

# Histamine H2 Receptor (H-70): sc-50314

## BACKGROUND

Histamine is an inflammatory mediator that is ubiquitously expressed and has a broad range of pharmacologic effects. Specifically, it plays a role in the central nervous, gastrointestinal, respiratory and immune systems. The effects of histamine are mediated by a family of G protein-coupled receptors, the Histamine H1, H2, H3 and H4 Receptors. The gene encoding the human Histamine H1 Receptor maps to chromosome 3p25 and is expressed in highest abundance in placenta, with lower levels in lung, skeletal muscle, kidney and brain. The murine Histamine H2 Receptor gene maps to chromosome 13 and is highly expressed in stomach with moderate expression in brain and heart. The gene encoding the human Histamine H3 Receptor is located on chromosome 20 and is expressed as six alternative splice variants in thalamus. The human Histamine H4 Receptor gene maps to chromosome 18q11 and is expressed most abundantly in bone marrow and spleen in addition to peripheral blood leukocytes, thymus, small intestine and colon. The Histamine Receptors respond to several agonists and antagonists, which make them potential therapeutic targets for several diseases, such as asthma, epilepsy and cardiac ischemia.

## REFERENCES

1. Parsons, M.E., et al. 1991. Histamine receptors: an overview. *Scand. J. Gastroenterol.* 180: 46-52.
2. Bissonnette, E.Y, et al. 1996. Histamine inhibits tumor necrosis factor  $\alpha$  release by mast cells through H2 and H3 receptors. *Am. J. Respir. Cell Mol. Biol.* 14: 620-626.
3. Malinowska, B., et al. 1998. Histamine H3 receptors—general characterization and their function in the cardiovascular system. *J. Physiol. Pharmacol.* 49: 191-211.
4. Onodera, K, et al. 1999. The roles of histamine H3 receptors in the behavioral disorders and neuropsychopharmacological aspects of its ligands in the brain. *Nippon Yakurigaku Zasshi* 114: 89-106.
5. Nguyen, T., et al. 2001. Discovery of a novel member of the histamine receptor family. *Mol. Pharmacol.* 59: 427-433.
6. Coge, F., et al. 2001. Genomic organization and characterization of splice variants of the human histamine H3 receptor. *Biochem. J.* 355: 279-288.

## CHROMOSOMAL LOCATION

Genetic locus: HRH2 (human) mapping to 5q35.2.

## SOURCE

Histamine H2 Receptor (H-70) is a rabbit polyclonal antibody raised against amino acids 290-359 mapping within a C-terminal cytoplasmic domain of Histamine H2 Receptor of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Histamine H2 Receptor (H-70) is recommended for detection of Histamine H2 Receptor of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Histamine H2 Receptor siRNA (h): sc-43837, Histamine H2 Receptor shRNA Plasmid (h): sc-43837-SH and Histamine H2 Receptor shRNA (h) Lentiviral Particles: sc-43837-V.

Molecular Weight of Histamine H2 Receptor: 59 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Leonardi, A., et al. 2011. Histamine H4 receptors in normal conjunctiva and in vernal keratoconjunctivitis. *Allergy* 66: 1360-1366.
2. Francis, H.L., et al. 2012. Histamine stimulates the proliferation of small and large cholangiocytes by activation of both IP3/Ca<sup>2+</sup> and cAMP-dependent signaling mechanisms. *Lab. Invest.* 92: 282-294.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.