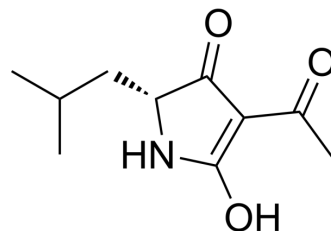


## Mutanocyclin

<b>Cat. No.:</b>	HY-N11772		
<b>CAS No.:</b>	875455-92-8		
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>15</sub> NO <sub>3</sub>		
<b>Molecular Weight:</b>	197.23		
<b>Target:</b>	Fungal		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 50 mg/mL (253.51 mM; Need ultrasonic)					
		<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
	<b>Preparing Stock Solutions</b>	<b>Concentration</b>				
		<b>1 mM</b>		5.0702 mL	25.3511 mL	50.7022 mL
<b>5 mM</b>		1.0140 mL	5.0702 mL	10.1404 mL		
		<b>10 mM</b>	0.5070 mL	2.5351 mL	5.0702 mL	
Please refer to the solubility information to select the appropriate solvent.						
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2 mg/mL (10.14 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2 mg/mL (10.14 mM); Clear solution					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Mutanocyclin is a potent antifungal agent. Mutanocyclin inhibits <i>Candida albicans</i> ( <i>C. albicans</i> ) filamentation. Mutanocyclin decreases the mRNA expression of HWP1, ECE1, FLO8, TEC1. Mutanocyclin inhibits yeast-form in ex vivo mouse <sup>[1]</sup> .
<b>In Vitro</b>	Mutanocyclin (8, 16, 32 µg/mL, 24, 36 h) inhibits <i>Candida albicans</i> ( <i>C. albicans</i> ) filamentation in a dose-dependent manner <sup>[1]</sup> . Mutanocyclin (32 µg/mL) decreases the mRNA expression of HWP1, ECE1, FLO8, TEC1 in <i>C. albicans</i> cells <sup>[1]</sup> . Mutanocyclin functions by regulating the PKA catabolic subunit Tpk2 and its preferential binding target Sfl1 <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Mutanocyclin (32 µg/mL; 24 h infects tongues of mouse) inhibits yeast-form in ex vivo mouse tongue infection models of <i>C. albicans</i> <sup>[1]</sup> .

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Mutanocyclin (6.4, 12.8, 25.6 µg/mL; 48 h) attenuates the virulence of *C. albicans* in the *G. mellonella* infection model<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

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[1]. 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.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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