ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

**Arginine Vasopressin Receptor (AVP-V1b) Antibodies**

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| **Cat # AVP1B13-P** | Rat AVP-V1b Control Peptide | **SIZE**: 100 ug |
| **Cat # AVP1B13-S** | Rabbit Anti-Rat AVP-V1b antiserum | **SIZE**: 100 ul |
| **Cat # AVP1B13-A** | Rabbit Anti-Rat AVP- V1b IgG, aff pure | **SIZE**: 100 ug |

Vasopressin (**AVP**, Arginine-8-Vasopressin), the antidiuretic hormone is cyclic nonapeptide involved in the homeostasis of body fluid osmolality, blood volume, vascular tone, and blood pressure. Specific actions of AVP include inhibition of diuresis, contraction of smooth muscle, stimulation of liver glycogenesis, and modulation of ACTH release from pituitary. AVP exerts its action through binding to specific membrane receptors coupled to distinct second messengers. There are 3 types of AVP receptors: **V1a, V1b, and V2 subtypes**. The V2 receptor stimulates adenyl cyclase and protein Kinase A, V1 activate phospholipase A2.C, and D, resulting into production of IP3 and DAG, the mobilization of intracellular calcium, the influx of extracellular calcium, the activation of protein Kinase C, and protein phosphorylation. The V1a receptors mediate vasoconstriction and hepatic gluconeogenesis platelet aggregation, coagulation factor release. V1a receptors are found in vascular smooth muscle, hepatocytes, blood platelets, lymphocytes and monocyte, type II pneumocytes, adrenal cortex, brain, reproductive organs, retinal epithelium, renal mesangial cells. AVP receptors are members of the G-protein coupled receptors with putative 7 transmembrane domains. The sizes of various AVP receptors are V1a (rat, 424 AA; human, 418 AA); V1b (rat, 421 AA; human, 424 AA); V2 (rat, 371 AA; human 371 AA). The N-terminus and C-terminus are predicted to be extracellular and cytoplasmic, respectively.

## Source of Antigen and Antibodies

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| **Antigen** | 18aa peptide of rat AVP-VI b receptor ; **Designated (AVP1B13-P or control peptide)** conjugated to KLH. Epitope location ~ N-terminus, Extracellular |
| **Ab Host/type** | Rabbit, polyclonal Unpurified antiserum (cat #AVP1B13-S) Aff pure IgG (**cat #AVP1B13-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)**
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 20°C and powder at 4°C or -20°C..

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

**Stability**: 6-12 months at –20°C or below.
**Shipping**: 4°C 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 antibody using ECL).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: we recommend the use of affinity purified antibody at 2-10 ug/ml in paraformaldehyde fixed sections of tissues. (see published refs using this antibody in 2).

## Specificity & Cross-reactivity

Rat AVP1b13-P has 88% homology with mouse and human v1b receptor. It has no significant similarity with AVP V1a or V2 receptors. Antibody crossreactivity in various species is not established. 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**. Saito M et al (1995) BBRC 212, 751-757; Loliat SJ et al (1995) PNAS 92, 6783-6787.

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

Stemmelin J, 2005, Neuropsychopharmacology 30, 35-42, IHC
Folny V, 2003, Am J Physiol Endocrinol Metab, 285, 566-576 IHC
Hurbin A 2002 Endocrinology 2002 143: 456-466, IHC,

*This product is for In vitro research use only.

## Related material available from ADI

Antibodies for AVP-V2 and AVP-V1a (please call for an update)

Antibodies to AQP1-5, and Urea Transporter

AVP1B13-S-A-P 712015S

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