Panobinostat

货号：P2908

储存条件：粉末-20°C 可保存 3 年；液体-80°C 可保存 12 月。

产品描述

HDACs (Histone deacetylases) are a group of enzymes that remove acetyl groups and regulate the histone tail, protein-DNA interaction, chromatin conformation, and even transcription. There are 18 mammalian HDACs divided into four classes: class I (HDACs 1, 2, 3, 8), class II (HDACs 4, 5, 6, 7, 9, 10), class III (sirtuin family: sirt1-sirt7) and class IV (HDAC 11). Panobinostat, also called as LBH-589 or NVP-LBH589, is broad-spectrum HDAC inhibitor with hydroxamate-based structure (IC50 value measured by cell-free assay not tested). A maximum effect of 85% apoptosis with 20 nM panobinostat in MOLT-4 cells and 80% apoptosis with 50 nM panobinostat in Reh cells can observed at 72h. Panobinostat can inhibit proliferation and cell-cycle progression in the two ALL cells. IC50 of panobinostat in anti-proliferation of MOLT-4 cells is approximately 5 nM and for Reh cells is approximately 20 nM. Compared with the control cells, panobinostat treatment for 24h (up to 50 nM) caused a 2- to 3-fold increase in the number of cells in the G2/M phase. Like other HDAC pan inhibitors, the hyperacetylation of H3K9 and H4K8, which are the biomarkers for the inhibition of class 1 HDACs, can be observed in MOLT-4 cells treated with panobinostat (10 - 50 nM) for 24h in a dose-dependent manner. Accompanied by that, the induction of p21 and p27 expression, as well as a decrease of c-Myc expression can also be found in the same time with 10 - 20 nM panobinostat. Echoing to the cell-arrest and growth inhibition, the apoptosis and DNA damage response genes, like GADD45A, GADD45B, GADD45G, FANCG, and FOXO3A can be increased robustly in the ALL cells after treatment with 50 nM panobinostat for 24h. These suggest that the growth inhibition effect of panobinostat may due to the apoptosis and DNA damage response caused by HDACs inhibition. Panobinostat in combination with bortezomiband dexamethasone is approved by FDA for the treatment for patients with multiple myeloma who receive prior treatment with bortezomib and an immunomodulatory (IMiD) agent.

作用机制

Panobinostat has hydroxamate-based structure, which can chelate the Zn2+ ion of HDACs.

产品信息

CAS 号	404950-80-7	
分子式	C21H23N3O2	
分子量	349.43	
别名	NVP-LBH589;LBH 589	
溶解度	DMSO	330.0 mg/mL (944.4 mM) warming
	Water	insoluble