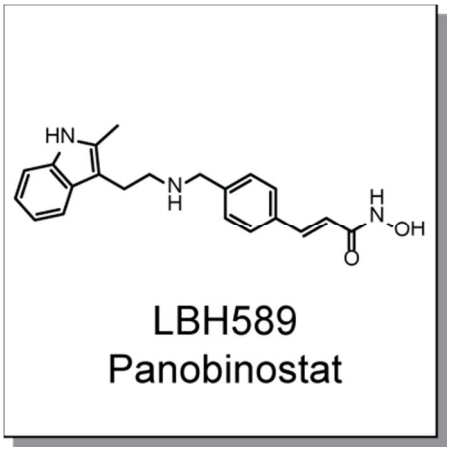
Product Specification Sheet

Product Name: LBH589 (Panobinostat)

Catalog Number: C5245-5 (powder)
C5245-5s (10mM in DMSO)

Package Size: 5 mg



Technical information:

Chemical Formula:	$C_{21}H_{23}N_3O_2$
CAS #:	404950-80-7
Molecular Weight:	349.43
Purity:	>98%
Formulation:	white solid
Solubility:	Soluble in DMSO up to 50 mM
Chemical Name:	(2E)-N-hydroxy-3-[4-({[2-(2-methyl-1H-indol-3-yl)ethyl]amino}methyl)phenyl]acrylamide
Storage:	Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

Handling:

- For C5245-5 (powder), add 1.431 mL of DMSO to make 10 mM solution.
- For C5245-5s, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

Biological Activity:

LBH589, a hydroxamate analog, is a broad-spectrum HDAC inhibitor. It has been shown to increase acetylation of core histones (H3 and H4) and nonhistone proteins (alpha-tublin, HSP90), leading to the modulation of gene expression (p21, FOXO3A, GADD45A, aromatase, etc) and protein activity involved in cell growth and survival pathways[1-4].

LBH589 induces apoptosis in MOLT-4 and Reh cells with IC50 between 5 to20nM[1]. In lung cancer and mesothelioma animal models, LBH589 markedly decreased tumor growth by 62% when compared with the vehicle control[5]. The anti-tumor activity of LBH589 has also been demonstrated in many other cancer cell lines, including multiple myeloma, NSCLC and castrate-resistant prostate cancer cell lines. LBH589 is under clinical trials to evaluate its effects in conjunction with chemotherapy and/or targeted therapy in multiple cancer types.

Reference:

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. Chen, S. et al.The HDAC inhibitor LBH589 (panobinostat) is an inhibitory modulator of aromatase gene expression. Proc Natl Acad Sci U S A 2010 Jun 15; 107(24) :11032-7.
3. George, P., *et al*. "Combination of the histone deacetylase inhibitor LBH589 and the hsp90 inhibitor 17-AAG is highly active against human

CML-BC cells and AML cells with activating mutation of FLT-3." *Blood* 105: 1768-1776 (2005).
4. Qian, D.Z., *et al*. "Targeting tumor angiogenesis with histone deacetylase inhibitors: the hydroxamic acid derivative LBH589." *Clin. Cancer Res.* 12: 634-642 (2006).
5. 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.

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