

Certificate of Analysis

Product Name: *N*¹,*N*¹¹-Diethylnorspermine tetrahydrochloride **Catalog No.:** 0468 **Batch No.:** 4
CAS Number: 156886-85-0
IUPAC Name: *N,N*-bis[3-(Ethylamino)propyl]-1,3-propanediamine tetrahydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₃H₃₂N₄·4HCl
Batch Molecular Weight: 390.27
Physical Appearance: White solid
Solubility: water to 100 mM
Storage: Store at RT
Batch Molecular Structure: .4HCl



2. ANALYTICAL DATA

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	40.01	9.3	14.35
Found	39.85	9.4	14.21

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Highly potent inducer of spermidine/spermine N¹-acetyltransferase, able to increase enzyme activity 200-1000 fold.

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.4HCl



Storage: Store at RT

Solubility & Usage Info:

water to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Fogel-Petrovic et al (1997) Structural basis for differential induction of spermidine/spermine N¹-acetyltransferase activity by novel spermine analogs. *Mol.Pharmacol.* **52** 69. PMID: 9224814.

Porter et al (1993) Antitumour activity of N¹,N¹²-bis(ethyl)-norspermine against human melanoma xenografts and possible biochemical correlates of drug action. *Cancer Res.* **53** 581. PMID: 8425191.

Bernacki et al (1992) Antitumour activity of N¹,N¹²-bis(ethyl)spermine homologs against human MALME-3 melanoma xenografts. *Cancer Res.* **52** 2424. PMID: 1568212.

Libby et al (1991) Characterization of human spermidine spermine N¹-acetyltransferase purified from cultured melanoma cells. *Arch.Biochem.Biophys.* **284** 238. PMID: 1989509.

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