Function

Beta-adrenergic receptors mediate the catecholamine-induced activation of adenylate cyclase through the action of G proteins. The beta-2-adrenergic receptor binds epinephrine with an approximately 30-fold greater affinity than it does norepinephrine.

Sequence similarities

Belongs to the G-protein coupled receptor 1 family. Adrenergic receptor subfamily. ADRB2 sub-subfamily.

Post-translational modifications

Palmitoylated; may reduce accessibility of Ser-345 and Ser-346 by anchoring Cys-341 to the plasma membrane. Agonist stimulation promotes depalmitoylation and further allows Ser-345 and Ser-346 phosphorylation.
Phosphorylated by PKA and BARK upon agonist stimulation, which mediates homologous desensitization of the receptor. PKA-mediated phosphorylation seems to facilitate phosphorylation by BARK. Phosphorylated upon DNA damage, probably by ATM or ATR. Phosphorylation of Tyr-141 is induced by insulin and leads to supersensitization of the receptor. Ubiquitinated. Agonist-induced ubiquitination leads to sort internalized receptors to the lysosomes for degradation. Deubiquitination by USP20 and USP33, leads to ADRB2 recycling and resensitization after prolonged agonist stimulation. USP20 and USP33 are constitutively associated and are dissociated immediately after agonist stimulation.

**Cellular localization**

Cell membrane.

**Anti-beta 2 Adrenergic Receptor antibody [EPR707(N)] images**

*Immunoprecipitation - Anti-beta 2 Adrenergic Receptor [EPR707(N)] antibody (ab182136)*

Western blot analysis of immunoprecipitation pellet from HeLa cell lysate (+) or a negative control (-) immunoprecipitated using ab182136 at 1/30 dilution. Secondary Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1500 dilution.

*Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta 2 Adrenergic Receptor [EPR707(N)] antibody (ab182136)*

Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling beta 2 Adrenergic Receptor with ab182136 at 1/250 dilution followed by pre-diluted HRP-conjugated secondary antibody and counter-stained with Hematoxylin.
Immunohistochemical analysis of paraffin-embedded
Human endometrial adenocarcinoma tissue labeling
beta 2 Adrenergic Receptor with ab182136 at 1/250
dilution followed by pre-diluted HRP-conjugated
secondary antibody and counter-stained with
Hematoxylin.

Western blot - Anti-beta 2 Adrenergic Receptor
[EPR707(N)] antibody (ab182136)

Anti-beta 2 Adrenergic Receptor antibody [EPR707(N)]
(ab182136) at 1/5000 dilution + A431 cell lysate at 10 µg

Secondary
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at
1/1000 dilution

Predicted band size : 46 kDa

All lanes : Anti-beta 2 Adrenergic Receptor antibody
[EPR707(N)] (ab182136) at 1/1000 dilution

Lane 1 : Human fetal liver lysate
Lane 2 : Human skeletal muscle lysate

Lysates/proteins at 20 µg per lane.

Secondary
Goat Anti-Rabbit IgG H&L (HRP) (ab136636) at 1/500
dilution

Predicted band size : 46 kDa

Please note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"
Product Datasheet

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit http://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors