SANTA CRUZ BIOTECHNOLOGY, INC.

α_{1D}-AR (R-20): sc-1475

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

α_{1D}-adrenergic receptors (α_{1D}-ARs) couple to $G_{q/11}$ and participate directly in sympathetic regulation of systemic blood pressure by vasoconstriction. α_{1D}-AR can form hetero-oligomers with α_{1B} receptors. α_{1D}-AR transcripts are abundant in prostate and aorta. α_{1A} adrenergic receptors (α_{1A}-ARs) mediate actions in the sympathetic nervous system through the binding of the catecholamines, epinephrine and norepinephrine. α_{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. α_{1A}-AR transcripts are abundant in heart, brain, liver, and prostate. α_{1A}-AR transcript sizes of 6.0, 4.0, 3.0, and 2.0 kb have been detected in liver. α_{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.

CHROMOSOMAL LOCATION

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

SOURCE

α_{1D}-AR (R-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of α_{1D}-AR of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1475 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

α_{1D}-AR (R-20) is recommended for detection of α_{1D}-AR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 α_{1D}-AR siRNA (h): sc-29620, α_{1D}-AR siRNA (m): sc-29621, α_{1D}-AR shRNA Plasmid (h): sc-29620-SH, α_{1D}-AR shRNA Plasmid (m): sc-29621-SH, α_{1D}-AR shRNA (h) Lentiviral Particles: sc-29620-V and α_{1D}-AR shRNA (m) Lentiviral Particles: sc-29621-V.

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

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

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

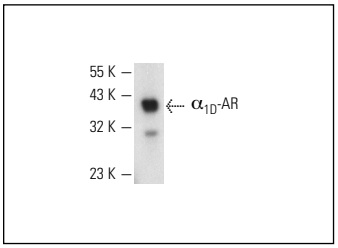
STORAGE

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

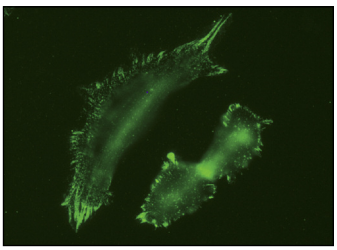
RESEARCH USE

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

DATA



α_{1D}-AR (R-20): sc-1475. Western blot analysis of human recombinant α_{1D}-AR.



α_{1D}-AR (R-20): sc-1475. Immunofluorescence staining of methanol-fixed A-10 cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Walden, P., et al. 1999. Localization and expression of the α_{1A-1}, α_{1B} and α_{1D}-adrenoceptors in hyperplastic and non-hyperplastic human prostate. J. Urol. 161: 635-640.
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3. Hrometz, S.L., et al. 1999. Expression of multiple α_1-adrenoceptors on vascular smooth muscle: correlation with the regulation of contraction. J. Pharmacol. Exp. Ther. 290: 452-463.
4. O-Uchi, J., et al. 2008. Interaction of α_1-adrenoceptor subtypes with different G proteins induces opposite effects on cardiac L-type Ca^{2+} channel. Circ. Res. 102: 1378-1388.
5. Morris, D.P., et al. 2008. The α_{1A}-adrenergic receptor occupies membrane rafts with its G protein effectors but internalizes via clathrin-coated pits. J. Biol. Chem. 283: 2973-2985.
6. Oliver, E., et al. 2009. The impact of α_1-adrenoceptors up-regulation accompanied by the impairment of β-adrenergic vasodilatation in hypertension. J. Pharmacol. Exp. Ther. 328: 982-990.
7. Al-Salihi, M.A., et al. 2009. Transgenic expression of cyclooxygenase-2 in mouse intestine epithelium is insufficient to initiate tumorigenesis but promotes tumor progression. Cancer Lett. 273: 225-232.
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