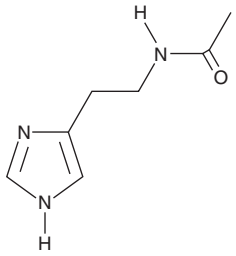
PRODUCT INFORMATION

N-acetyl Histamine

Item No. 25118

CAS Registry No.:	673-49-4
Formal Name:	N-[2-(1H-imidazol-5-yl)ethyl]-acetamide
Synonyms:	Nω-Acetylhistamine, NSC 66356
MF:	$C_7H_{11}N_3O$
FW:	153.2
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

N-acetyl Histamine is supplied as a crystalline solid. A stock solution may be made by dissolving the N-acetyl histamine in the solvent of choice, which should be purged with an inert gas. N-acetyl Histamine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of N-acetyl histamine in ethanol and DMF is approximately 10 mg/ml and approximately 5 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of N-acetyl histamine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N-acetyl histamine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

N-acetyl Histamine is a histamine metabolite that is formed *via* acetyl-CoA-dependent N-acetylation of histamine by AANATL7 in *D. melanogaster*, polyamine N-acetyltransferase in *F. hepatica*, and the arylalkylamine N-acetyltransferases aaNAT2 and aaNAT5b in *A. aegypti*.[1] It selectively inhibits sweet-almond β-glucosidase over yeast α-glucosidase *in vitro* (K_is = 0.035 and 20 mM, respectively).[2] It also inhibits human glutaminyl cyclase (IC_{50} = 17 µM).[3] N-acetyl Histamine has no effect on eosinophil activity and has been used as a negative control for histamine mediation of anaphylaxis.[4]

References

1. Dempsey, D.R., Jeffries, K.A., Handa, S., *et al.* Mechanistic and structural analysis of a *Drosophila melanogaster* enzyme, arylalkylamine N-acetyltransferase Like 7, an enzyme that catalyzes the formation of N-acetylarylalkylamides and N-acetylhistamine. *Biochemistry* **54(16)**, 2644-2658 (2015).
2. Field, R.A., Haines, A.H., Chrystal, E.J.T., *et al.* Histidines, histamines and imidazoles as glycosidase inhibitors. *Biochem J.* **274(Pt 3)**, 885-889 (1991).
3. Schilling, S., Niestroj, A.J., Rahfeld, J.-U., *et al.* Identification of human glutaminyl cyclase as a metalloenzyme. Potent inhibition by imidazole derivatives and heterocyclic chelators. *J. Biol. Chem.* **278(50)**, 49773-49779 (2003).
4. Turnbull, L.W. and Kay, A.B. Eosinophils and mediators of anaphylaxis. Histamine and imidazole acetic acid as chemotactic agents for human eosinophil leucocytes. *Immunology* **31(5)**, 797-802 (1976).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM