

N-Acetyl-L-histidine monohydrate

Chemical Properties

CAS No. :	39145-52-3
Formula:	C ₈ H ₁₃ N ₃ O ₄
Molecular Weight:	215.21
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

Biological Description

Description	N-Acetyl-L-histidine monohydrate (NAH) is a histidine derivative and a prominent biomolecule found in the brain, retina, and lens of poikilothermic (cold-blooded) vertebrates. It functions as an essential animal metabolite and serves as a major osmolyte in the brain and ocular tissues of teleost fish, amphibians, and reptiles. Unlike poikilotherms, homeothermic (endothermic) vertebrates exhibit significantly lower levels of NAH in the brain and other tissues, highlighting its unique phylogenetic distribution and specialized physiological role in evolutionary biology and vertebrate homeostasis.
Targets(IC50)	Amino Acids and Derivatives,Endogenous Metabolite
In vitro	N-Acetyl-L-histidine monohydrate is a key osmolyte in the brain and eyes of fish, amphibians, and reptiles, regulating cell volume and intraocular pressure. Its scarcity in homeotherms makes it a valuable probe for studying vertebrate thermal adaptation and brain metabolism evolution [1].

Solubility Information

Solubility	DMSO: 16 mg/mL (74.35 mM),Sonication is recommended. H ₂ O: 50 mg/mL (232.33 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.6466 mL	23.2331 mL	46.4662 mL
5 mM	0.9293 mL	4.6466 mL	9.2932 mL
10 mM	0.4647 mL	2.3233 mL	4.6466 mL
50 mM	0.0929 mL	0.4647 mL	0.9293 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Morris H Baslow, et al. N-acetyl-L-histidine, a Prominent Biomolecule in Brain and Eye of Poikilothermic Vertebrates. *Biomolecules*. 2015 Apr 24;5(2):635-46.

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