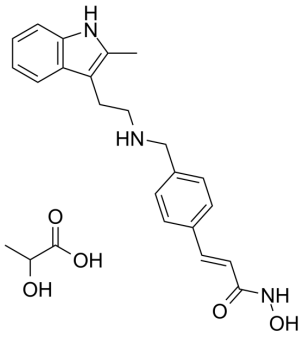
Panobinostat lactate

Cat. No.:	HY-10224A
CAS No.:	960055-56-5
Molecular Formula:	$C_{24}H_{29}N_3O_5$
Molecular Weight:	439.5
Target:	HDAC; HIV; Autophagy; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Anti-infection; Autophagy; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Panobinostat lactate is a potent and orally active non-selective HDAC inhibitor. Panobinostat lactate has antineoplastic activities. Panobinostat lactate effectively disrupts HIV latency. Panobinostat lactate induces cell apoptosis and autophagy. Panobinostat lactate can be used for the study of refractory or relapsed multiple myeloma[1][2][3][4][5].	
IC_{50} & Target	HDAC	HIV-1
In Vitro	Panobinostat lactate induces apoptosis of both MOLT-4 and Reh cells in a time- and dose-dependent manner. Panobinosta lactate results in histone (H3K9 and H4K8) hyperacetylation and regulation of cell-cycle control genes in Reh cells[1]. Panobinostat lactate exhibites potent antiproliferative activity in human NSCLC cell lines with the IC_{50} ranging from 5 to 100 nM[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	Panobinosta lactate (10, 20 mg/kg, i.p.) significantly slows tumor growth derived from Meso and NSCLC cells in vivo models. Panobinosta lactate markedly increases acetylation of histone H3 and H4 of H69 human SCLC cells harvest from SCID mice [2]. Panobinostat lactate (5, 10 and 20 mg/kg i.p.) demonstrates a clear benefit of decreased tumor burden, significantly improves TTE and reduces bone density loss in a disseminated multiple myeloma mouse model[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

CUSTOMER VALIDATION

- Cancer Res. 2016 Dec 1;76(23):7001-7011.
- Cancer Lett. 30 June 2021.
- PLoS Pathog. 2018 Sep 13;14(9):e1007267.
- J Clin Endocrinol Metab. 2021 Jan 1;106(1):e232-e246.
- Front Immunol. 2021 Aug 31;12:701671.

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REFERENCES

[1]. Scuto A, et al. The novel histone deacetylase inhibitor, LBH589, induces expression of DNA damage response genes and apoptosis in Ph- acute lymphoblastic leukemia cells. Blood. 2008 May 15;111(10):5093-100.

[2]. Crisanti MC, et al. The HDAC inhibitor panobinostat (LBH589) inhibits mesothelioma and lung cancer cells in vitro and in vivo with particular efficacy for small cell lung cancer. Mol Cancer Ther. 2009 Aug;8(8):2221-31.

[3]. Ocio EM, et al. In vitro and in vivo rationale for the triple combination of panobinostat (LBH589) and dexamethasone with either bortezomib or lenalidomide in multiple myeloma. Haematologica. 2010 May;95(5):794-803.

[4]. Banerjee NS, et al. Vorinostat, a pan-HDAC inhibitor, abrogates productive HPV-18 DNA amplification. Proc Natl Acad Sci U S A. 2018 Nov 20;115(47):E11138-E11147.

[5]. Barton K, et al. Broad activation of latent HIV-1 in vivo. Nat Commun. 2016;7:12731. Published 2016 Sep 8.

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