ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Angiotensin II Type 2 Receptor (AT2) Antibodies

□ **Cat.** AT21-S	Rabbit Anti-Human AT2 Antiserum #1	**SIZE**: 100 ul
□ **Cat.** AT21-A	Rabbit Anti-Human AT2 IgG #1, affinity pure	**SIZE**: 100 ug
□ **Cat.** AT21-BTN	Rabbit Anti-Human AT2 IgG-Biotinylated	**SIZE**: 50 ug
□ **Cat.** AT21-P	Human AT2 control/blocking peptide # 2	**SIZE**: 100 ug

Angiotensin II mediates its action by interacting with membrane receptor, Angiotensin II type 1 receptors. The signal is transmitted via G-proteins that activates a phosphatidylinositol-calcium second messenger system. ATII receptors are integral membrane proteins of approx. 359-363 AA and predicted to contain at least 7 transmembrane domains. The N and C-terminus are predicted to extracellular and cytoplasmic, respectively. Three isoforms of ATII receptors have been cloned. In rat type 1a (359 aa) is expressed in the liver kidney, aorta, lung, uterus, ovary, spleen, heart, adrenal and vascular smooth muscles (1). Rat Type 1b (also known as AT3; 359 aa) is found in liver, kidney, and aorta (2). Type 1c (177 aa) has been detected in brain, kidney, liver, spleen and lung (3).

Source of Antigen and Antibodies

Antigen	18-aa peptide of human AT II type2 (gene accession # P50052); **Designated (AT21-P or control peptide)** conjugated to KLH, epitope location ~ C-terminal, Cytoplasmic
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (**cat #AT21-S**) Aff pure IgG (**cat #AT21-A**) purified over antigen-agarose column
Ab Format	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control	**Cat # 20009-1, Rabbit** (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Cat# AT21-A, Biotin-conjugate

Purified anti-AT21-A IgG was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC) at F/P ratio ~10-20:1. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** (0.1 mg) or **liquid** form (0.1 mg/0.1 ml). Reconstitute powder in PBS in 0.1 ml to prepare 1 mg/ml solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:5,000-1:30,000 ELISA, 1:2K-1:10K for western.

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. (refs 2)

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

Histochemistry & Immunofluorescence: see refs in 2.

Specificity & Cross-reactivity

The 18 AA human AT21-P immunogenic peptide is 100% homologous in rabbit, 88% identical in rat and 83% with mouse AT2 receptors. It has no sequence homology with AtII type 1 or other G-protein coupled receptors. The antibodies have been shown to be specific for ATII, type 2 as shown by the expression of the ATII, type 1 and 2 and detection with antibodies (see refs 2). 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: www.4adi.com\data\abblock.html).

General References: (1) Martin MM et al (1995) BBRC 209, 554-562; Chassagne C et al (1995) Genomics 25, 601-603; Koike G ett al (1994) BBRc 203, 1842-50; Tsuzuki S et al (1994) BBRC 200, 1449-54; Martin MM et al (1994) BBRC 205, 645-651; Lazard D et al (1994) Receptor Channels 2, 271-280.

(2) Citations of ADI's Antibodies for AT2

Stewart JA, 2006, Journal of Molecular and Cellular Cardiology, 41, 97-107, WB, Jin X-Q, 2002, Hypertension. ;39:1021, WB; Fritrz RD, 2005, BBRC 338, 1906-1912, WB,; Rodríguez-Iturbe B, 2001, Kidney Intl. 59, 6, 2222, , IHC; Su J-Z, 2002, Hypertension : 40(6):853-8., WB; Fritz RD, 2006, BBRC 338, 1906-1912, WB, Nadal JA, 2002, Am. J. Physiol 282, H739-H748, WB

*This product is for in vitro research use only.

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