

Histamine H3 Receptor (D-5): sc-390140

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.

REFERENCE

1. Parsons, M.E. 1991. Histamine receptors: an overview. *Scand. J. Gastroenterol. Suppl.* 180: 46-52.
2. Bissonnette, E.Y. 1996. Histamine inhibits tumor necrosis factor α 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. and Miyazaki, S. 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.

CHROMOSOMAL LOCATION

Genetic locus: HRH3 (human) mapping to 20q13.33; Hrh3 (mouse) mapping to 2 H4.

SOURCE

Histamine H3 Receptor (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 301-405 near the C-terminus of Histamine H3 Receptor of human origin.

PRODUCT

Each vial contains 200 μ g IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390140 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Histamine H3 Receptor (D-5) is recommended for detection of Histamine H3 Receptor of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

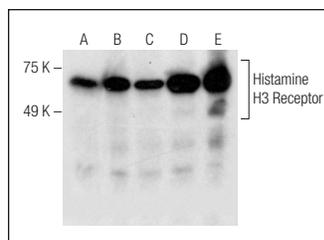
Histamine H3 Receptor (D-5) is also recommended for detection of Histamine H3 Receptor in additional species, including equine and bovine.

Suitable for use as control antibody for Histamine H3 Receptor siRNA (h): sc-40023, Histamine H3 Receptor siRNA (m): sc-40024, Histamine H3 Receptor shRNA Plasmid (h): sc-40023-SH, Histamine H3 Receptor shRNA Plasmid (m): sc-40024-SH, Histamine H3 Receptor shRNA (h) Lentiviral Particles: sc-40023-V and Histamine H3 Receptor shRNA (m) Lentiviral Particles: sc-40024-V.

Molecular Weight of Histamine H3 Receptor: 70 kDa.

Positive Controls: A549 cell lysate: sc-2413, CHO-K1 cell lysate: sc-3809 or SK-N-MC cell lysate: sc-2237.

DATA



Histamine H3 Receptor (D-5): sc-390140. Western blot analysis of Histamine H3 Receptor expression in A549 (A), CHO-K1 (B), C6 (C) SK-N-MC (D) and forskolin treated SK-N-MC (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Liu, X., et al. 2015. Betahistone co-treatment ameliorates dyslipidemia induced by chronic olanzapine treatment in rats through modulation of hepatic AMPK α -SREBP-1 and PPAR α -dependent pathways. *Pharmacol. Res.* 100: 36-46.
2. Verta, R., et al. 2021. The interplay between Histamine H4 Receptor and the kidney function: the lesson from H4 receptor knockout mice. *Biomolecules* 11: 1517.

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.