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HRH3 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1700b

Product Information

Application	WB, IHC-P, E
Primary Accession	Q9Y5N1
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB01071
Calculated MW	48671
Antigen Region	414-442

Additional Information

Gene ID	11255
Other Names	Histamine H3 receptor, H3R, HH3R, G-protein coupled receptor 97, HRH3, GPCR97
Target/Specificity	This HRH3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 414-442 amino acids from the C-terminal region of human HRH3.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HRH3 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

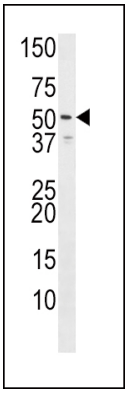
Name	HRH3
Synonyms	GPCR97
Function	The H3 subclass of histamine receptors could mediate the histamine signals

	in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of agonist). Agonist stimulation of isoform 3 neither modified adenylate cyclase activity nor induced intracellular calcium mobilization.
Cellular Location	Cell membrane; Multi-pass membrane protein.
Tissue Location	Expressed predominantly in the CNS, with the greatest expression in the thalamus and caudate nucleus. The various isoforms are mainly coexpressed in brain, but their relative expression level varies in a region-specific manner. Isoform 3 and isoform 7 are highly expressed in the thalamus, caudate nucleus and cerebellum while isoform 5 and isoform 6 show a poor expression. Isoform 5 and isoform 6 show a high expression in the amygdala, substantia nigra, cerebral cortex and hypothalamus. Isoform 7 is not found in hypothalamus or substantia nigra

Background

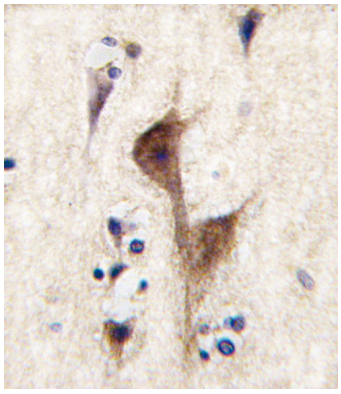
The histamine receptor H3 (HRH3) is a presynaptic autoreceptor on histamine neurons in the brain and a presynaptic heteroreceptor in nonhistamine-containing neurons in both the central and peripheral nervous systems. The deduced 445-amino acid HRH3 protein contains 7 predicted transmembrane domains. HRH3 has significant sequence homology to members of the biogenic amine subfamily of GPCRs. Most notable is an aspartic acid residue in the predicted third transmembrane domain, which is a hallmark of the biogenic amine receptor subfamily; this residue is the putative binding site for the primary amine. HRH3 shares 22% and 21.4% amino acid sequence homology with the H1 and H2 receptors, respectively. Expression of recombinant HRH3 in a variety of cell lines conferred an ability to inhibit adenylate cyclase in response to histamine, but not to acetylcholine or any other biogenic amine. Northern blot analysis of human tissues showed HRH3 expression only in the brain, with highest expression in the thalamus and caudate nucleus. Whereas Northern blot analysis did not detect HRH3 expression in any peripheral tissue examined, RT-PCR showed expression in human small intestine, testis, and prostate. In situ hybridization of rat brain sections showed that Hrh3 is abundantly expressed in brain. Hrh3 was most notably observed throughout the thalamus, the ventromedial hypothalamus, and the caudate nucleus. Strong expression was also seen in layers II, V, and VIb of the cerebral cortex, in the pyramidal layers of the hippocampus, and in olfactory tubercle. In addition, Hrh3 expression was found in the locus ceruleus and in the histaminergic cell bodies in the tuberomammillary nuclei.

Images



Western blot analysis of anti-HH3R Pab (Rabbit ID 1071) in Jurkat cell line lysate (35ug/lane). HH3R(arrow) was detected using the purified Pab. This western blot identifies isoform two of HRH3. The accession number of HRH3 is CAC39434; Q9Y5N1.

Formalin-fixed and paraffin-embedded human brain tissue reacted with HRH3 antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



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