

Catalog # 10-4024 LMK235

CAS# 1418033-25-6 N-[6-(Hydroxyamino)-6-oxohexoxy]-3,5-dimethylbenzamide Lot # FBS3014



LMK235 is a potent and selective inhibitor of HDAC4 (IC₅₀ = 11.9 nM) and HDAC5 (IC₅₀ = 4.2 nM).¹ Cytotoxic against human ovarian cancer cell lines A2780 and A2780 CisR (IC₅₀'s = 0.49 μ M and 0.32 μ M respectively). It displayed synergistic effects with cisplatin and restored sensitivity in platinum-resistant cell lines.^{1,2} LMK235 induced apoptosis in pancreatic neuroendocrine tumor cell lines BON-1 and QGP-1³ and in multiple myeloma cells⁴. It also induced autophagy and cell death *via* SCNN1A downregulation in glioblastoma cells.⁵ LMK235 reduced hypertension in mouse and rat models *via* inhibition of vascular constriction and vessel hypertrophy.⁶ LMK235 significantly increased neurite outgrowth via increased BMP-Smad-dependent transcription in SH-SY5Y cells and exerted neuroprotective effects against neurodegeneration induced by MPP⁺ suggesting possible therapeutic potential in treating Parkinson's disease.⁷

- 1) Marek et al. (2013), 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** 427
- 2) Moita et al. (2020), Priming with HDAC Inhibitors Sensitizes Ovarian Cancer Cells to Treatment with Cisplatin and HSP90 Inhibitors; Int. J. Mol. Sci. 21 8300
- 3) Wanek et al. (2018), Pharmacological Inhibition of Class IIA HDACs by LMK-235 in Pancreatic Neuroendocrine Tumor Cells; Int. J. Mol. Sci. 19 3128
- 4) Li et al. (2019), Histone deacetylase inhibitor LMK-235-mediated HO-1 expression induces apoptosis I multiple myeloma cells via JNK/AP-1 signaling pathway; Life Sci. 223 146
- 5) Chang et al. (2022), A Selective Histone deacetylase inhibitor LMK235 Induces Autophagy and Cell Death via SCNN1A Downregulation in Glioblastoma Cells; Cancers (Basel) 14 4537
- 6) Choi et al. (2019), Histone deacetylase inhibitor LMK235 attenuates vascular constriction and aortic remodeling in hypertension; J. Cell Mol. Med. 23 2801
- 7) Mazzocchi et al. (2021), LMK235, a small molecules inhibitor of HDAC4/5, protects dopaminergic neurons against neurotoxin- and αsynuclein-induced degeneration in cellular models of Parkinson's disease; Mol. Cell Neurosci. 115 103642

PHYSICAL DATA

Molecular Weight:	294.35
Molecular Formula:	C ₁₅ H ₂₂ N ₂ O ₄
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (25 mg/ml)
Physical Description:	Off-white solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 2 years from the date of purchase. Solutions in
	DMSO may be stored at -20°C for up to 2 months.

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