SANTA CRUZ BIOTECHNOLOGY, INC.

Adenosine A2A-R (R-18): sc-7504

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 A_1-R, adenosine A_{2A}-R, adenosine A_{2B}-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 A_{2A}-R receptor. Collagen synthasis and total protein synthesis are inhibited in certain cells by adenosine, acting via the A_{2B} receptors. Activation of the A_3-R receptor inhibits the induction of the cytokine TNFα and blocks the endotoxin CD14 receptor signal transduction pathway.

CHROMOSOMAL LOCATION

Genetic locus: Adora2a (mouse) mapping to 10 C1.

SOURCE

Adenosine A_{2A}-R (R-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Adenosine A_{2A}-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-7504 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Adenosine A_{2A}-R (R-18) is recommended for detection of Adenosine A_{2A}-R of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 A_{2A}-R siRNA (m): sc-39851, Adenosine A_{2A}-R shRNA Plasmid (m): sc-39851-SH and Adenosine A_{2A}-R shRNA (m) Lentiviral Particles: sc-39851-V.

Molecular Weight of Adenosine A_{2A}-R: 45 kDa.

Positive Controls: mouse brain extract: sc-2253.

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) 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.

SELECT PRODUCT CITATIONS

1. Leibovich, S.J., et al. 2002. Synergistic upregulation of vascular endothelial growth factor expression in murine macrophages by Adenosine A_{2A} receptor agonists and endotoxin. Am. J. Pathol. 160: 2231-2244.
2. Rebola, N., et al. 2002. Transducing system operated by Adenosine A_{2A} receptors to facilitate acetylcholine release in the rat hippocampus. Eur. J. Pharmacol. 454: 31-38.
3. Blum, D., et al. 2002. Striatal and cortical neurochemical changes induced by chronic metabolic compromise in the 3-nitropropionic model of Huntington's disease. Neurobiol. Dis. 10: 410-426.
4. Lopes, L.V., et al. 2004. Binding of the prototypical Adenosine A_{2A} receptor agonist CGS 21680 to the cerebral cortex of Adenosine A_1 and A_{2A} receptor knockout mice. Br. J. Pharmacol. 141: 1006-1014.
5. Pawelczyk, T., et al. 2005. Region-specific alterations of adenosine receptors expression level in kidney of diabetic rat. Am. J. Pathol. 167: 315-325.
6. Grden, M., et al. 2005. Altered expression of adenosine receptors in heart of diabetic rat. J. Physiol. Pharmacol. 56: 587-597.
7. Grden, M., et al. 2007. Diabetes-induced alterations of adenosine receptors expression level in rat liver. Exp. Mol. Pathol. 83: 392-398.
8. Tudurí, E., et al. 2008. Inhibition of Ca^{2+} signaling and Glucagon secretion in mouse pancreatic α-cells by extracellular ATP and purinergic receptors. Am. J. Physiol. Endocrinol. Metab. 294: E952-E960.
9. Carlsson, S.K., et al. 2010. Adenosine A_2 receptor presence and synergy with cholinergic stimulation in rabbit lacrimal gland. Curr. Eye Res. 35: 466-474.
10. Gebremedhin, D., et al. 2010. Adenosine can mediate its actions through generation of reactive oxygen species. J. Cereb. Blood Flow Metab. 30: 1777-1790.
11. Li, L., et al. 2010. Peripheral adenosine A_{2A} receptors are involved in carrageenan-induced mechanical hyperalgesia in mice. Neuroscience 170: 923-928.

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.