

Product Specification Sheet

Histamine Receptor 4 (H4R) Antibodies

Cat. # H4R41-P	Human H4R Control Peptide # 2	SIZE: 100 ug
Cat. # H4R41-S	Rabbit Anti-Human H4R antiserum # 2	SIZE: 100 ul
Cat. # H4R41-A	Rabbit Anti-Human H4R 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. 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.

Most recently, a novel orphan G-protein coupled receptor, named **H4R** (GPRv53, human 390 aa) has been cloned and characterized. It is most closely related to H3R (~37% homology). Unlike H3R, H4R has a distinct tissue distribution and it is localized in the peripheral blood leukocytes, spleen, thymus and colon. Mammalian cells expressing H4R were demonstrated to bind and respond to histamine in a concentration-dependent manner. In functional assays, an H3 receptor agonist, R-(a)-methylhistamine, but also a H3 receptor antagonist, clobenpropit, and a neuroleptic, clozapine, activated H4R-expressing cells.

Source of Antigen and Antibodies

Antigen	A 17 aa peptide (Gene Accession #Q9H3N8) (designated H4R41-P control peptide) within the cytoplasmic, C-terminus of human H4R (1) was synthesized, conjugated to KLH
Ab Host/type	Rabbit, Polyclonal antiserum # H4R41-S and IgG, purified over antigen-agarose (Cat # H4R41-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
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 H4R41-P peptide sequence is unique to human H4R (other species are not yet available). No significant 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 the web site).

General References:

Oda T et al (2000) J. Biol. Chem. 275, 36781-36786;
Nakamura T et al (2000) BBRC 279, 615-620.

*This product is for In vitro research use only.

Related material available from ADI

Anti-Histamine, H1R-H4R, IgE ELISA kit

ReadyBrain and Kidney Blot- Study distribution of protein in 8-12 regions of mouse/rat brain and kidney using pre-made protein blots.

H4R41-S-A-P 110216A

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