ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Histamine Receptor 2 (H2R) Antibodies

Cat. # H2R22-P	Human H2R Control Peptide # 2	**SIZE**: 100 ug
Cat. # H2R22-S	Rabbit Anti-Human H2R antiserum # 2	**SIZE**: 100 ul
Cat. # H2R22-A	Rabbit Anti-Human H2R Ig G # 2 (affinity pure)	**SIZE**: 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_2 receptor agonist, dimaprit, is a relatively selective H_2 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

Antigen	An 18 aa peptide (Gene Accession #P25021) (**designated H2R22-P control peptide**) within the **extracellular, N-terminus** of **human H2R** (1) was synthesized, conjugated to KLH
Ab Host/type	Rabbit, Polyclonal antiserum # **H2R22**-S and IgG, purified over antigen-agarose (Cat # **H2R22**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	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

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 H2R22-P peptide sequence is 100% conserved in fish, 66% in canine, mouse and rat, 61% in guinea pig H2R. No significant homology exists with other histamine receptors. For rat, We recommend antibody cat # H2R21 made against the rat 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: Ganz I et al (1991) BBRC 178, 1386; Nihsi T et al (1995) BBRC 210, 616; Orange PR et al (1996) Neuroport. 7, 1293; 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

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

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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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