

# Adenosine A3-R (151-230): sc-4470 WB

## 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 TNF- $\alpha$  and blocks the endotoxin CD14 receptor signal transduction pathway.

## REFERENCES

1. Mahan, L.C., McVittie, L.D., Smyk-Randall, E.M., Nakata, H., Monsma, F.J., Jr., Gerfen, C.R., and Sibley, D.R. 1991. Cloning and expression of an A1 Adenosine receptor from rat brain. *Mol. Pharmacol.* 40: 1-7.
2. Furlong, T.J., Pierce, K.D., Selbie, L.A., and Shine, J. 1992. Molecular characterization of a human brain Adenosine A2 receptor. *Brain Res. Mol. Brain Res.* 15: 62-66.
3. Pierce, K.D., Furlong, T.J., Selbie, L.A., and Shine, J. 1992. Molecular cloning and expression of an Adenosine A2B receptor from human brain. *Biochem. Biophys. Res. Commun.* 187: 86-93.
4. Salvatore, C.A., Jacobson, M.A., Taylor, H.E., Linden, J., and Johnson, R.G. 1993. Molecular cloning and characterization of the human A3 Adenosine receptor. *Proc. Natl. Acad. Sci. USA* 90: 10365-10369.
5. McWhinney, C.D., Dudley, M.W., Bowlin, T.L., Peet, N.P., Schook, L., Bradshaw, M., De, M., Borcharding, D.R., and Edwards, C.K. 3rd. 1996. Activation of Adenosine A3 receptors on macrophages inhibits tumor necrosis factor- $\alpha$ . *Eur. J. Pharmacol.* 310: 209-216.
6. Guinzberg, R., Diaz-Cruz, A., Uribe, S., and Pina, E. 1997. Ca<sup>2+</sup> dependence of the response of three Adenosine type receptors in rat hepatocytes. *Eur. J. Pharmacol.* 340: 243-247.
7. Belardinelli, L., Shryock, J.C., Snowdy, S., Zhang, Y., Monopoli, A., Lozza, G., Ongini, E., Olsson, R.A., and Dennis, D.M. 1998. The A2A Adenosine receptor mediates coronary vasodilation. *J. Pharmacol. Exp. Ther.* 284: 1066-1073.
8. Dubey, R.K., Gillespie, D.G., Mi, Z., and Jackson, E.K. 1998. Adenosine inhibits growth of human aortic smooth muscle cells via A2B receptors. *Hypertension* 31: 516-521.

## SOURCE

Adenosine A3-R (151-230) is expressed in *E. coli* as a 47 kDa tagged fusion protein corresponding to amino acids 151-230 of Adenosine A3-R of human origin.

## STORAGE

Store at -20° C; stable for one year from the date of shipment.

## PRODUCT

Adenosine A3-R (151-230) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10  $\mu$ g in 0.1 ml SDS-PAGE loading buffer.

## APPLICATIONS

Adenosine A3-R (151-230) is suitable Western blotting control for sc-13938.

## RESEARCH USE

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