Product Data Sheet

Entinostat (MS-275,SNDX-275)

Cat. No.: A8171

CAS No.: 209783-80-2

Formula: C21H20N4O3

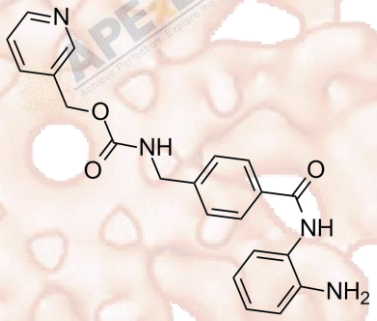
M.Wt: 376.4

Synonyms: MS-275,SNDX-275, MS 275, MS-27-275, SNDX275, Histone Deacetylase Inhibitor I, MS27-275

Target: DNA Damage/DNA Repair

Pathway: HDAC

Storage: Store at -20°C



Solvent & Solubility

insoluble in H2O; ⩾18.8 mg/mL in DMSO; ⩾7.4 mg/mL in EtOH with ultrasonic

In Vitro — Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	2.6567 mL	13.2837 mL	26.5675 mL
5 mM	0.5313 mL	2.6567 mL	5.3135 mL
10 mM	0.2657 mL	1.3284 mL	2.6567 mL

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

Biological Activity

Shortsummary	HDAC1 and HDAC3 inhibitor
IC_{50} & Target	0.51 μM (HDAC1), 1.7 μM (HDAC3)

In Vitro

Cell Viability Assay

Cell Line:	Y79, Weri-Rb1, and Y79-LUC human RB cell lines, and Rb143 primary human RB cells
Preparation method：	The solubility of this compound in DMSO is >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:	Dependent on situations
	Applications:	TSA, SAHA, and MS-275 dose dependently reduced RB cell survival. TSA and MS-275 showed additive growth-inhibitory effects in combination with carboplatin, etoposide, or vincristine. TSA and MS-275 increased caspase-3/7 activity. MS-275 increased Annexin V membrane translocation and induced G1arrest. Cytotoxicity of MS-275 was dependent on increased reactive oxygen species levels and was reversed by antioxidant pretreatment.
In Vivo	**Animal experiment**	
	Animal models:	LHh-Tag transgenic murine model and a rat Y79-LUC ocular xenograft model
	Dosage form:	LHh-Tag mice were treated every other day for 21 d with 20 mg/kg MS-275; Y79-LUC ocular xenografts mice were treated every other day for 13 d with 20 mg/kg MS-275.
	Applications:	Intraocular administration of 1μl of 10 μM MS-275 did not alter ocular tissue morphology. Increased acetyl-histone levels confirmed MS-275 delivery to retinal tissue after systemic administration. MS-275 significantly reduced tumor burden in both mouse and rat models of RB.
	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.Manna PR, Ahmed AU, et al. "Overexpression of the steroidogenic acute regulatory protein in breast cancer: Regulation by histone deacetylase inhibition." Biochem Biophys Res Commun. 2019 Feb 5;509(2):476-482.PMID:30595381

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

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References

1. Dalgard CL, Van Quill KR, O'Brien JM. Evaluation of the in vitro and in vivo antitumor activity of histone deacetylase inhibitors for the therapy of retinoblastoma. Clin Cancer Res. 2008 May 15;14(10):3113-23.

2. Pili R1, Salumbides B, Zhao M et al. Phase I study of the histone deacetylase inhibitor entinostat in combination with 13-cis retinoic acid in patients with solid tumours. Br J Cancer. 2012 Jan 3;106(1):77-84.

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 APExBIO 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.

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