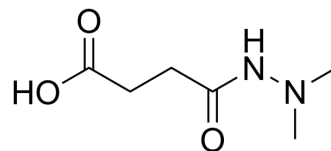


Daminozide

Cat. No.:	HY-13643		
CAS No.:	1596-84-5		
Molecular Formula:	C ₆ H ₁₂ N ₂ O ₃		
Molecular Weight:	160.17		
Target:	Histone Demethylase		
Pathway:	Epigenetics		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 106.67 mg/mL (665.98 mM; Need warming)
 H₂O : 100 mg/mL (624.34 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	6.2434 mL	31.2168 mL	62.4337 mL
	5 mM	1.2487 mL	6.2434 mL	12.4867 mL
	10 mM	0.6243 mL	3.1217 mL	6.2434 mL

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

In Vivo

- Add each solvent one by one: PBS
Solubility: 100 mg/mL (624.34 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (15.61 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (15.61 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (15.61 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Daminozide, a plant growth regulator, is a selective inhibitor of the human KDM2/7 histone demethylases, with IC₅₀s of 0.55, 1.5 and 2.1 μM for PHF8, KDM2A, and KIAA1718, respectively. Daminozide has >100-fold selectivity for KDM2/7 subfamily versus other demethylase subfamily members tested^{[1][2]}.

IC ₅₀ & Target	KDM2
In Vitro	Daminozide has >100-fold selectivity for KDM2/7 subfamily versus other demethylase subfamily members tested (IC ₅₀ =127 μM for KDM3A, or greater against other demethylases) ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Daminozide (200-20000 ppm) has teratogenic and genotoxic effects on model organism <i>Drosophila melanogaster</i> ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cancers (Basel). 2021 Jul 12;13(14):3477.
- Harvard Medical School LINCS LIBRARY

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REFERENCES

[1]. Rose NR, Woon EC, Tumber A, Plant growth regulator daminozide is a selective inhibitor of human KDM2/7 histone demethylases. *J Med Chem.* 2012 Jul 26;55(14):6639-43.

[2]. Roy SS, et, al. Exploration of teratogenic and genotoxic effects of fruit ripening retardant Alar (Daminozide) on model organism *Drosophila melanogaster*. *Interdiscip Toxicol.* 2018 May;11(1):27-37.

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

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