SANTA CRUZ BIOTECHNOLOGY, INC.

α_{1D}-AR (F-10): sc-390884

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 the 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 (F-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 542-561 at the C-terminus of α_{1D}-AR of rat origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390884 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

α_{1D}-AR (F-10) is recommended for detection of α_{1D}-AR of mouse, rat and 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 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.

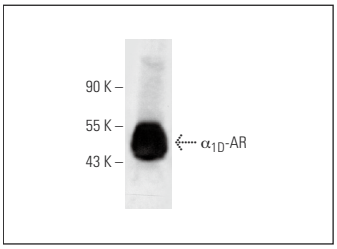
Molecular Weight (observed) of α_{1D}-AR: 47 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or C3H/10T1/2 cell lysate: sc-3801.

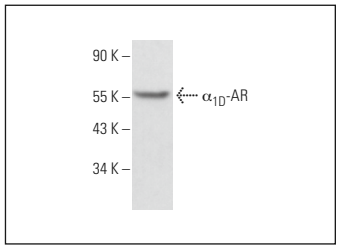
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



α_{1D}-AR (F-10): sc-390884. Western blot analysis of α_{1D}-AR expression in HL-60 whole cell lysate.



α_{1D}-AR (F-10): sc-390884. Western blot analysis of α_{1D}-AR expression in C3H/10T1/2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Higashi, Y., et al. 2018. Stimulation of brain nicotinic acetylcholine receptors activates adrenomedullary outflow via brain inducible NO synthase-mediated S-nitrosylation. Br. J. Pharmacol. 175: 3758-3772.
2. Qin, X., et al. 2019. Discovery of environment-sensitive fluorescent agonists for α_1-adrenergic receptors. Anal. Chem. 91: 12173-12180.
3. Li, Z., et al. 2020. First small-molecule PROTACs for G protein-coupled receptors: inducing α_{1A}-adrenergic receptor degradation. Acta Pharm. Sin. B 10: 1669-1679.
4. Qin, X., et al. 2021. Photoinduced electron transfer-based fluorescent agonists for α_1-adrenergic receptors imaging. Anal. Chem. 93: 6034-6042.
5. Kitano, T., et al. 2021. Opposing functions of α- and β-adrenoceptors in the formation of processes by cultured astrocytes. J. Pharmacol. Sci. 145: 228-240.
6. Chechekhin, V., et al. 2023. α_{1A}- and β_3-adrenoceptors interplay in adipose multipotent mesenchymal stromal cells: a novel mechanism of obesity-driven hypertension. Cells 12: 585.
7. Yamakawa, W., et al. 2024. Suppression of neuropathic pain in the circadian clock-deficient Per2m/m mice involves up-regulation of endocannabinoid system. PNAS Nexus 3: pgad482.

STORAGE

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