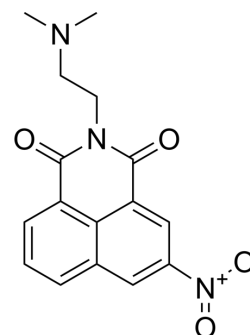


Mitonafide

Cat. No.:	HY-119182		
CAS No.:	54824-17-8		
Molecular Formula:	C ₁₆ H ₁₅ N ₃ O ₄		
Molecular Weight:	313.31		
Target:	DNA/RNA Synthesis		
Pathway:	Cell Cycle/DNA Damage		
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 : 62.5 mg/mL (199.48 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.1917 mL	15.9586 mL	31.9173 mL
	5 mM	0.6383 mL	3.1917 mL	6.3835 mL
	10 mM	0.3192 mL	1.5959 mL	3.1917 mL

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

BIOLOGICAL ACTIVITY

Description

Mitonafide (NSC 300288) is a cytostatic agent. Mitonafide binds to double-stranded DNA through intercalation, and inhibits DNA and RNA synthesis. Mitonafide is an antitumor agent that can be used in the research of cancers, such as non-small cell lung cancer (NSCLC), leukemia^{[1][2][3]}.

IC₅₀ & Target

DNA and RNA synthesis^[1]

In Vitro

Mitonafide inhibits DNA and RNA synthesis and induces single-strand breaks in the DNA of chinese hamster ovary cells^[1]. The incubation of Mitonafide with rat liver microsomes and NADPH under anaerobic conditions results in the formation of a metabolite identified as 5-aminomitonafide^[2]. Mitonafide (25, 50 μM, 1 h) induces single-stand breaks in the DNA of L1210 cells^[2]. Mitonafide (10-100 μM) exhibits cytotoxic effect in the HOP-62 lung cell line^[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only. Cell Viability Assay^[6]

	Cell Line:	SK-OV-3, HepG2, A-549, T-24, SMMC-7721, HL-7702
	Concentration:	0-100 μ M respectively.
	Incubation Time:	48 h
	Result:	Inhibited cell viability with IC ₅₀ values of 6.26, 10.88, 7.94, 5.01, 6.94, 8.51 μ M.
In Vivo	Mitonafide (0.5 and 1 mg/kg, i.p., 1-7 days) shows antitumoral potency in S-180 bearing mice ^[4] . Mitonafide (5 mg/kg, i.p., twice a day) shows anticancer activity in HepG2 xenograft model ^[6] . Mitonafide (single i.p. injection, S-180 bearing mice) shows the LD ₅₀ value of 10.0 mg/kg ^[5] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	S-180 bearing mice ^[4]
	Dosage:	0.5 mg/kg and 1 mg/kg
	Administration:	Intraperitoneal injection (i.p.) for 1-7 days
	Result:	Increased in median survival times.
	Animal Model:	HepG2 xenograft model ^[6]
	Dosage:	5 mg/kg
	Administration:	Intraperitoneal injection (i.p.), twice a day.
	Result:	Exhibited a relative tumor increment rates (T/C) value of 28.8%.

REFERENCES

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- [4]. Samanta S, et al. Antitumor activity of Nitronaphthal-NU, a novel mixed-function agent. J Exp Ther Oncol. 2005;5(1):15-22.
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Caution: Product has not been fully validated for medical applications. For research use only.

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