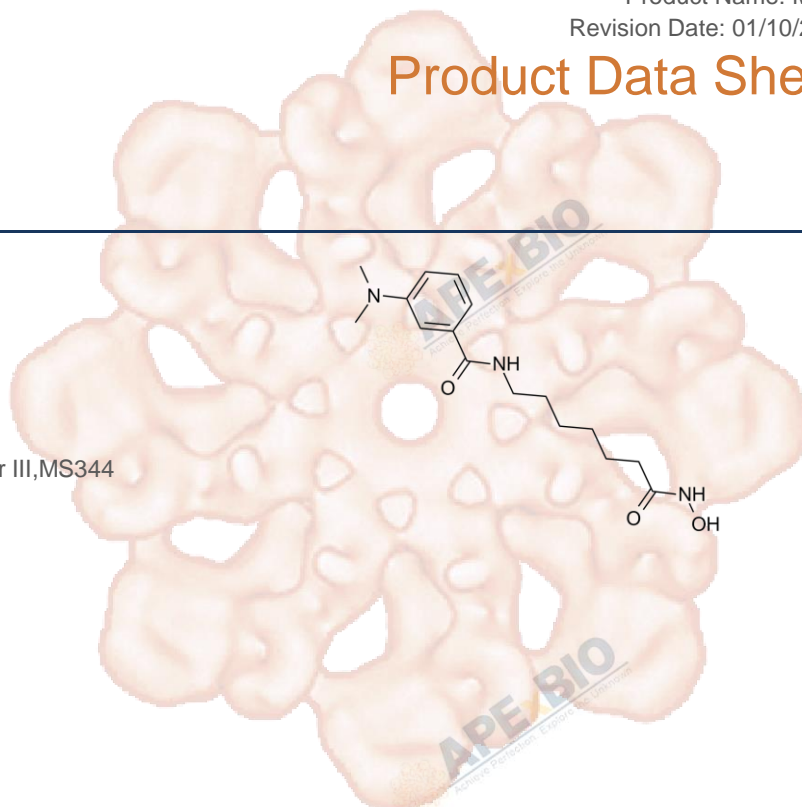


# Product Data Sheet

## M344

<b>Cat. No.:</b>	A4105
<b>CAS No.:</b>	251456-60-7
<b>Formula:</b>	C <sub>16</sub> H <sub>25</sub> N <sub>3</sub> O <sub>3</sub>
<b>M.Wt:</b>	307.39
<b>Synonyms:</b>	Histone Deacetylase Inhibitor III, MS344
<b>Target:</b>	DNA Damage/DNA Repair
<b>Pathway:</b>	HDAC
<b>Storage:</b>	Store at -20°C



## Solvent & Solubility

insoluble in H<sub>2</sub>O;  $\geq 12.88$  mg/mL in EtOH with ultrasonic;  $\geq 14.75$  mg/mL in DMSO

In Vitro

	Solvent	Mass Concentration	1mg	5mg	10mg
Preparing Stock Solutions	1 mM		3.2532 mL	16.2660 mL	32.5320 mL
	5 mM		0.6506 mL	3.2532 mL	6.5064 mL
	10 mM		0.3253 mL	1.6266 mL	3.2532 mL

Please refer to the solubility information to select the appropriate solvent.

## Biological Activity

Shortsummary

HDAC inhibitor, potent and cell-permeable

IC<sub>50</sub> & Target

100 nM (HDAC)

In Vitro

### Cell Viability Assay

Cell Line:	MCF-7 breast cancer cell line
Preparation method:	The solubility of this compound in DMSO is > 14.75 mg/ml. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	1 $\mu$ M to 100 $\mu$ M for 1–7 days

	Applications:	Bonferroni posthoc analysis indicated that treatment of MCF-7 cells with M344 for 1 day caused a significant inhibition at 50 $\mu$ M, whereas treatment for 3 days showed significant inhibition at 10 $\mu$ M, 50 $\mu$ M and 100 $\mu$ M, with a maximal inhibition of 40% at 100 $\mu$ M. After 5 days, all concentrations of M344 caused a significant suppression of MCF-7 cell growth, with a maximal inhibition of 60% observed at 10 $\mu$ M.
In Vivo	<b>Animal experiment</b>	
	Animal models:	Brain slice from 5-day-old Wistar rats
	Dosage form:	Submicromolar doses
	Applications:	Suberoylanilide hydroxamic acid (SAHA) increased survival motor neuron (SMN) levels in several neuroectodermal tissues, including rat hippocampal brain slices and motoneurone-rich cell fractions. SAHA activated survival motor neuron gene 2 (SMN2) and inhibited HDACs at submicromolar doses. In contrast to SAHA, M344 displayed unfavourable toxicity profiles.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

## Product Citations

1.Bagnall NH, Hines BM, et al."Insecticidal activities of histone deacetylase inhibitors against a dipteran parasite of sheep, *Lucilia cuprina*." Int J Parasitol Drugs Drug Resist. 2017Apr;7(1):51-60.PMID:28110187

See more customer validations on [www.apexbt.com](http://www.apexbt.com).

## References

[1] Yeung A, Bhargava RK, Ahn, R, et al. HDAC inhibitor M344 suppresses MCF-7 breast cancer cell proliferation. BIOMEDICINE & PHARMACOTHERAPY, 2012, 66 (3): 232-236.

[2] Hahnen E et al. In vitro and ex vivo evaluation of second-generation histone deacetylase inhibitors for the treatment of spinal muscular atrophy. J Neurochem. 2006 Jul;98(1):193-202.

## Caution

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



## APExBIO Technology

[www.apexbt.com](http://www.apexbt.com)

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: [info@apexbt.com](mailto:info@apexbt.com)

