Print Date: Jun 16th 2017

Certificate of Analysis

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Product Name: **MS 275** **Catalog No.: 6208** **Batch No.: 1**

CAS Number: 209783-80-2

IUPAC Name: (Pyridin-3-yl)methyl 4-(2-aminophenylcarbamoyl)benzylcarbamate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{21}H_{20}N_4O_3$

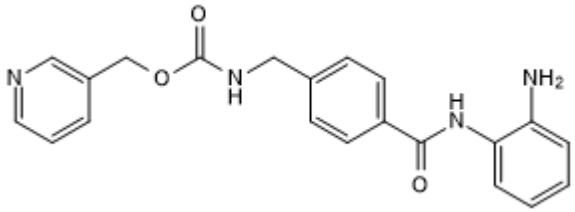
Batch Molecular Weight: 376.41

Physical Appearance: White solid

Solubility: DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.6% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	67.01	5.36	14.88
Found	67.13	5.36	14.82

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Product Information

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CAS Number: 209783-80-2

IUPAC Name: (Pyridin-3-yl)methyl 4-(2-aminophenylcarbamoyl)benzylcarbamate

Description:

Class I HDAC inhibitor (IC_{50} values are 0.18, 0.74, 44.9 and >100 μM for HDAC1, 3, 8 and 6, respectively). Exhibits antiproliferative effects and induces apoptosis in a range of tumor cell lines in vitro and in vivo. Increases estrogen receptor α- and aromatase expression in breast cancer cells. Inhibits PCB-induced neuronal cell death by preventing HDAC3 binding and histone deacetylation within the synapsin-1 promoter.

Physical and Chemical Properties:

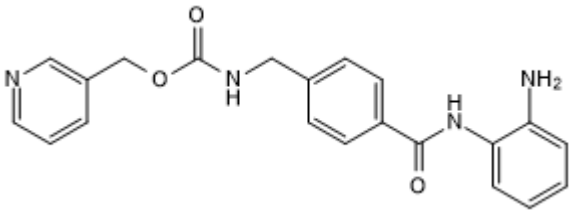
Batch Molecular Formula: $C_{21}H_{20}N_4O_3$

Batch Molecular Weight: 376.41

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO 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:

Formisano *et al* (2015) MS-275 inhibits aroclor 1254-induced SH-SY5Y neuronal cell toxicity by preventing the formation of the HDAC3/REST complex on the synapsin-1 promoter. J.Pharmacol.Exp.Ther. ***352*** 236. PMID: 25467131.

Sabnis *et al* (2011) Functional activation of the estrogen receptor-α and aromatase by the HDAC inhibitor entinostat sensitizes ER-negative tumors to letrozole. Cancer Res. ***71*** 1893. PMID: 21245100 .

Beckers *et al* (2007) Distinct pharmacological properties of second generation HDAC inhibitors with the benzamide or hydroxamate head group. Int.J.Cancer ***121*** 1138. PMID: 17455259.

Saito *et al* (1999) A synthetic inhibitor of histone deacetylase, MS-27-275, with marked in vivo antitumor activity against human tumors. Proc.Natl.Acad.Sci. ***96*** 4592. PMID: 10200307.