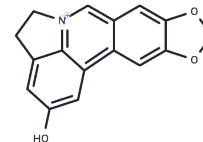


Lycobetaine acetate

Chemical Properties

CAS No. :	61221-41-8
Formula:	C ₁₈ H ₁₅ NO ₅
Molecular Weight:	325.32
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Lycobetaine acetate (Oxylicorine) is a potential biofungicide against <i>Penicillium roqueforti</i> and <i>Aspergillus niger</i> . Ungeremine have strong antibacterial activity against <i>Flavobacterium columnare</i>
Targets(IC50)	Others
In vitro	Lycobetaine displayed cytotoxic activity towards the 9 cancer cell lines tested, including drug-sensitive and MDR phenotypes. The IC50 values obtained varied from 3.67 μM (in MDA-MB-231-BCRP breast carcinoma cells) to 75.24 μM (against in CEM/ADR5000 leukemia cells) for Lycobetaine and from 0.02 μM (against CCRF-CEM cells) to 122.96 μM (against CEM/ADR5000 cells) for doxorubicin (control drug). Lycobetaine induced ferroptosis, necroptosis, autophagy as well as apoptosis mediated by caspase activation, MMP alteration and increase ROS production[1].
Cell Research	The cytotoxicity, ferroptotic and necroptotic cell death were determined by the resazurin reduction assay. Caspase activation was evaluated using the caspase-Glo assay. Flow cytometry was applied for the analysis of cell cycle analysis (PI staining), apoptosis (annexin V/PI staining), mitochondrial membrane potential (MMP) (JC-1) and reactive oxygen species (ROS) (H2DCFH-DA). Apoptotic, necroptotic and autophagic markers were determined by Western blotting. CCRF-CEM leukemia cells were used for all mechanistic studies[1].

Solubility Information

Solubility	Ethanol: 1 mg/mL (3.07 mM), Sonication is recommended. DMSO: < 1 mg/mL (insoluble or slightly soluble) H2O: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0739 mL	15.3695 mL	30.739 mL
5 mM	0.6148 mL	3.0739 mL	6.1478 mL
10 mM	0.3074 mL	1.5369 mL	3.0739 mL
50 mM	0.0615 mL	0.3074 mL	0.6148 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Armelle T Mbaveng, Gabin T M Bitchagno, Victor Kuete, et al. Cytotoxicity of Ungeremine Towards Multi-Factorial Drug Resistant Cancer Cells and Induction of Apoptosis, Ferroptosis, Necroptosis and Autophagy. *Phytomedicine*. 2019 Jul;60:152832.

Kevin K Schrader, Fabiana Avolio, Anna Andolfi, et al. Ungeremine and Its Hemisynthesized Analogues as Bactericides Against *Flavobacterium Columnare*. *J Agric Food Chem*. 2013 Feb 13;61(6):1179-83.

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