SANTA CRUZ BIOTECHNOLOGY, INC.

Adenosine A3-R (R-18)-R: sc-7510-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Adenosine is involved in a variety of processes, including the synthesis of urea, the anti-inflammatory response and the inhibition of protein synthesis. The adenosine receptors, including adenosine A1-R, adenosine A2A-R, adenosine A2B-R and adenosine A3-R, are integral membrane proteins that are members of the G protein-coupled receptor family. The A1-R protein mediates ureagenesis in a partially calcium-dependent manner. Adenosine is known to mediate coronary vasodilation via the A2A-R receptor. Collagen synthesis and total protein synthesis are inhibited in certain cells by adenosine, acting via the A2B receptors. Activation of the A3-R receptor inhibits the induction of the cytokine TNFα and blocks the endotoxin CD14 receptor signal transduction pathway.

REFERENCES

1. Mahan, L.C., et al. 1991. Cloning and expression of an A1 adenosine receptor from rat brain. Mol. Pharmacol. 40: 1-7.
2. Furlong, T.J., et al. 1992. Molecular characterization of a human brain adenosine A2 receptor. Brain Res. Mol. Brain Res. 15: 62-66.
3. Pierce, K.D., et al. 1992. Molecular cloning and expression of an adenosine A2B receptor from human brain. Biochem. Biophys. Res. Comm. 187: 86-93.
4. Salvatore, C.A., et al. 1993. Molecular cloning and characterization of the human A3 adenosine receptor. Proc. Natl. Acad. Sci. USA 90: 10365-10369.
5. McWhinney, C.D., et al. 1996. Activaton of adenosine A3 receptors on macrophages inhibits tumor necrosis factor α. Eur. J. Pharmacol. 310: 209-216.
6. Guinzberg, R., et al. 1997. Ca^{2+} dependence of the response of three adenosine type receptors in rat hepatocytes. Eur. J. Pharmacol. 340: 243-247.

CHROMOSOMAL LOCATION

Genetic locus: ADORA3 (human) mapping to 1p13.2; Adora3 (mouse) mapping to 3 F2.2.

SOURCE

Adenosine A3-R (R-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Adenosine A3-R 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-7510 P, (100 µg 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.

RESEARCH USE

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

APPLICATIONS

Adenosine A3-R (R-18) is recommended for detection of Adenosine A3-R 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 Adenosine A3-R siRNA (h): sc-39854, Adenosine A3-R siRNA (m): sc-39855, Adenosine A3-R shRNA Plasmid (h): sc-39854-SH, Adenosine A3-R shRNA Plasmid (m): sc-39855-SH, Adenosine A3-R shRNA (h) Lentiviral Particles: sc-39854-V and Adenosine A3-R shRNA (m) Lentiviral Particles: sc-39855-V.

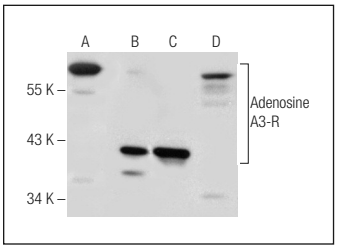
Molecular Weight of Adenosine A3-R: 44/52/66 kDa.

Positive Controls: T98G cell lysate: sc-2294, NTERA-2 cl.D1 whole cell lysate: sc-364181 or rat cerebellum extract: sc-2398.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Adenosine A3-R (R-18)-R: sc-7510-R. Western blot analysis of Adenosine A3-R expression in T98G (**A**), NTERA-2 cl.D1 (**B**) and Hep G2 (**C**) whole cell lysates and rat cerebellum tissue extract (**D**).

SELECT PRODUCT CITATIONS

1. Rieber, M. and Rieber, M.S. 2006. Signalling responses linked to betulinic acid-induced apoptosis are antagonized by MEK inhibitor U0126 in adherent or 3D spheroid melanoma irrespective of p53 status. Int. J. Cancer 118: 1135-1143.
2. Ren, T., et al. 2011. Impact of disrupting adenosine A_3 receptors ($A_3^{-/-}$ AR) on colonic motility or progression of colitis in the mouse. Inflamm. Bowel Dis. 17: 1698-1713.