab125150, 0.1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H&L) (ab150113) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive result in 4% paraformaldehyde (10 min) fixed SHSY-5Y cells used under the same conditions. Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.

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