

# β2-Adrenergic Receptor (D6H2) Rabbit mAb



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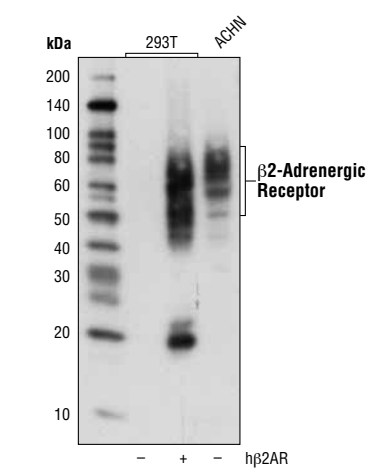
Applications W Endogenous	Species Cross-Reactivity* H	Molecular Wt. 50-100 kDa	Isotype Rabbit IgG**
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**Background:** There are four major Adrenergic Receptor (AR) subtypes ( $\alpha 1$ ,  $\alpha 2$ ,  $\beta 1$ ,  $\beta 2$ ). Each of the subtypes has been classified by their unique responses to agonists and antagonists. Adrenergic receptors belong to the family of guanine nucleotide-binding, regulatory protein-coupled receptors (GPCR) which transverse the plasma membrane seven times. The transmembrane regions are hydrophobic and are interconnected by hydrophilic loops (1).  $\beta 2$ AR is the most studied receptor of the catecholamine system.  $\beta 2$ AR stimulation occurs through the catecholamines epinephrine (adrenaline) and norepinephrine (noradrenaline) acting as neuromodulators in the central nervous system and as hormones in the vascular system.  $\beta 2$ AR activation results in coupling to heterotrimeric G proteins and activation of the second messengers cAMP and phosphatidylinositol, ultimately leading to changes in cellular physiology. GPCR kinases (GRKs) terminate  $\beta 2$ AR signaling through phosphorylation of the GPCR and by recruiting  $\beta$ -arrestin.  $\beta$ -arrestin binding uncouples the receptor from the G protein, thereby terminating G protein-mediated signaling (desensitization), and initiating clathrin-mediated endocytosis (internalization) of  $\beta 2$ AR (2).  $\beta$ -adrenergic blocking agents (beta blockers) are drugs that block catecholamines from binding to  $\beta$ AR and are prescribed for cardiac arrhythmias, cardioprotection after myocardial infarction (heart attack), and hypertension (3).

**Specificity/Sensitivity:**  $\beta 2$ -Adrenergic Receptor (D6H2) Rabbit mAb recognizes endogenous levels of total  $\beta 2$ -adrenergic receptor protein.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human  $\beta 2$ -adrenergic receptor protein.

- Background References:**
- (1) Dohlmán, H.G. et al. (1987) *Biochemistry* 26, 2657-64.
  - (2) Nobles, K.N. et al. (2011) *Sci Signal* 4, ra51.
  - (3) Baker, J.G. et al. (2011) *Trends Pharmacol Sci* 32, 227-34.



Western blot analysis of ACHN cells or 293T cells, either mock transfected (-) or transfected (+) with a cDNA expression construct encoding human  $\beta 2$ -adrenergic receptor (h $\beta 2$ AR), using  $\beta 2$ -Adrenergic Receptor (D6H2) Rabbit mAb.

Entrez-Gene ID #154  
Swiss-Prot Acc. #P07550

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

\*Species cross-reactivity is determined by western blot.

\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**  
Western blotting 1:1000

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

**IMPORTANT:** For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.