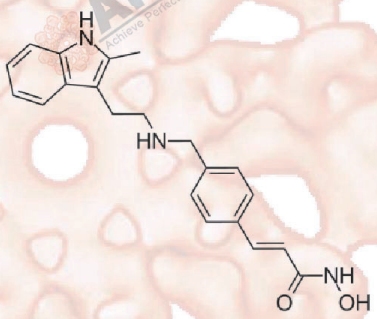
Product Data Sheet

Panobinostat (LBH589)

Cat. No.:	A8178
CAS No.:	404950-80-7
Formula:	C21H23N3O2
M.Wt:	349.43
Synonyms:	Panobinostat,LBH589,LBH-589, Faridak, NVP-LBH589,
Target:	DNA Damage/DNA Repair
Pathway:	HDAC
Storage:	Store at -20°C



Solvent & Solubility

In Vitro

insoluble in H2O; insoluble in EtOH; ≥17.47 mg/mL in DMSO

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1mg	5mg	10mg
1 mM	2.8618 mL	14.3090 mL	28.6180 mL
5 mM	0.5724 mL	2.8618 mL	5.7236 mL
10 mM	0.2862 mL	1.4309 mL	2.8618 mL

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

Biological Activity

Shortsummary	HDAC inhibitor
IC_{50} & Target	5 nM (HDAC (MOLT-4 cells)), 20 nM (HDAC (Reh cells))

In Vitro

Cell Viability Assay

Cell Line:	MCF-7aro, LTEDaro, Exe-R, Let-R, Ana-R cell lins
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:	6d; 20 nM
	Applications:	To study cellular response to AIs and the mechanisms of acquired AI resistance, we used the previously generated AI-responsive cell line MCF-7aro and AI-resistant variants of MCF-7aro created following in vitro selection against each AI (i.e., Exe-R, Let-R, and Ana-R) or long-term culture in the absence of estrogen (i.e., LTEDaro). MCF-7aro, LTEDaro and three AI-resistant cell lines were exposed to increasing concentrations of LBH589. This drug-inhibited proliferation of all cell lines in a dose-dependent manner.
In Vivo	**Animal experiment**	
	Animal models:	Female, 6- to 7-week-old ovariectomized, BALB/c Nu–Nu athymic mice
	Dosage form:	20 mg/kg, three times per week, intraperitoneal injection
	Applications:	To evaluate the inhibitory effects of LBH589 on AI resistance in vivo, we used the exemestane-resistant MCF7aro xenograft model. LBH589 treatment significantly inhibited the growth of exemestane-resistant tumors; tumor weight at the end of experiment was significantly lesser in mice treated with LBH589 than in control mice. No mice in the LBH589 treat-ment groups showed significant body weight loss indicating that the LBH589 treatment was well tolerated. Consistent with the effect of LBH589 on gross character-istics of the tumors, proliferation (assessed by Ki-67 staining) of tumor cells was significantly decreased in LBH589-treated mice and apoptosis (assessed by staining for cleaved PARP) of tumor cells was significantly increased.
	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. Simic D, Sang N. "Compounds targeting class II histone deacetylases do not cause panHDACI-associated impairment of megakaryocyte differentiation." Exp Hematol. 2019 Jan 4. pii: S0301-472X(19)30005-0.PMID:30611870

2. 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

3. Hacker KE, Bolland DE, et al. "The DEK Oncoprotein Functions in Ovarian Cancer Growth and Survival." Neoplasia. 2018 Dec;20(12):1209-1218.PMID:30412857

4. Hari Prasad, Rajini Rao. "The Amyloid Clearance Defect in ApoE4 Astrocytes is Corrected by Epigenetic Restoration of NHE6." bioRxiv. 2018.January. 4.

5. Lee HM, Lee E, et al. "Drug repurposing screening identifies bortezomib and panobinostat as drugs targeting cancer associated fibroblasts (CAFs) by synergistic induction of apoptosis." Invest New Drugs. 2018 Jan 18.PMID:29349597

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References

[1] Kubo M, Kanaya N, Petrossian K, et al. Inhibition of the proliferation of acquired aromatase inhibitor-resistant breast cancer cells by histone deacetylase inhibitor LBH589 (panobinostat)[J]. Breast cancer research and treatment, 2013, 137(1): 93-107.

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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