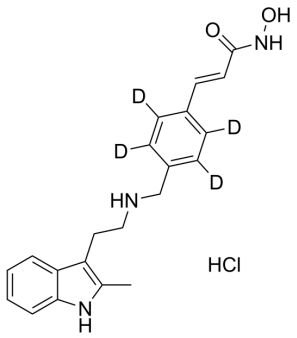
Panobinostat-d_4 hydrochloride

Cat. No.:	HY-10224S1
Molecular Formula:	$C_{21}H_{20}D_4ClN_3O_2$
Molecular Weight:	389.91
Target:	Apoptosis; Autophagy; HDAC; HIV; Isotope-Labeled Compounds
Pathway:	Apoptosis; Autophagy; Cell Cycle/DNA Damage; Epigenetics; Anti-infection; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Panobinostat-d_4 (hydrochloride) is deuterium labeled Panobinostat. Panobinostat (LBH589; NVP-LBH589) is a potent and orally active non-selective HDAC inhibitor, and has antineoplastic activities[1][2]. Panobinostat induces HIV-1 virus production even at low concentration range 8-31 nM, stimulates HIV-1 expression in latently infected cells[4]. Panobinostat induces cell apoptosis and autophagy. Panobinostat can be used for the study of refractory or relapsed multiple myeloma[3].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. 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.

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

[3]. 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.

[4]. 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.

[5]. 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.

[6]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

Caution: Product has not been fully validated for medical applications. For research use only.

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