

# Histamine H3 Receptor (R-14): sc-33977

## 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 H3 Receptor is located on chromosome 20 and is expressed as six alternative splice variants in thalamus. These isoforms contain either a deletion in the second transmembrane domain or a variable deletion in the third intracellular loop. The existence of multiple H3 Receptor isoforms suggests that H3-mediated effects may be regulated through alternative splicing mechanisms. The H3 Receptor acts as an autoreceptor in the central nervous system (CNS) and modulates histamine synthesis and release. It also acts as a heteroreceptor in the CNS and cardiovascular, gastrointestinal and respiratory systems to regulate the release of a variety of neurotransmitters. The Histamine H3 Receptor responds to several agonists and antagonists, which make it a potential therapeutic target 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: Hrh3 (mouse) mapping to 2 H4.

## SOURCE

Histamine H3 Receptor (R-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of Histamine H3 Receptor of rat origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-33977 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Histamine H3 Receptor (R-14) is recommended for detection of Histamine H3 Receptor of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Histamine H3 Receptor (R-14) is also recommended for detection of Histamine H3 Receptor in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Histamine H3 Receptor siRNA (m): sc-40024, Histamine H3 Receptor shRNA Plasmid (m): sc-40024-SH and Histamine H3 Receptor shRNA (m) Lentiviral Particles: sc-40024-V.

Molecular Weight of Histamine H3 Receptor: 70 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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.


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Try **Histamine H3 Receptor (D-5): sc-390140**, our highly recommended monoclonal alternative to Histamine H3 Receptor (R-14).