ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Histamine 1 Receptor 1 (H1R) Antibodies

Cat. # H1R12-P	Human H1R Control Peptide # 2	**SIZE**: 100 ug
Cat. # H1R12-S	Rabbit Anti-Human H1R antiserum # 2	**SIZE**: 100 ul
Cat. # H1R12-A	Rabbit Anti-Human H1R IgG # 2 (affinity pure)	**SIZE**: 100 ug

Histamine, one of the most important mediators of allergy and inflammation, is a chemical messenger and aminergic neurotransmitters. In peripheral tissues histamine is stored in mast cells, basophils, enterochromaffin cells. Histamine release leads to various well-known symptoms of allergic conditions in the skin and the airway system. Histamine effects are mediated by four pharmacologically distinct receptors, the **H1R, H2R , H3R and H4R receptors**, which are all members of the G-protein coupled receptor (GPCR) family. Histamine receptors display 7 TM domains, an extracellular N-terminus, and a cytoplasmic C-terminus of variable length.

H1R (mouse 488 aa; rat 486 aa; human 487 aa, chromosome 3p21-p14; ~75-85% interspecies homology) is distributed in the brain, most smooth muscle cells, endothelial cells, adrenal medulla, and heart. H1R plays roles in smooth muscle contraction, stimulation of nitric oxide formation, endothelial cell contraction, and increasing vascular permeability, all of which have close relationships with allergic conditions. H1R preferentially couples to the Gq/11 family of G-proteins and causes mobilization of intracellular Ca 2+ in a pertussis toxin-insensitive fashion. Compounds such as mepyramine (pyrilamine) and triprolidine are highly potent H_1 antagonists, and easily penetrate the brain causing sedation. Many new non-sedating H_1 antagonists (e.g. cetirizine, etc), are used to treat allergic conditions).

Source of Antigen and Antibodies

Antigen	A 19 aa peptide (Gene Accession #P35367) (**designated H1R12-P control peptide**) within the **cytoplasmic loop # 3** (between TM 5 and 6) of **Human H1R** conjugated to KLH
Location	~ Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (**#H1R12**-S) and IgG, purified over antigen-agarose (Cat # **H1R12**-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 -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).

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

Histochemistry: Not tested**.** We recommend the use of 2-10 ug/ml of affinity pure antibody.

Specificity & Cross-reactivity

The Human H1R12-P peptide sequence is 100% conserved in fish and monkey, , 63% in rat, mouse, 57% in bovine and g. pig H1R. No significant sequence homology exists with other histamine 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: www.4adi.com\data\abblock.html).

General References: Fujimoto K et al (1993) BBRC, 190, 294; Inoue I et al (1996) PNAS 93, 13316; DeBacker MD et al (199et al (1993) BBRC 197, 1601; Fukui H et al (1994) BBRC 201, 894; Moguilevsky N et al (1994) Eur. J. Biochem. 224, 489

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

Giustizieri ML, 2004, Journal of Allergy and Clinical Immunology, Volume 114, Issue 5, Pages 1176-1182 WB

*This product is for In vitro research use only.

Related material available from ADI

Anti-Histamine, H1R-H4R, IgE ELISA kit

H1R12-S-A-P 50321A

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