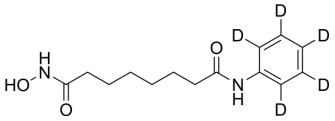
Vorinostat-d5

Cat. No.:	HY-115412
CAS No.:	1132749-48-4
Molecular Formula:	$C_{14}H_{15}D_5N_2O_3$
Molecular Weight:	269.35
Target:	HDAC; Autophagy; Mitophagy; Filovirus; Apoptosis; HPV
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Autophagy; Anti-infection; Apoptosis
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Vorinostat-d5 (SAHA-d5) is the deuterium labeled Vorinostat. Vorinostat (SAHA) is a potent and orally active pan-inhibitor of HDAC1, HDAC2 and HDAC3 (Class I), HDAC7 (Class II) and HDAC11 (Class IV), with ID_{50} values of 10 nM and 20 nM for HDAC1 and HDAC3, respectively. Vorinostat induces cell apoptosis[1][4]. Vorinostat is also an effective inhibitor of human papillomaviruse (HPV)-18 DNA amplification[7].
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]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Hrzenjak A et al. Histone deacetylase inhibitor vorinostat suppresses the growth of uterine sarcomas in vitro and in vivo. Mol Cancer. 2010 Mar 4;9:49.;Lautz TB, et al. The effect of vorinostat on the development of resistance to NSC 123127 in neuroblastoma. PLoS One. 2012;7(7):e40816.;Richon VM, et al. A class of hybrid polar inducers of transformed cell differentiation inhibits histone deacetylases. Proc Natl Acad Sci U S A. 1998 Mar 17;95(6):3003-7.;Xu WS, et al. Histone deacetylase inhibitors: molecular mechanisms of action. Oncogene. 2007 Aug 13;26(37):5541-52.;Pérez-Cañamás A, et al. Sphingomyelin-induced inhibition of the plasma membrane calcium ATPase causes neurodegeneration in type A Niemann-Pick disease. Mol Psychiatry. 2017 May;22(5):711-723.;Wang J, et al. Snail determines the therapeutic response to mTOR kinase inhibitors by transcriptional repression of 4E-BP1. Nat Commun. 2017 Dec 20;8(1):2207.;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.

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