ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Angiotensin II Type 1 Receptor (AT1) Antibody #1

Cat. AT11-S	**Rabbit** Anti-Rat Angiotensin II Type 1 Antiserum #1	**SIZE**: 100 ul
Cat. AT11-A	**Rabbit** Anti-Rat Angiotensin II Type 1 IgG Ab #1 aff pure	**SIZE**: 100 ug
Cat. AT11-P	Rat AT1 Control/blocking peptide #1	**SIZE**: 100 ug

Angiotensin II, interacts with two types of G-protein coupled membrane receptors, AT1 (type 1) and AT2 (type 2). However, major cardiovascular effects appear to be mediated through AT1. AT1 has three isoforms (rat AT1A 359 aa; AT1B/AT III, 359 aa; and AT1C, 177 aa). Rat AT1 receptors are predicted to contain seven transmembrane domains. The N-terminus is predicted to be extracellular, while C-terminus inside the membrane (cytoplasmic). The binding of angiotensin II with AT1 receptors activate a phosphatidylinositol-calcium second messenger system. AT1 receptors are expressed in the liver, kidney, aorta, lung, uterus, ovary, spleen, heart, adrenal and vascular smooth muscle. AT2 gene (chromosome x) encodes 363 aa protein. It is highly expressed in myometrium with lower levels in adrenal and fallopian tube. It is also expressed at high levels in fetal kidney and intestine.

AGTRA or Type-1A angiotensin II receptor ; Synonyms AT1; AT1A , Gene name Name: Agtr1 , Synonyms: Agtr1a, At1a

Source of Antigen and Antibodies

Antigen	10-aa peptide of rat AT II type 1 gene accession # P25095, refs 1); **Designated (AT11-P or control peptide).** conjugated to KLH. Epitope location ~ N-terminal, Extracellular
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat #AT11-S) & Aff pure IgG (**cat #AT11-A**) purified over antigen-agarose column
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	**# 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 neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique). The antibodies detected approx. 45-kDa band. **ELISA** (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence:
(see published refs 2 using this antibody for WB, IHC etc)..

Specificity & Cross-reactivity

The 10 AA rat AT11-P immunogenic peptide is 100% identical in mouse, rat, human, ovine, pig, dog, chimpanzee and rabbit. The sequence is the same in all AT II receptor isoforms (Type 1a, 1b, and 1c). It has no sequence homology with other G-protein coupled receptors. Antibody cross-reactivity in various species has not been studied. 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: the web site).

General References: **(1)** Murphy Tj et al (1991) Nature 351, 233; Iwai N et al (1991) BBRC 177, 299; Langford K et al (1992) BBRC 183, 1025; Sasamura h et al (1992) BBRC 185, 253; Yoshida H et al (1992) BBRC 186, 1042; Mauzy CA et al (1992) BBRC 183, 8;

(2) Citations of ADI's ELISA kits (see web site for updated list)

Stewart JA; 2006; J Mol Cell Cardiol, 41, 97-107; WB;
Hoffman A; 2004; J. Recept Signal Transduction, 23 1; WB; IHC
Javeshghani D; 2003; Hypertension, 42, 761-767; WB;
Nadal JA; 2002; Am. J. Physiol 282, H739-H748; WB,;
Javeshghani D; 2003; Hypertension, 42, 761-767; WB;
Zeng C; 2002; Hypertension, 41, 724-729; WB;
Jin X-Q; 2002; Hypertension. 39:1021-1027; WB;
Nithipatikom K; 2004; AJPEM, 287: 820 - 827; WB,; IF
Su J-Z; 2002; Hypertension : 40, 853-858; WB;
Javeshghani D; 2003; Hypertension, 42, 761-767; WB;
Hussain T; 1998; Hypertension 32: 1054-1059; WB,;
Rodriguez-Iturbe B; 2001; Kidney Intl. 59, 6, 2222; ; IHC,
Lee Jongun; 2002; Pharmacological Res. 46, 5, 383-387; WB;
Hakam AC; 2006; AJEP, 290: F503 - F508.; WB;

*This product is for in vitro research use only.

Related material available from ADI

AT11-S-A-P; 70807A

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