ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

**Adenosine A3 Receptor (A3R) Antibodies**

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| □ **Cat #** A3R31-P | Rat A3R Control/blocking peptide | **SIZE**: 100 ug |
| □ **Cat #** A3R31-S | Rabbit Anti-rat A3R antiserum | **SIZE**: 100 ul |
| □ **Cat #** A3R31-A | Rabbit Anti-rat A3R, IgG (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).

Rat A3AR (ADORA3) isoform 1 is 320 aa (protein accession #P28647). It is alternatively spliced in isoform 2 (119-119 R → RLSFLVVNLPFSSPHSNR, 337 aa, protein accession # P28647-2).

### Source of Antigen and Antibodies

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| **Antigen** | 15aa peptide of Rat A3R/AA3R; (gene accession # P28647) **Designated (A3R31-P or control peptide /blocking peptide**) conjugated to KLH.Epitope location ~ Extracellular domain 3 |
| **Ab Host/type** | Rabbit, Polyclonal unpurified antiserum (#**A3R31**-S) and IgG, purified over antigen-agarose (Cat # **A3R31**-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 water

**Control/blocking peptide**
□ 100 ug/100 ul □ solution □ lyophilized powder
Supplied in Buffer: PBS pH 7.5,
**Reconstitute powder in water.**

**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 using ECL. (see published refs using this antibody in 2).

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

**Histochemistry** & Immunofluorescence: we recommend the use of affinity purified antibody at 10-50 μg/ml on frozen sections of tissues. See published refs using this antibody (2).

### Specificity & Cross-reactivity

Rat A3R32-P, located within the 3rd xtracellular domain, is found in isoform 1 and 2 of rat A3R. Rat A3R1-P peptide is 78% conserved in mouse and 46% with human, and 20% with sheep A3R sequences. We recommend the use of #A3R32-A that is made to the human A3R sequence for the detection of human A3R. Antibody crossreactivity with various species remains to be established. The 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**) Zhou, Q-Y, (1992) Proc. Natl. Acad. Sci. 89, 7432-74361; Tucker, AL and Linden, J (1993) Cardiovascular Res. 27, 62-67; Olah, ME and Stile, G (1995) Ann. Rev. Pharmacol. 35, 581-606; 2. Linden J (1993) Mol. Pharmacol. 44, 524-532

**(2) Citations of ADI's Antibodies** (see web site for updated list)

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Sundaram U, 2003, Biochem Pharmacol 65, 1529-1538,
Gessi S, 2004, Mol. Pharmacol., 65: 711 - 719, WB,
Trincavelli, ML, 2000, J. Neurochem. 75: 1493-1501, IHC,
Madi L, 2004, Clin. Cancer Res.,10: 4472 - 4479, WB, IHC
Trincavelli, ML, 2002, Mol. Pharmacol. 62: 1373 , EM
Christofi FL, 2001, J Comp. Neurol. 439, 46-64, , IHC/IF
Adir Y, 2004, Am. J. Respir. Crit. Care Med.,; 169: 757 - 763, WB,

*This product is for In vitro research use only.

A3R31-S-A-P 140716A

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