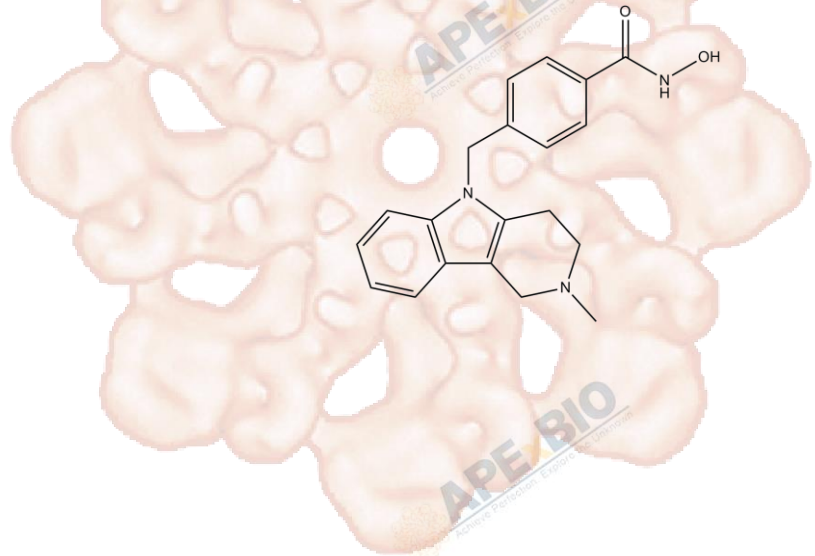


Product Data Sheet

Tubastatin A

Cat. No.:	A4101
CAS No.:	1252003-15-8
Formula:	C ₂₀ H ₂₁ N ₃ O ₂
M.Wt:	335.4
Synonyms:	
Target:	DNA Damage/DNA Repair
Pathway:	HDAC
Storage:	Store at -20°C



Solvent & Solubility

insoluble in EtOH; insoluble in H₂O; ≥10.75 mg/mL in DMSO

In Vitro

Preparing Stock Solutions	Solvent	Mass Concentration	Mass		
			1mg	5mg	10mg
		1 mM	2.9815 mL	14.9076 mL	29.8151 mL
		5 mM	0.5963 mL	2.9815 mL	5.9630 mL
		10 mM	0.2982 mL	1.4908 mL	2.9815 mL

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

Biological Activity

Shortsummary

HDAC6 inhibitor,potent and selective

IC₅₀ & Target

15 nM (HDAC6)

In Vitro

Cell Viability Assay

Cell Line:	Human breast cancer cells (MCF-7).
Preparation method:	Soluble in DMSO > 10 mM. 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:	15, 30 μM; 48 h.

	Applications:	In MCF-7 cells, tubastatin A inhibits cell proliferation in a dose-dependent way with IC50 value of 15 μ M and increases the acetylation of cytoplasmic microtubules. Also, tubastatin A reduces the microtubule depolymerization rate induced by cold and 200 nM nocodazole, which is mediated by the inhibition of HDAC6.
In Vivo	Animal experiment	
	Animal models:	Wistar rats; DBA1 mice
	Dosage form:	Rats: 30 mg/kg/day i.p. for 5 days; mice: 30 mg/kg, q.d. from day 21 to day 36.
	Applications:	In FCA injected rats, tubastatin significantly reduces paw volume by 71.9% at 2 h. In DBA1 arthritis mouse induced by semi-therapeutic collagen, tubastatin (30 mg/kg/day, i.p.) significantly reduces arthritic clinical scores by 73% and inhibits the production of IL-6 in paw tissues by 59%. Tubastatin treated mice shows insignificant changes in body weight.
	Preparation method:	Solubilized in 10% Dimethyl sulfoxide (DMSO) 10% Polyethylene glycol (PEG) 400 and 80% (40% of hydroxy propyl beta cyclodextrin).
	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

- Huang Y, Yang W, et al. "Droxinostat sensitizes human colon cancer cells to apoptotic cell death via induction of oxidative stress." Cell Mol Biol Lett. 2018 Jul 28;23:34.PMID:30065760
- Topper MJ, Vaz M, et al. "Epigenetic Therapy Ties MYC Depletion to Reversing Immune Evasion and Treating Lung Cancer." Cell. 2017 Nov 30;171(6):1284-1300.e21.PMID:29195073
- Carolina dos S. Passos, Nathalie Deschamps, et al. "Methods for addressing the protein-protein interaction between histone deacetylase 6 and ubiquitin." biorxiv.2017 October 15.
- Adeegbe DO, Liu Y, et al. "Synergistic Immunostimulatory Effects and Therapeutic Benefit of Combined Histone Deacetylase and Bromodomain Inhibition in Non-Small Cell Lung Cancer." Cancer Discov. 2017 Aug;7(8):852-867.PMID:28408401
- 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. 2017 Apr;7(1):51-60.PMID:28110187

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References

- [1]. Asthana J, Kapoor S, Mohan R, et al. Inhibition of HDAC6 deacetylase activity increases its binding with microtubules and suppresses microtubule dynamic instability in MCF-7 cells. J Biol Chem, 2013, 288(31): 22516-22526.
- [2]. Vishwakarma S, Iyer LR, Muley M, et al. Tubastatin, a selective histone deacetylase 6 inhibitor shows anti-inflammatory and anti-rheumatic effects. Int Immunopharmacol, 2013, 16(1): 72-78.

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.

APEX[®]BIO Technology

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

