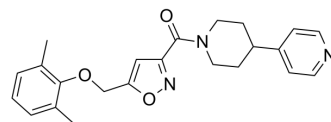


Dafadine-A

Cat. No.:	HY-16670		
CAS No.:	1065506-69-5		
Molecular Formula:	C ₂₃ H ₂₅ N ₃ O ₃		
Molecular Weight:	391.46		
Target:	Cytochrome P450		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (127.73 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.5545 mL	12.7727 mL	25.5454 mL
	5 mM	0.5109 mL	2.5545 mL	5.1091 mL
	10 mM	0.2555 mL	1.2773 mL	2.5545 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (6.39 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (6.39 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (6.39 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Dafadine-A, an analog of dafadine, is a novel inhibitor of DAF-9 cytochrome P450 in the nematode *Caenorhabditis elegans*; also inhibits the mammalian ortholog of DAF-9 (CYP27A1). IC50 value: Target: DAF-9 (CYP27A1) inhibitor. The DAF-9 cytochrome P450 is a key regulator of dauer formation, developmental timing and longevity in the nematode *Caenorhabditis elegans*. Here we describe the first identified chemical inhibitor of DAF-9 and the first reported small-molecule tool that robustly induces dauer formation in typical culture conditions. This molecule (called dafadine) also inhibits the mammalian ortholog of DAF-9 (CYP27A1), suggesting that dafadine can be used to interrogate developmental control and longevity in other animals.

REFERENCES

[1]. Luciani GM, et al. Dafadine inhibits DAF-9 to promote dauer formation and longevity of *Caenorhabditis elegans*. *Nat Chem Biol*. 2011 Nov 6;7(12):891-3.

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

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