

# $\alpha_1A$ -AR (4D8): sc-100291

## BACKGROUND

$\alpha_1A$ -adrenergic receptors ( $\alpha_1A$ -ARs) mediate actions in the sympathetic nervous system through the binding of the catecholamines, epinephrine and norepinephrine.  $\alpha_1A$ -AR (previously designated  $\alpha_{1C}$ -AR) couples to  $G_{q/11}$  and regulates blood pressure due to changes in vascular tone and cardiac output. Alternative splicing of the ADRA1A 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. Transcripts of 6.0, 4.0 and 3.0 kb have been detected in heart, and transcripts of 6.0 and 4.0 kb have been detected in prostate.

## CHROMOSOMAL LOCATION

Genetic locus: ADRA1A (human) mapping to 8p21.2; Adra1a (mouse) mapping to 14 D1.

## SOURCE

$\alpha_1A$ -AR (4D8) is a mouse monoclonal antibody raised against amino acids 1-28 of  $\alpha_1A$ -AR of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG $\gamma_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

$\alpha_1A$ -AR (4D8) is recommended for detection of  $\alpha_1A$ -AR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for  $\alpha_1A$ -AR siRNA (h): sc-39858,  $\alpha_1A$ -AR siRNA (m): sc-39859,  $\alpha_1A$ -AR shRNA Plasmid (h): sc-39858-SH,  $\alpha_1A$ -AR shRNA Plasmid (m): sc-39859-SH,  $\alpha_1A$ -AR shRNA (h) Lentiviral Particles: sc-39858-V and  $\alpha_1A$ -AR shRNA (m) Lentiviral Particles: sc-39859-V.

Molecular Weight of  $\alpha_1A$ -AR: 52 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, PC-3 cell lysate: sc-2220 or Hep G2 cell lysate: sc-2227.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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).

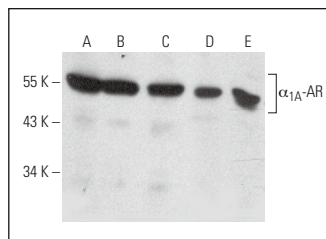
## STORAGE

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.

## DATA



$\alpha_1A$ -AR (4D8): sc-100291. Western blot analysis of  $\alpha_1A$ -AR expression in HL-60 (A), PC-3 (B) and Hep G2 (C) whole cell lysates and mouse brain (D) and rat brain (E) tissue extracts.

## SELECT PRODUCT CITATIONS

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- Mendes, L.V.P., et al. 2017. Long-term effect of a chronic low-protein multid deficient diet on the heart: hypertension and heart failure in chronically malnourished young adult rats. *Int. J. Cardiol.* 238: 43-56.
- Walther, S., et al. 2018. Adreno-muscarinic synergy in the male human urinary outflow tract. *Neurourol. Urodyn.* 37: 2128-2134.
- He, W., et al. 2020. Alterations in the phosphodiesterase type 5 pathway and oxidative stress correlate with erectile function in spontaneously hypertensive rats. *J. Cell. Mol. Med.* 24: 14280-14292.
- Kitano, T., et al. 2021. Opposing functions of  $\alpha$ - and  $\beta$ -adrenoceptors in the formation of processes by cultured astrocytes. *J. Pharmacol. Sci.* 145: 228-240.

## PROTOCOLS

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