Print Date: Oct 9th 2014

Certificate of Analysis

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Product Name: **M 344** **Catalog No.: 2771** **Batch No.: 1**

CAS Number: 251456-60-7

IUPAC Name: 4-(Diethylamino)-*N*-[7-(hydroxyamino)-7-oxoheptyl]benzamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{16}H_{25}N_3O_3 \cdot ¼H_2O$

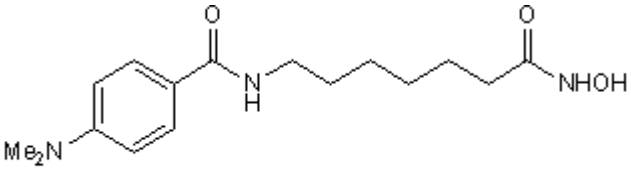
Batch Molecular Weight: 311.89

Physical Appearance: White solid

Solubility: DMSO to 100 mM
ethanol to 20 mM

Storage: Store at RT

Batch Molecular Structure:



$C_{16}H_{25}N_3O_3$
Mol. Wt.: 307.39

2. ANALYTICAL DATA

TLC: R_f = 0.1 (Ethyl acetate)

HPLC: Shows 98.1% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	61.62	8.24	13.47
Found	61.99	8.2	13.6

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

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CAS Number: 251456-60-7

IUPAC Name: 4-(Diethylamino)-*N*-[7-(hydroxyamino)-7-oxoheptyl]benzamide

Description:

Histone deacetylase inhibitor (IC_{50} = 100 nM). Induces terminal cell differentiation and causes an increase in hyperacetylated histone H4. Antiproliferative agent; suppresses the growth of human endometrial and ovarian cancer cells by inducing cell cycle arrest and apoptosis.

Physical and Chemical Properties:

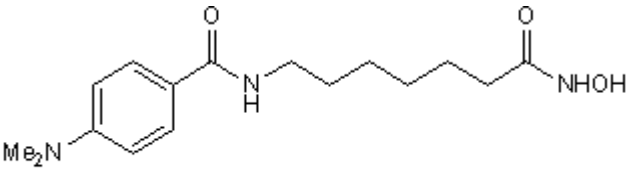
Batch Molecular Formula: $C_{16}H_{25}N_3O_3.¼H_2O$

Batch Molecular Weight: 311.89

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



$C_{16}H_{25}N_3O_3$
Mol. Wt.: 307.39

Storage: Store at RT

Solubility & Usage Info:

DMSO to 100 mM
ethanol to 20 mM

When purchsed as a 1mg unit, this product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

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:

Jung *et al* (1999) Amide analogues of trichostatin A as inhibitors of histone deacetylase and inducers of terminal cell differentiation. J.Med.Chem. ***42*** 4669. PMID: 10579829.

Takai *et al* (2006) M344 is a novel synthesized histone deacetylase inhibitor that induces growth inhibition, cell cycle arrest, and apoptosis in human endometrial cancer and ovarian cancer cells. Gynecol.Oncol. ***101*** 108. PMID: 16263156.

Riessland *et al* (2006) The benzamide M344, a novel histone deacetylase inhibitor, significantly increases SMN2 RNA/protein levels in spinal muscular atrophy cells. Hum.Genet. ***120*** 101. PMID: 16724231.

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