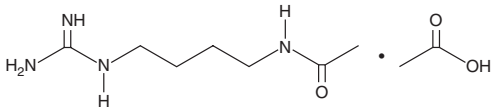
PRODUCT INFORMATION

N-Acetylagmatine (acetate salt)

Item No. 9001534

Formal Name:	N-(4-guanidinobutyl)acetamide acetate
Synonym:	Monoacetylagmatine
MF:	$C_7H_{16}N_4O \bullet C_2H_4O_2$
FW:	232.3
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-Acetylagmatine (acetate salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the N-acetylagmatine (acetate salt) in the solvent of choice, which should be purged with an inert gas. N-Acetylagmatine (acetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of N-acetylagmatine (acetate salt) in these solvents is approximately 30, 25, and 2 mg/ml, respectively.

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-acetylagmatine (acetate salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N-acetylagmatine (acetate salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Agmatine is a natural polyamine formed by the enzymatic decarboxylation of arginine.[1] It can be converted to putrescine by agmatinase or to guanidinobutyric acid by diamine oxidase and aldehyde dehydrogenase. Agmatine has numerous modulatory actions, particularly in pathways related to diabetes, immunity, and neurophysiology.[1] N-Acetylagmatine is a potential monoacetylated derivative of agmatine. The enzyme-mediated acetylation of polyamines is commonly considered a degradative step, with monoacetylated polyamines detected in the urine.[1-3] However, monoacetylated polyamines can stimulate diamine oxidase activity, suggesting that N-acetylagmatine might have physiologically important actions.[4]

References

1. Piletz, J.E., Aricioglu, F., Cheng, J.T., *et al.* Agmatine: Clinical applications after 100 years in translation. *Drug Discov. Today* **18(17-18)**, 880-893 (2013).
2. van den Berg, G.A., Muskiet, F.A., Kingma, A.W., *et al.* Simultaneous gas-chromatographic determination of free and acetyl-conjugated polyamines in urine. *Clin. Chem.* **32(10)**, 1930-1937 (1986).
3. Seiler, N. and Al-Therib, M.J. Putrescine catabolism in mammalian brain. *Biochem. J.* **144(1)**, 29-35 (1974).
4. Perin, A., Sessa, A., and Desiderio, M.A. Response of tissue diamine oxidase activity to polyamine administration. *Biochem. J.* **234(1)**, 119-123 (1986).

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