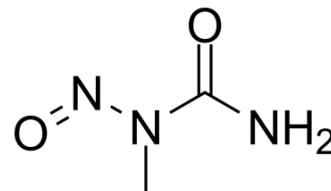


N-Nitroso-N-methylurea

Cat. No.:	HY-34758
CAS No.:	684-93-5
Molecular Formula:	C ₂ H ₅ N ₃ O ₂
Molecular Weight:	103.08
Target:	DNA Alkylator/Crosslinker
Pathway:	Cell Cycle/DNA Damage
Storage:	4°C, protect from light, stored under argon * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under argon)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 125 mg/mL (1212.65 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		9.7012 mL	48.5060 mL	97.0120 mL
		5 mM		1.9402 mL	9.7012 mL	19.4024 mL
	10 mM		0.9701 mL	4.8506 mL	9.7012 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (20.18 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (20.18 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (20.18 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	N-Nitroso-N-methylurea (NMU;MNU;NMH) is a potent carcinogen, mutagen and teratogenand. N-Nitroso-N-methylurea is a direct-acting alkylating agent that interacts with DNA. N-Nitroso-N-methylurea targets multiple animal organs to cause various cancer and/or degenerative disease. N-Nitroso-N-methylurea is also a precursor in the synthesis of diazomethane ^[1] ^[2] ^[3] ^[4] .
In Vitro	N-Nitroso-N-methylurea (NMU; 5 μM) treatment increases the cellular NF-κB activity in human malignant keratinocytes. N-Nitroso-N-methylurea also increases the amount of I-κBα phosphorylation ^[5] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

N-Nitroso-N-methylurea (NMU) gives intravenously to rats at age 50 days induced mammary carcinomas in 89% of BUF/N, 73% of Sprague-Dawley, and 89% of F344 females. Latent periods are, respectively, 77, 86, and 94 days. Doubling times of NMU-induced primary and transplanted carcinomas are similar to 7 days. Cachexia ensues at the 5th week from the onset of the first tumor. When the tumor is larger than 15 g, hypercalcemia is usually observed^[1].

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

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- [4]. Silvia Garbarino, et al. One-pot synthesis of α -haloketones employing a membrane-based semibatch diazomethane generator. Journal of Flow Chemistry volume 6, pages211-217(2016).
- [5]. Moon KY. N-nitroso-N-methylurea and N-nitroso-N-ethylurea induce upregulation of cellular NF-kappa B activity through protein kinase C-dependent pathway in human malignant keratinocytes. Arch Pharm Res. 2010 Jan;33(1):133-9.

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

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