# PRODUCT INFORMATION

## Belinostat

*Item No. 34084*

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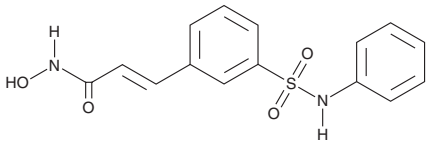
|---|---|
| **CAS Registry No.:** | 866323-14-0 |
| **Formal Name:** | (2E)-N-hydroxy-3-[3-[(phenylamino) sulfonyl]phenyl]-2-propenamide |
| **Synonyms:** | PXD 101, PX 105684 |
| **MF:** | $C_{15}H_{14}N_2O_4S$ |
| **FW:** | 318.3 |
| **Purity:** | ≥98% |
| **UV/Vis.:** | $\lambda_{max}$: 224, 270 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |



*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

Belinostat is supplied as a crystalline solid. A stock solution may be made by dissolving the belinostat in the solvent of choice, which should be purged with an inert gas. Belinostat is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of belinostat in ethanol is approximately 25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Belinostat is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, belinostat should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Belinostat has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Belinostat is an inhibitor of class I histone deacetylases (HDACs; $IC_{50}$s = 0.041, 0.125, 0.03, and 0.216 µM for HDAC1, -2, -3, and -8, respectively) and class II HDACs ($IC_{50}$s = 0.115, 0.082, 0.067, and 0.128 µM for HDAC4, -6, -7, and -9, respectively).[1] It inhibits HDAC activity in HeLa cell lysates ($IC_{50}$ = 0.027 µM) and the proliferation of A2780 ovarian, HCT116 colon, Calu-3 lung, and Hs 852.T melanoma cells ($IC_{50}$s = 0.2, 0.2, 0.66, and 3.37 µM, respectively).[2] It reduces tumor growth in an A2780 mouse xenograft model when administered at doses of 10, 20, and 40 mg/kg. Formulations containing belinostat have been used in the treatment of relapsed or refractory peripheral T cell lymphoma.

### References


1. Khan, N., Jeffers, M., Kumar, S., *et al.* Determination of the class and isoform selectivity of small-molecule histone deacetylase inhibitors. *Biochem. J.* **409(2)**, 581-589 (2008).
2. Plumb, J.A., Finn, P.W., Williams, R.J., *et al.* Pharmacodynamic response and inhibition of growth of human tumor xenografts by the novel histone deacetylase inhibitor PXD101. *Mol. Cancer Ther.* **2(8)**, 721-728 (2003).





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