ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

OREXIN-1 Receptor (Hypocretin-1 Receptor) Antibodies

Cat. OX1R11-S	Rabbit Anti-Rat Orexin-1 Receptor antiserum	**SIZE:** 100 ul
Cat. OX1R11-A	Rabbit Anti-Rat Orexin-1 Receptor IgG (aff pure)	**SIZE**: 100 ug
Cat. OX1R11-P	Rat Orexin-1 Receptor Control/blocking peptide	**SIZE**: 100 ug/

Several peptides associated with feeding behavior have been reported recently. Orexins (**Orexin-A** and **Orexin-B**) are a family of hypothalamic neuropeptides selectively expressed in the hypothalamus (1-2). Orexin-A and Orexin-B are derived from the same precursor (Prepro-orexin) by proteolytic cleavage. **Prepro-orexin** is 130 amino acid long peptide with a putative 33 AA secretory sequence, a hydrophobic core followed by residues with small polar side chains. The expression was detected in brain and to a small extent in testis (1-2). These neuropeptides bind and activate two closely related **Orexin receptors**--G-protein coupled receptors (GPCRs) **OX1R** and **OX2R**. Rat and human OX1R are 416 aa, and 425 aa, respectively (1-2)

Source of Antigen and Antibodies

Antigen	A 16-aa peptide (#OX1R11-P) from **rat OX1R**/ Hcrtr1 **(**gene accession # P56718**)** and 16-aa peptide from **human OX1R (**gene accession # O43613) **Designation (# OX1R12-P, control or blocking peptide**) conjugated to KLH. Cat# OX1R11-P supplied as a mixture of both peptides
Epitope location	~N-terminus, Extracellular (OX1R11-P) and ~CT, Cytoplasmic domain (OX1R12-P)
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**OX1R11**-S) and IgG, purified over antigen-agarose (Cat # **OX1R11**-A) purified over antigen (mixture of 2 peptides)-agarose column
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 -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) (see published papers, refs 2)

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

Histochemistry & **Immunofluorescence**: We recommend the use of affinity purified antibody at 2-20 ug/ml (see published refs 2).

Specificity & Cross-reactivity

Rat OX1R11-P is the same in mouse and 82% homologous with human OX1R. Human OX2R12-P is 100% conserved in chimp, pig, bovine, and 87% in rat and mouse. Since antibodies are made to a mixture of rat and human peptides that are conserved in several species, the antibodies (#OX1R11-S or OX1R11-A) are expected to have wide species reactivity. No significant homology is seen with OX2R or other G-protein-coupled receptors. Antibody crossreactivity in various species has not been confirmed. 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) Sakurai, T. et al. (1998) *Cell*, **92**, 573-585; DeLecca L et al (1998) PNAS 95, 322-327

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

Burdyga G	2004	J. Neurosci., 24: 2708 - 2715
Beiras-Fernández A	2004	Journal of Anatomy 204, 117-122,
Ouedraogo R	2003	Diabetes, 52: 111 - 117
Caillol M	2003	Brain Res. 960, 48-61
Ciriello J	2003	Brain Research, 991, 84
Espana RA	2003	Neuroscience 121, 201-217
Irving EA et al	2002	Neuroscience Lett. in press (WB)

*This product is for *in vitro* research use only.

OX1R11-S-A-P 70622A

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