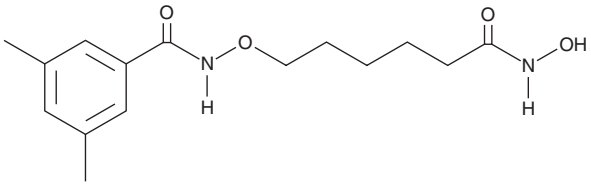
PRODUCT INFORMATION

LMK 235

Item No. 14969

CAS Registry No.:	1418033-25-6
Formal Name:	N-[[6-(hydroxyamino)-6-oxohexyl]oxy]-3,5-dimethyl-benzamide
MF:	$C_{15}H_{22}N_2O_4$
FW:	294.4
Purity:	≥98%
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

LMK 235 is supplied as a crystalline solid. A stock solution may be made by dissolving the LMK 235 in the solvent of choice, which should be purged with an inert gas. LMK 235 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of LMK 235 in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

LMK 235 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, LMK 235 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. LMK 235 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Histone deacetylases (HDACs) catalyze the hydrolytic removal of acetyl groups from histone lysine residues, which commonly results in chromatin condensation and transcriptional repression.[1,2] LMK 235 is an HDAC inhibitor that selectively targets HDACs 4 and 5 (IC_{50}s = 12 and 4 nM, respectively) over other HDACs (IC_{50}s = 56, 320, 850, 880, and 1,280 for HDACs 6, 1, 11, 2, and 8, respectively).[3] It displays enhanced cytotoxic effects against human cancer cell lines, compared to SAHA (Item No. 10009929) or trichostatin A (Item No. 89730).[2] LMK 235 and derivatives inhibit the growth of the malarial parasite *P. falciparum* at multiple life cycle stages at nanomolar concentrations.[4]

References

1. Strahl, B.D. and Allis, D. The language of covalent histone modifications. *Nature* **403(6765)**, 41-45 (2000).
2. Cheung, W.L., Briggs, D.B., and Allis, C.D. Acetylation and chromosomal functions. *Curr. Opin. Cell Biol.* **12(3)**, 326-333 (2000).
3. Marek, L., Hamacher, A., Hansen, F.K., *et al.* Histone deacetylase (HDAC) inhibitors with a novel connecting unit linker region reveal a selectivity profile for HDAC4 and HDAC5 with improved activity against chemoresistant cancer cells. *J. Med. Chem.* **56(2)**, 427-436 (2016).
4. Hansen, F.K., Sumanadasa, S.D.M., Stenzel, K., *et al.* Discovery of HDAC inhibitors with potent activity against multiple malaria parasite life cycle stages. *Eur. J. Med. Chem.* **82**, 204-213 (2014).

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