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Product Specification Sheet

Arginine Vasopressin Receptor V1a (AVP-V1a) Antibodies

Cat # AVP1A12-P	Rat AVP-V1a Control Peptide # 2	**SIZE**: 100 ug
Cat # AVP1A12-S	Rabbit Anti-Rat AVP-V1a antiserum # 2	**SIZE**: 100 ul
Cat # AVP1A12-A	Rabbit Anti-Rat AVP-V1a IgG # 2, 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

Antigen	18-aa peptide from **rat AVP-VI b** receptor **(1)**; **Designation (#AVPV1A12-P, control/blocking peptide**) conjugated to KLH Epitope location ~ N-terminus, Cytoplasmic
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (**#AVPV1A12**-S) and IgG, purified over antigen-agarose (Cat # **AVPV1A12**-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 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). (see published refs 2 using this antibody).

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

The rat AVRV1A12-P antigenic peptide is 55% conserved in mouse AVR-V1a receptors. No significant similarity is seen with human AVP V1a or other receptors subtypes (AVP1b, V2 or V3). Antibody crossreactivity of AVR-V1a antibody in various species is not known. 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**. . Morel A (1992) Nature 356, 523-526; Innamorti G et al (1996) Biochem J 314, 709-711; Thibonnier, M et al (1994) JBC 269, 3304-10; Hirasawa A (1994) BBRC 203, 72-79.

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

Kc P, 2002, Resp. Physiol. Neurobiol. 133, 75-88, IF
Levasseur G, 2004, Eur. J. Neuroscience 20, 658-670, IHC,
Hurbin, A et al, 2002, Endocrinology. 143(2):456-466, IHC,
Orcel H, 2002, Endocrinology. 143(11):4385-4388, IHC
Clerget-Froidevaux M-S, 2003, Exp. Neurology 183, 338-345, WB,

*This product is for In vitro research use only.

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

AVPV1A12-S-A-P 71215S

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