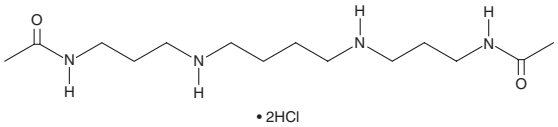
PRODUCT INFORMATION

N^1,N^{12}-Diacetylspermine (hydrochloride)

Item No. 17918

CAS Registry No.: 77928-71-3
Formal Name: N,N'-[1,4-butanediylbis(imino-3,1-propanediyl)]*bis*-acetamide, dihydrochloride
Synonym: BAS
MF: $C_{14}H_{30}N_4O_2 \bullet 2HCl$
FW: 359.3
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^1,N^{12}-Diacetylspermine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the N^1,N^{12}-diacetylspermine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. N^1,N^{12}-Diacetylspermine (hydrochloride) is soluble in the organic solvent DMSO at a concentration of approximately 0.2 mg/ml.

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^1,N^{12}-diacetylspermine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N^1,N^{12}-diacetylspermine (hydrochloride) 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^1,N^{12}-Acetylspermine is a diacetylated derivative of spermine (Item No. 18041), an endogenous polyamine synthesized from spermidine (Item No. 14918), that displays lower K_m and higher V_{max} values than spermine, making it a better substrate of polyamine oxidase than the non-acetylated polyamine.[1] Spermine is required for eukaryotic cell growth and protein synthesis and is involved in the modulation of calcium-dependent immune processes.[2,3] Upregulation of N^1,N^{12}-acetylspermine has been linked to the incidence of cancer, making this natural polyamine a potential biomarker for cancer detection.[4]

References

1. Bolkenius, F.N. and Seiler, N. Acetylderivatives as intermediates in polyamine catabolism. *Int. J. Biochem.* **13(3)**, 287-292 (1981).
2. Wallace, H.M., Fraser, A.V., and Hughes, A. A perspective of polyamine metabolism. *Biochem. J.* **376(Pt 1)**, 1-14 (2003).
3. Igarashi, K. and Kashiwagi, K. Polyamines: Mysterious modulators of cellular functions. *Biochem. Biophys. Res. Commun.* **271(3)**, 559-564 (2000).
4. Lin, F.-T., Lai, Y.-J., Makarova, N., *et al.* The lysophosphatidic acid 2 receptor mediates down-regulation of Siva-1 to promote cell survival. *J. Biol. Chem.* **282(52)**, 37759-37769 (2007).

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