

Product Specification Sheet

**Histamine Receptor 2 (H2R) Antibodies**

Cat. # H2R21-P	Rat H2R Control Peptide # 1	<b>SIZE:</b> 100 ug
Cat. # H2R21-S	Rabbit Anti-Rat H2R antiserum # 1	<b>SIZE:</b> 100 ul
Cat. # H2R21-A	Rabbit Anti-Rat H2R Ig G # 1 (affinity pure)	<b>SIZE:</b> 100 ug

**Histamine**, one of the most important mediators of allergy and inflammation, is a chemical messenger and aminergic neurotransmitters. It plays an important role in a multitude of physiological processes in central and peripheral tissues. Histamine is synthesized in a restricted population of neurons located in the tuberomammillary nucleus of the posterior hypothalamus implicated in many brain functions (e.g. sleep/wakefulness, hormonal secretion, cardiovascular control, thermoregulation, food intake, and memory formation). 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.

The **H2R** (mouse/rat 358 aa; human 359 aa chromosome 5) causes cAMP accumulation in the gastric cells, cardiac tissues, smooth muscle cells and immune cells. H2R agonists have been proven to be effective for acid peptic disorders of the GI tract. H2R is moderately expressed in the brain. H<sub>2</sub> receptor agonist, dimaprit, is a relatively selective H<sub>2</sub> receptor agonist with minimal H1R receptor agonism. Recently, amthamine (2-amino-5-(2-aminoethyl)-4-methylthiazole), a rigid dimaprit analog, combines a high H2R receptor selectivity. Interestingly, mutations in H2R has been linked to schizophrenia.

**Source of Antigen and Antibodies**

<b>Antigen</b>	A 14 aa peptide (Gene Accession #P25102) ( <b>designated H2R21-P control peptide</b> ) within the <b>cytoplasmic C-terminus</b> of <b>Rat H2R (1)</b> was synthesized, conjugated to KLH
<b>Ab Host/type</b>	Rabbit, Polyclonal antiserum # <b>H2R21-S</b> and IgG, purified over antigen-agarose (Cat # <b>H2R21-A</b> )
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control IgG</b>	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Form & Storage of Antibodies/Peptide Control**

**Antiserum (unpurified)**  
100ul solution lyophilized powder  
Supplied 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 Rat H2R21-P peptide sequence is 100% conserved in mouse H2R. No significant homology exists with human H2R or other histamine receptors. For human, We recommend antibody cat # H2R22 made against the human H2R sequence. 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:** Ruat M et al (1991) BBRC 179, 1470; Kobayashi T et al (1996) Genomics 37, 390; Murakami H et al (1999) FEBS Lett. 451, 327; Ganz I et al (1991) BBRC 178, 1386; Nihs T et al (1995) BBRC 210, 616; Orange PR et al (1996) Neuroport. 7, 1293;

**Citations of for ADI Antibodies** (see updated list at the web site)

Jokuti A, 2007, Cell Biol Int. ;31:1367-70. 21, WB,  
Iazarov NE, 2006, Neuroscience Letters 404, 67-71, , IHC  
Giustizieri ML, 2004, J. Allergy Clinical Immunol., 114, 1176-1182, WB,  
Sander LE, 2005, Gut 55, 498-504, WB, IF  
Lippert U, 2004, J. Invest. Dermatol. 123, 116-123, WB,  
Pos Z, 2005, Cancer Res., 65: 4458 - 4466, WB,

\*This product is for In vitro research use only.

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