

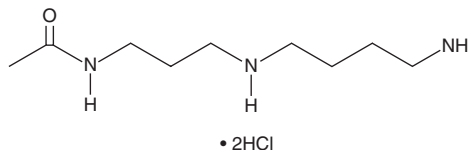
PRODUCT INFORMATION



N¹-Acetylspermidine (hydrochloride)

Item No. 9001535

CAS Registry No.: 34450-16-3
Formal Name: N-[3-[(4-aminobutyl) amino]propyl]-acetamide, dihydrochloride
Synonym: N¹-AcSPD
MF: C₉H₂₁N₃O • 2HCl
FW: 260.2
Purity: ≥98%
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

N¹-Acetylspermidine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the N¹-acetylspermidine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. N¹-Acetylspermidine (hydrochloride) is soluble in the organic solvent DMSO at a concentration of approximately 0.1 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 N¹-acetylspermidine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N¹-acetylspermidine (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

N¹-Acetylspermidine is an acetyl derivative of spermidine (Item No. 14918) that acts as a substrate for polyamine oxidase (PAO).¹ In peroxisomes, PAO oxidizes N¹-acetylspermidine to 3-acetamidopropanal and putrescine, a positively charged polyamine that binds DNA and is involved in various cellular processes including cell division, differentiation, and membrane function.¹⁻⁴ N¹-Acetylspermidine has been used to examine the interaction between DNA and polyamines during the cleavage of phosphodiester bonds at apurinic/apyrimidinic sites in DNA.⁵

References

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2. Gill, S.S. and Tuteja, N. Polyamines and abiotic stress tolerance in plants. *Plant Signal. Behav.* **5(1)**, 26-33 (2010).
3. Prunotto, M., Compagnone, A., Bruschi, M., *et al.* Endocellular polyamine availability modulates epithelial-to-mesenchymal transition and unfolded protein response in MDCK cells. *Lab Invest.* **90(6)**, 929-939 (2010).
4. Babbar, N., Ignatenko, N.A., Casero, R.A., Jr., *et al.* Cyclooxygenase-independent induction of apoptosis by sulindac sulfone is mediated by polyamines in colon cancer. *J. Biol. Chem.* **278(48)**, 47762-47775 (2003).
5. Haukanes, B.I., Szajko, K., and Helland, D.E. Action of spermidine, N¹-acetylspermidine, and N⁸-acetylspermidine at apurinic sites in DNA. *FEBS Lett.* **269(2)**, 389-393 (1990).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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