# SANTA CRUZ BIOTECHNOLOGY, INC.

# α<sub>1D</sub>-AR (B-6): sc-365559



#### BACKGROUND

 $\alpha_{1D}$ -adrenergic receptors ( $\alpha_{1D}$ -ARs) couple to  $G_{n/11}$  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.  $\alpha_{1\Delta}$  adrenergic receptors ( $\alpha_{1\Delta}$ -ARs) mediate actions in the sympathetic nervous system through the binding of the catecholamines, epinephrine and norepinephrine.  $\alpha_{1\Delta}$ -adrenergic receptors couple to  $G_{\alpha/11}$  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.  $\alpha_{1\Delta}$ -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.  $\alpha_{1\Delta}$ -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**

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- 2. Cotecchia, S., et al. 1990. Multiple second messenger pathways of  $\alpha$ -adrenergic receptor subtypes expressed in eukaryotic cells. J. Biol. Chem. 265: 63-69.
- 3. Bertin, B., et al. 1992. Functional expression of the human serotonin 5-HT1A receptor in Escherichia coli. ligand binding properties and interaction with recombinant G protein  $\alpha$ -subunits. J. Biol. Chem. 267: 8200-8206.
- 4. 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.
- 5. Weinberg, D.H., et al. 1994. Cloning, expression and characterization of human a adrenergic receptors  $\alpha$  1a,  $\alpha$  1b and  $\alpha$  1c. Biochem. Biophys. Res. Commun. 201: 1296-1304.
- 6. Barak, L.S., et al. 1995. The conserved seven-transmembrane sequence NP(X)2, 3Y of the G protein-coupled receptor superfamily regulates multiple properties of the  $\beta$ 2-adrenergic receptor. Biochemistry 34: 15407-15414.
- 7. Pandey, S.C., et al. 1995. Phosphoinositide system-linked serotonin receptor subtypes and their pharmacological properties and clinical correlates. J. Psychiatry Neurosci. 20: 215-225.
- 8. Tanoue, A., et al. 2002. The  $\alpha_{1D}$ -adrenergic receptor directly regulates arterial blood pressure via vasoconstriction. J. Clin. Invest. 109: 765-775.

# **CHROMOSOMAL LOCATION**

Genetic locus: ADRA1D (human) mapping to 20p13.

# SOURCE

 $\alpha_{1D}$ -AR (B-6) is a mouse monoclonal antibody raised against amino acids 431-572 mapping at the C-terminus of  $\alpha_{1D}$ -AR of human origin.

# PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

#### **APPLICATIONS**

 $\alpha_{1D}\text{-}\text{AR}$  (B-6) is recommended for detection of  $\alpha_{1D}\text{-}\text{AR}$  of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for  $\alpha_{1D}$ -AR siRNA (h): sc-29620,  $\alpha_{1D}\text{-}AR$  shRNA Plasmid (h): sc-29620-SH and  $\alpha_{1D}\text{-}AR$  shRNA (h) Lentiviral Particles: sc-29620-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, Hep G2 cell lysate: sc-2227 or HL-60 whole cell lysate: sc-2209.

#### **RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG k BP-HRP: sc-516102 or m-lgG k BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGk BP-FITC: sc-516140 or m-IgGk BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



 $\alpha_{1D}$ -AR (B-6): sc-365559. Western blot analysis of \alpha\_1D-AR expression in HL-60 whole cell lysate

#### **STORAGE**

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

#### **RESEARCH USE**

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