

# $\alpha_{1D}$ -AR (Q-12): sc-27100

## BACKGROUND

$\alpha_{1D}$ -adrenergic receptors ( $\alpha_{1D}$ -ARs) couple to  $G_{q/11}$  and participate directly in sympathetic regulation of systemic blood pressure by vasoconstriction.  $\alpha_{1D}$ -AR can form hetero-oligomers with  $\alpha_{1B}$  receptors.  $\alpha_{1D}$ -AR transcripts are abundant in prostate and aorta.  $\alpha_{1A}$  adrenergic receptors ( $\alpha_{1A}$ -ARs) mediate actions in the sympathetic nervous system through the binding of the catecholamines, epinephrine and norepinephrine.  $\alpha_{1A}$ -adrenergic receptors couple to  $G_{q/11}$  and regulate blood pressure due to changes in vascular tone and cardiac output. Alternative splicing of this gene generates four isoforms with distinct C-termini, and the different expression profile of these subtypes produces distinct patterns of activation.  $\alpha_{1A}$ -AR transcripts are abundant in heart, brain, liver, and prostate.  $\alpha_{1A}$ -AR transcript sizes of 6.0, 4.0, 3.0, and 2.0 kb have been detected in liver.  $\alpha_{1A}$ -AR transcript sizes of 6.0, 4.0 and 3.0 kb transcripts have been detected in heart, and 6.0 kb and 4.0 kb transcripts have been detected in prostate.

## REFERENCES

- Hausdorff, W.P., et al. 1990. Two kinases mediate agonist-dependent phosphorylation and desensitization of the  $\beta_2$ -adrenergic receptor. *Symp. Soc. Exp. Biol.* 44: 225-240.
- Cotecchia, S., et al. 1990. Multiple second messenger pathways of  $\alpha$ -adrenergic receptor subtypes expressed in eukaryotic cells. *J. Biol. Chem.* 265: 63-69.
- Bertin, B., et al. 1992. Functional expression of the human serotonin 5-HT<sub>1A</sub> receptor in *Escherichia coli*. Ligand binding properties and interaction with recombinant G protein  $\alpha$ -subunits. *J. Biol. Chem.* 267: 8200-8206.
- Levy, F.O., et al. 1992. Molecular cloning of a human gene (S31) encoding a novel serotonin receptor mediating inhibition of adenylyl cyclase. *FEBS Lett.* 296: 201-206.

## CHROMOSOMAL LOCATION

Genetic locus: ADRA1D (human) mapping to 20p13; Adra1d (mouse) mapping to 2 F1.

## SOURCE

$\alpha_{1D}$ -AR (Q-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of  $\alpha_{1D}$ -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-27100 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.

## APPLICATIONS

$\alpha_{1D}$ -AR (Q-12) is recommended for detection of  $\alpha_{1D}$ -AR of mouse, rat and 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).

$\alpha_{1D}$ -AR (Q-12) is also recommended for detection of  $\alpha_{1D}$ -AR in additional species, including porcine.

Suitable for use as control antibody for  $\alpha_{1D}$ -AR siRNA (h): sc-29620,  $\alpha_{1D}$ -AR siRNA (m): sc-29621,  $\alpha_{1D}$ -AR shRNA Plasmid (h): sc-29620-SH,  $\alpha_{1D}$ -AR shRNA Plasmid (m): sc-29621-SH,  $\alpha_{1D}$ -AR shRNA (h) Lentiviral Particles: sc-29620-V and  $\alpha_{1D}$ -AR shRNA (m) Lentiviral Particles: sc-29621-V.

Molecular Weight (predicted) of  $\alpha_{1D}$ -AR: 60 kDa.

Molecular Weight (observed) of  $\alpha_{1D}$ -AR: 47 kDa.

Positive Controls: A549 cell lysate: sc-2413 or Hep G2 cell lysate: sc-2227.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

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



Try  $\alpha_{1D}$ -AR (F-10): sc-390884 or  $\alpha_{1D}$ -AR (B-6): sc-365559, our highly recommended monoclonal alternatives to  $\alpha_{1D}$ -AR (Q-12).