ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Adenosine A3 Receptor (A3R) Antibodies

□ **Cat** # A3R32-P	Human A3R Control/blocking peptide	**SIZE**: 100 ug
□ **Cat** # A3R32-S	Rabbit Anti-Human A3R, antiserum # 1	**SIZE**: 100 ul
□ **Cat** # A3R32-A	Rabbit Anti-Human A3R, affinity pure IgG # 2	**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).

Human A3R (ADORA3) is 318aa protein. It is alternatively spliced and found in 3 isoforms: I**soform 1** (318-aa; full length with 7 TM domains), **Isoform 2** (118-318 aa YKRVTTHRRI...LDTSIEKNSE → FRIPGLPGCI...PKEMAPTEQM) and **Isoform 3** (protein accession #Q6P2N6; 266 aa, only 2 TM domains).

Source of Antigen and Antibodies

Antigen	15-aa peptide of Human A3R (gene accession # P33765; **Designated (A3R32-P or control peptide)** conjugated to KLH.Epitope location ~Extracellular domain 3 (isoform 1) (refs 1)
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (**cat#A3R32-S**) Aff pure IgG (**cat #A3R32-A**) purified over antigen-agarose column
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (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)
□ 100 ul □ solution □ lyophilized
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

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

Control/blocking peptide
□ 100 ug/100 ul □ solution □ lyophilized
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

Specificity & Cross-reactivity

A3R32-A antibody is directed against 15-aa peptide within the 3rd extracellular domain 3 of human A3AR/ADORA3 isoform 1 (protein accession #P33765). This peptide region is not found in isoforms 2 and 3.

The human A3R peptide (A3R32-P) is conserved 85% in canine, 69% in mouse, 46% in rat, and 20% in sheep A3R proteins. We recommend the use of A3R31-A that is made to the rat A3R sequence for the detection of rat A3R. Antibody cross-reactivity in various species has not been 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; **3**. Sajjadi, FG (1993) BBA 1179, 105-107.

Citations of ADI's antibodies for Adenosine related products

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*This product is for In vitro research use only.

Related material available from ADI

Antibodies for A1, A2a, A2b, A3 are available.

Western blot Recycling kit (probe same blot with multiple antibodies)

Anti-Rabbit IgG-HRP Conjugate and ECL Reagents

A3R32-S-A-P 161219SV

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