ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Adenosine A1 Receptor (A1R) Antibodies

Cat # A1R11-P	Rat A1R Control/blocking peptide	**SIZE**: 100 ug
Cat # A1R11-S	Rabbit Anti-Rat A1R antiserum	**SIZE**: 100 ul
Cat # A1R11-A	Rabbit Anti-rat A1R Ig G #1, Aff. pure	**SIZE**: 100 ug

The purine nucleoside adenosine modulates diverse physiological functions including induction of sedation, vasodilatation, suppression of cardiac rate and contractility, neurotransmitter release, inhibition of platelet aggregation and lipolysis. Adenosine released from cells interacts with membrane receptors (adenosine receptors, ARs). Based upon, biochemical and pharmacological criteria, ARs have been classified into A1, A2a, A2b, and A3. The high affinity receptor A1 inhibits adenyl cyclase, whereas low affinity receptor A2a stimulates the cyclase via G proteins. A2a receptor is believed to cause vasorelaxation in coronary artery. Various, ARs and their subtypes have recently been cloned from several species. ARs belong to the superfamily of G-protein coupled receptors and predicted to contain 7 transmembrane domains. The N-termini are predicted to be extracellular and the C-termini cytoplasmic. There is an overall 30% homology among the four ARs. ARs are distributed throughout the body. Gene location of various ARs: A1 (Chromosome 1; q.31.3-32.2); A2a (Chromosome 22); A2b (Chromosome 17; p.11.2-12); A3 (Chromos.1).

Source of Antigen and Antibodies

Antigen	14-aa peptide of Rat A1R (gene accession # P25099); **Designated (AIR11-P or control peptide/blocking peptide**) conjugated to KLH.Epitope location ~ N-terminal, Extracellular
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#A1R11-S) and IgG, purified over antigen-agarose (Cat # A1R11-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for antiserum and 1-10 ug/ml for affinity pure IgG). An antibody raised to this peptide region has been shown to recognize the 79 kDa and 39 kDa bands in cortical membranes from rat, pig, and lamb. The 79 kDa band can be converted to 39 kDa band by agonist or antagonist treatment and could represent a A1R dimmers (see published refs 2).

ELISA (1:10-50K; using 50-100 ng A1R control peptide/well).

Histochemistry & Immunofluorescence: we recommend the use of affinity purified IgG at ~10 µg/ml on frozen sections of tissues (see refs 2).

Specificity & Cross-reactivity

The rat A1R11 peptide is 92% conserved in mouse, canine, rabbit human, and 78% in bovine A1R. Antibody crossreactivity in various is not experimentally confirmed. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: web site)

General References: (**1**) Mahan, LC (1991) Mol. Pharmacol. 40, 1-7; Reppert, SM (1991) Mol. Endocrinol. 5, 1037, Tucker, AL and Linden, J (1993) Cardiovascular Res. 27, 62-67; Olah, ME and Stile, G (1995) Ann. Rev. Pharmacol. 35, 581-606

Citations of ADI's antibodies for Adenosine related products (see updated list at www.4adi.com\flr\adenosine.html)

Mayne M., 1999, Annals of Neurology. 45(5):633-639
Tsutsui S, 2004, J. Neurosci., 24: 1521 - 1529., WB,
Lasley, Robert D., 2000, JBC 275: 4417-4421, WB,, IHC,
Cooke, HJ, 1999, Am J Physiol Gastrointest Liver Physiol 276: 451G-462G, , IHC,
Nie Z, 1998, Mol. Pharmacol. 53: 663-669, WB,,
Ponzio TA, 2005, J Neurophysiol,93: 535 - 547, , IHC,

*This product is for In vitro research use only.

Related material available from ADI

A1R11-S-A-P 70718A

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