

# Produktinformation



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# **Product Information**



### N<sup>1</sup>-Acetylspermidine (hydrochloride)

Item No. 9001535

CAS Registry No.:	34450-16-3		
Formal Name:	N-[3-[(4-aminobutyl)amino]propyl]-	0	
	acetamide, dihydrochloride	Ŭ.	
Synonym:	N <sup>1</sup> -AcSPD		JH <sub>2</sub>
MF:	$C_9H_{21}N_3O \bullet 2HCl$		
FW:	260.2	H Ĥ	
Purity:	≥98%	• 2HCl	
Stability:	≥2 years at -20°C		
Supplied as:	A crystalline solid		

#### Laboratory Procedures

For long term storage, we suggest that N<sup>1</sup>-acetylspermidine (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

N<sup>1</sup>-Acetylspermidine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the N<sup>1</sup>-acetylspermidine (hydrochloride) in the solvent of choice. N<sup>1</sup>-Acetylspermidine (hydrochloride) is soluble in 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 N<sup>1</sup>-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.

N<sup>1</sup>-Acetylspermidine is an acetyl derivative of spermidine (Item No. 14918) that acts as a substrate for polyamine oxidase (PAO).<sup>1</sup> In peroxisomes, PAO oxidizes N<sup>1</sup>-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.<sup>2-5</sup> N<sup>1</sup>-Acetylspermidine has been used to examine the interaction between DNA and polyamines during the cleavage of phosphodiester bonds at apurinic/apyrimidinic sites in DNA.<sup>6</sup>

#### References

- 1. Takao, K., Sugita, Y., and Shirahata, A. Assay of N<sup>1</sup>-acetylpolyamine oxidase activity with N<sup>1</sup>,N<sup>11</sup>-didansylnorspermine as the substrate by ion-pair reversed phase high performance liquid chromatography. Biol. Pharm. Bull. 33(7), 1089-1094 (2010).
- 2. Gawandi, V. and Fitzpatrick, P.F. The synthesis of deuterium-labeled spermine, N<sup>1</sup>-acetylspermine and N<sup>1</sup>-acetylspermidine. J. Labelled Comp. Radiopharm. 50(7), 666-670 (2007).
- 3. Gill, S.S. and Tuteja, N. Polyamines and abiotic stress tolerance in plants. *Plant Signal. Behav.* 5(1), 26-33 (2010).
- 4. Prunotto, M., Compagnone, A., Bruschi, M., et al. Endocellular polyamine availability modulates epithelial-tomesenchymal transition and unfolded protein response in MDCK cells. Lab Invest. 90(6), 929-939 (2010).
- Babbar, N., Ignatenko, N.A., Casero, R.A., Jr., et al. Cyclooxygenase-independent induction of apoptosis by sulindac 5. sulfone is mediated by polyamines in colon cancer. J. Biol. Chem. 278(48), 47762-47775 (2003).
- Haukanes, B.I., Szajko, K., and Helland, D.E. Action of spermidine, N<sup>1</sup>-acetylspermidine, and N<sup>8</sup>-acetylspermidine 6. at apurinic sites in DNA. FEBS Lett. 269(2), 389-393 (1990).

#### **Related Products**

For a list of related products please visit: www.caymanchem.com/catalog/9001535

#### WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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