

Histamine H4 Receptor (Y-19): sc-33967

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. 1991. Histamine receptors: an overview. *Scand. J. Gastroenterol. Suppl.* 180: 46-52.
2. Fukui, H., et al. 1994. Molecular cloning of the human Histamine H1 Receptor gene. *Biochem. Biophys. Res. Commun.* 201: 894-901.
3. 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.
4. Kobayashi, T., et al. 1996. Cloning, RNA expression, and chromosomal location of a mouse Histamine H2 Receptor gene. *Genomics* 37: 390-394.
5. 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: HRH4 (human) mapping to 18q11.2; Hrh4 (mouse) mapping to 18 A1.

SOURCE

Histamine H4 Receptor (Y-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Histamine H4 Receptor of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-33967 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Histamine H4 Receptor (Y-19) is recommended for detection of Histamine H4 Receptor of mouse, rat and, to a lesser extent, human 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).

Suitable for use as control antibody for Histamine H4 Receptor siRNA (h): sc-40025, Histamine H4 Receptor siRNA (m): sc-45274, Histamine H4 Receptor shRNA Plasmid (h): sc-40025-SH, Histamine H4 Receptor shRNA Plasmid (m): sc-45274-SH, Histamine H4 Receptor shRNA (h) Lentiviral Particles: sc-40025-V and Histamine H4 Receptor shRNA (m) Lentiviral Particles: sc-45274-V.

Molecular Weight of Histamine H4 Receptor: 44/85 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.

SELECT PRODUCT CITATIONS

1. Leite-de-Moraes, M.C., et al. 2009. Cutting edge: histamine receptor H4 activation positively regulates *in vivo* IL-4 and IFN- γ production by invariant NKT cells. *J. Immunol.* 182: 1233-1236.
2. Petit-Bertron, A.F., et al. 2009. H4 histamine receptors mediate cell cycle arrest in growth factor-induced murine and human hematopoietic progenitor cells. *PLoS ONE* 4: e6504.
3. Sanna, M.D., et al. 2015. Histamine H4 receptor activation alleviates neuropathic pain through differential regulation of ERK, JNK and P38 MAPK phosphorylation. *Pain*. E-published.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.