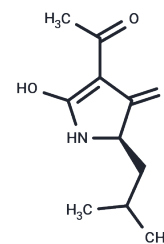


Mutanocyclin

Chemical Properties

CAS No. :	875455-92-8
Formula:	C ₁₀ H ₁₅ NO ₃
Molecular Weight:	197.23
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	Mutanocyclin, as a potent antifungal agent, can inhibit the filamentation of <i>Candida albicans</i> and downregulate the mRNA expression levels of HWP1, ECE1, FLO8 and TEC1 genes. In addition, Mutanocyclin can also effectively inhibit yeast morphogenesis in an in vitro mouse model.
Targets(IC50)	Antifungal
In vitro	<p>Methods: <i>Candida albicans</i> was treated with mutanocyclin at concentrations of 8, 16, and 32 µg/mL for 24 and 36 hours, respectively.</p> <p>Results: Mutanocyclin inhibited the filamentation of <i>Candida albicans</i> in a dose-dependent manner.</p> <p>Methods: <i>Candida albicans</i> was treated with mutanocyclin at 32 µg/mL.</p> <p>Results: Mutanocyclin downregulated the mRNA expression levels of HWP1, ECE1, FLO8, and TEC1 in <i>Candida albicans</i> cells.</p> <p>Methods: Relevant assays and analyses were performed to investigate the mechanism of action of mutanocyclin against <i>Candida albicans</i>.</p> <p>Results: Mutanocyclin exerted its antifungal effect by regulating the PKA catalytic subunit Tpk2 and its preferred binding target Sfl1[1].</p>
In vivo	<p>Methods: An ex vivo mouse tongue infection model was used. Mouse tongues infected for 24 hours were treated with mutanocyclin (32 µg/mL).</p> <p>Results: Mutanocyclin inhibited the yeast form of <i>Candida albicans</i>.</p> <p>Methods: In a <i>Galleria mellonella</i> infection model, larvae were treated with mutanocyclin (6.4, 12.8, 25.6 µg/mL) for 48 hours.</p> <p>Results: Mutanocyclin attenuated the virulence of <i>Candida albicans</i>[1].</p>

Solubility Information

Solubility	DMSO: 40 mg/mL (202.81 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.0702 mL	25.3511 mL	50.7022 mL
5 mM	1.014 mL	5.0702 mL	10.1404 mL
10 mM	0.507 mL	2.5351 mL	5.0702 mL
50 mM	0.1014 mL	0.507 mL	1.014 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

Tao L, et al. Streptococcus mutans suppresses filamentous growth of Candida albicans through secreting mutanocyclin, an unacylated tetramic acid. Virulence. 2022 Dec;13(1):542-557.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481