

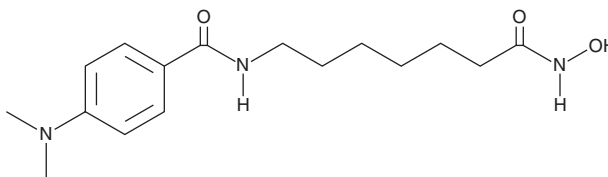
Product Information



M 344

Item No. 13174

CAS Registry No.: 251456-60-7
Formal Name: 4-(dimethylamino)-N-[7-(hydroxyamino)-7-oxoheptyl]-benzamide
Synonyms: D237, Histone Deacetylase Inhibitor III, MS 344
MF: C₁₆H₂₅N₃O₃
FW: 307.4
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that M 344 be stored as supplied at -20°C. It should be stable for at least two years.

M 344 is supplied as a crystalline solid. A stock solution may be made by dissolving the M 344 in an organic solvent purged with an inert gas. M 344 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of M 344 in ethanol is approximately 3 mg/ml and approximately 25 mg/ml in DMSO and DMF.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

M 344 is an inhibitor of histone deacetylases (HDACs), inhibiting maize HDAC (IC₅₀ = 100 nM)¹ as well as human HDAC1 (IC₅₀ = 46 nM).² It shows a three-fold selectivity for inhibition of HDAC6 over HDAC1.³ M 344 enhances the sensitivity of human squamous carcinoma cells to radiation⁴ and promotes cell cycle arrest and apoptosis in human endometrial cancer and ovarian cancer cells (ED₅₀ = 2.3 μM).⁵

References

1. Jung, M., Brosch, G., Kölle, D., *et al.* Amide analogues of trichostatin A as inhibitors of histone deacetylase and inducers of terminal cell differentiation. *J. Med. Chem* **42**, 4669-4679 (1999).
2. Remiszewski, S.W., Sambucetti, L.C., Atadja, P., *et al.* Inhibitors of human histone deacetylase: Synthesis and enzyme and cellular activity of straight chain hydroxamates. *J. Med. Chem* **45**(4), 753-757 (2002).
3. Heltweg, B., Dequiedt, F., Marshall, B.L., *et al.* Subtype selective substrates for histone deacetylases. *J. Med. Chem* **47**, 5235-5243 (2004).
4. Zhang, Y., Jung, M., Dritschilo, A., *et al.* Enhancement of radiation sensitivity of human squamous carcinoma cells by histone deacetylase inhibitors. *Radiation Research* **161**, 667-674 (2004).
5. Takai, N., Ueda, T., Nishida, M., *et al.* M 344 is a novel synthesized histone deacetylase inhibitor that induces growth inhibition, cell cycle arrest, and apoptosis in human endometrial cancer and ovarian cancer cells. *Gynecologic Oncology* **101**, 108-113 (2006).

Related Products

Tubastatin A (trifluoroacetate salt) - Item No. 10559 • coumarin-SAHA - Item No. 10671 • CBHA - Item No. 13172 • Trichostatin A - Item No. 89730 • SAHA - Item No. 10009929

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

MATERIAL 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 Material Safety Data Sheet, which has been sent via email to your institution.

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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

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