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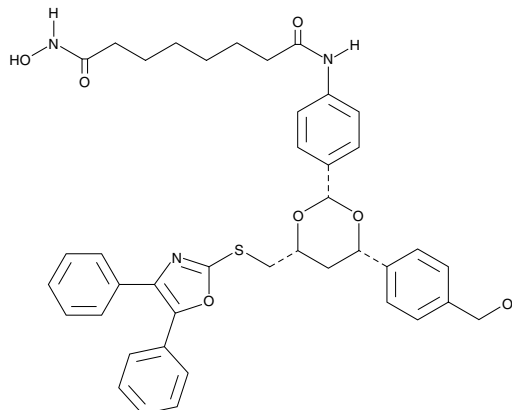
Product Information



Tubacin

Item No. 13691

CAS Registry No.: 537049-40-4
Formal Name: N¹-[4-[(2R,4R,6S)-4-[[[(4,5-diphenyl-2-oxazolyl)thio]methyl]-6-[4-(hydroxymethyl)phenyl]-1,3-dioxan-2-yl]phenyl]-N⁸-hydroxy-octanediamide
MF: C₄₁H₄₃N₃O₇S
FW: 721.9
Purity: ≥90%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 222, 240, 299 nm



Laboratory Procedures

For long term storage, we suggest that tubacin be stored as supplied at -20°C. It should be stable for at least two years.

Tubacin is supplied as a crystalline solid. A stock solution may be made by dissolving the tubacin in the solvent of choice. Tubacin is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of tubacin in these solvents is approximately 16 and 20 mg/ml, respectively.

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

Tubacin is a tubulin acetylation inducer that selectively inhibits histone deacetylase (HDAC) 6 (IC₅₀ = 4 nM).¹ In comparison, it demonstrates at least 300-fold selectivity against all other HDAC isoforms (IC₅₀s range from 1.3-17.3 μM).¹ Tubacin induces α-tubulin hyperacetylation at 2.5 μM in primary cortical neuron cultures.¹ Tubacin inhibition of HDAC6 has been used as a biochemical tool to control microtubule-dependent intracellular trafficking, to manipulate the aggregate formation of misfolded proteins in certain diseases, and to study the dynamics of cellular adhesion.²⁻⁴

References

1. Butler, K.V., Kalin, J., Brochier, C., *et al.* Rational design and simple chemistry yield a superior, neuroprotective HDAC6 inhibitor, Tubastatin A. *J. Am. Chem. Soc.* **132**(31), 10842-10846 (2010).
2. Chen, S., Owens, G.C., Makarenkova, H., *et al.* HDAC6 regulates mitochondrial transport in hippocampal neurons. *PLoS One* **5**(5), (2010).
3. Cole, P.A. Chemical probes for histone-modifying enzymes. *Nat. Chem. Biol.* **4**(10), 590-597 (2008).
4. Xu, K., Dai, X.-L., Huang, H.-C., *et al.* Targeting HDACs: A promising therapy for Alzheimer's disease. *Oxid. Med. Cell Longev.* **2011**, (2011).

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