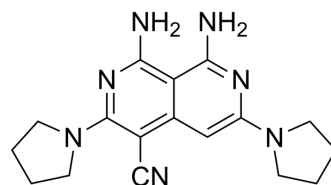


SID 3712249

Cat. No.:	HY-19731		
CAS No.:	522606-67-3		
Molecular Formula:	C ₁₇ H ₂₁ N ₇		
Molecular Weight:	323.4		
Target:	MicroRNA; Apoptosis		
Pathway:	Epigenetics; Apoptosis		
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 : 16.67 mg/mL (51.55 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.0921 mL	15.4607 mL	30.9215 mL
	5 mM	0.6184 mL	3.0921 mL	6.1843 mL
	10 mM	0.3092 mL	1.5461 mL	3.0921 mL

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

BIOLOGICAL ACTIVITY

Description

SID 3712249 (MiR-544 Inhibitor 1) is a miR-544 biogenesis inhibitor. SID 3712249 binds directly to the precursor miRNA. SID 3712249 blocks production of the mature microRNA and decreases miR-544, HIF-1 α , and ATM transcripts. SID 3712249 can be used in the research of cancers, such as breast cancer^[1].

IC₅₀ & Target

MiR-544^[1]

In Vitro

SID 3712249 (compound 1, 20 nM, 48 h) disrupts miR-544-mediated inhibition of BMI1 based on significant increases in the RFP/BFP ratio^[1].
 SID 3712249 (20 nM, 48 h) inhibits precursor but not mature miR-544 binding to BMI1 or mTOR3'-UTR^[1].
 SID 3712249 (20 nM, 48 h) results in accumulation of pre-miR-544 and a decrease in miR-544 levels in MCF10A cells^[1].
 SID 3712249 (20 nM, 5 days) induces apoptosis in MDA-MB-231 and MCF-7 cells and has no effect on cell survival in normoxic conditions^[1].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.
 Apoptosis Analysis^[1]

Cell Line:	MDA-MB-231, MCF-7 cells
Concentration:	20 nM
Incubation Time:	5 days
Result:	Induced apoptosis and has no effect on cell survival in normoxic conditions (flow cytometric analysis of Annexin V and PI staining).

In Vivo

SID 3712249 (compound 1, 100 μ L of 40 μ M, intraperitoneal injection) inhibited tumor growth in MDA-MB-231-GFP-luc tumor model^[1].

SID 3712249 (20 nM, pre-treated GFP-labeled MDA-MB-231 cells, intraperitoneal injection) inhibited tumor growth in MDA-MB-231-GFP-luc tumor model^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	MDA-MB-231-GFP-luc tumor model ^[1]
Dosage:	100 μ L of 40 μ M
Administration:	Intraperitoneal injection
Result:	Inhibited tumor growth (evidenced by live animal bioluminescent imaging) with no overt side effects. Decreased levels of miR-544, ATM, and HIF-1 α and increased levels of mTOR (resected tumor samples).

REFERENCES

[1]. Christopher L Haga, et al. Small Molecule Inhibition of miR-544 Biogenesis Disrupts Adaptive Responses to Hypoxia by Modulating ATM-mTOR Signaling. ACS Chem Biol. 2015 Oct 16;10(10):2267-76.

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

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