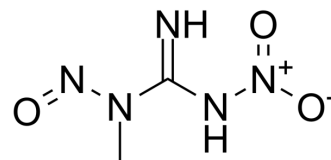


## Methylnitronitrosoguanidine

Cat. No.:	HY-128612
CAS No.:	70-25-7
Molecular Formula:	C <sub>2</sub> H <sub>5</sub> N <sub>5</sub> O <sub>3</sub>
Molecular Weight:	147.09
Target:	DNA Alkylator/Crosslinker
Pathway:	Cell Cycle/DNA Damage
Storage:	Pure form -20°C 3 years 4°C 2 years



\* The compound is unstable in solutions, freshly prepared is recommended.

### SOLVENT & SOLUBILITY

In Vitro	DMSO : 125 mg/mL (849.82 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	Preparing Stock Solutions		1 mg	5 mg	10 mg
		1 mM	6.7986 mL	33.9928 mL	67.9856 mL
		5 mM	1.3597 mL	6.7986 mL	13.5971 mL
	10 mM	0.6799 mL	3.3993 mL	6.7986 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (14.14 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (14.14 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (14.14 mM); Clear solution				

### BIOLOGICAL ACTIVITY

Description	Methylnitronitrosoguanidine (MNNG) is an orally active alkylating agent with toxic and mutagenic effects. Methylnitronitrosoguanidine can as a carcinogen and mutagen <sup>[1][2]</sup> . 50% water content, specifications are based on dry weight.
In Vitro	Methylnitronitrosoguanidine (MNNG, 0-1100 nM; 24 h) has toxic and mutagenic effects among 3 human diploid lymphoblast lines, MIT-2, WI-L2, and GM 130 <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## In Vivo

Methylnitronitrosoguanidine (MNNG; 200 mg/kg; p.o.) stimulates Wistar albino rats and increases the number of gastric cancer rats<sup>[2]</sup>.

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

Animal Model:	Male Wistar albino rats <sup>[2]</sup>
Dosage:	200 mg/kg
Administration:	Oral administration, at 0 and 14th days
Result:	Had the incidence of gastric cancer in Wistar albino rats is 100%.

## CUSTOMER VALIDATION

- Transl Res. 2023 Oct 30:S1931-5244(23)00179-2.
- J Ethnopharmacol. 31 October 2022, 115885.
- Dig Liver Dis. 2023 Dec 26:S1590-8658(23)01082-4.
- Toxicol Lett. 2024 Jan 4:S0378-4274(24)00002-X.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[1]. Slapikoff SA, et, al. Comparison of toxicity and mutagenicity of methylNitrosourea, methylnitronitrosoguanidine and ICR-191 among human lymphoblast lines. Mutat Res. 1980 May;70(3):365-71.

[2]. Zhang L, Jia B, et, al. Corilagin induces apoptosis and inhibits HMBG1/PI3K/AKT signaling pathways in a rat model of gastric carcinogenesis induced by methylnitronitrosoguanidine. Environ Toxicol. 2022 May;37(5):1222-1230.

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

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