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Produktinformation

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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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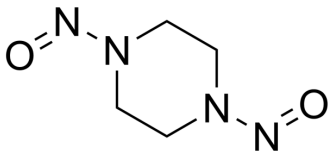
N,N'-Dinitrosopiperazine

Cat. No.:	HY-136433
CAS No.:	140-79-4
Molecular Formula:	$C_4H_8N_4O_2$
Molecular Weight:	144.13
Target:	Others
Pathway:	Others
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (693.82 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	6.9382 mL	34.6909 mL	69.3818 mL
	5 mM	1.3876 mL	6.9382 mL	13.8764 mL
	10 mM	0.6938 mL	3.4691 mL	6.9382 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: ≥ 2.5 mg/mL (17.35 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (17.35 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

N,N'-Dinitrosopiperazine (1,4-Dinitrosopiperazine; DNP) is a carcinogen with specificity for nasopharyngeal epithelium and facilitates NPC metastasis. N,N'-Dinitrosopiperazine regulates multiple signaling pathways through protein phosphorylation, including LYRIC at serine 568[1].

In Vitro

N,N'-Dinitrosopiperazine (0.5-100 μM; 48 hours) has no inhibitory effects on the labeled 6-10B cells, and LDH activity is not significantly altered by DNP treatment in the 0.5-8 μM concentration range. However, it is cytotoxic from the concentration 10 μM[1].

N,N'-Dinitrosopiperazine (2-8 μM; 24 hours) induces 6-10B cell invasion and motility in a dose-dependent manner. At 6 μM, when compares to the control group, DNP increases cell invasion at 421.7% and cell motility is increased by 328.2%[1].

N,N'-Dinitrosopiperazine (6 μM; 24 hours) increases the expression of phospho-LYRIC s568 and LYRIC expression in CNE1 cells[1].

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

Cell Viability Assay[1]

Cell Line:	The labeled 6-10B cells
Concentration:	0.5, 1, 2, 4, 6, 8, 10, 20, 40, 80, or 100 μM
Incubation Time:	48 hours
Result:	Had no inhibitory effects at the concentration 0-8 μM.

Western Blot Analysis[1]

Cell Line:	The NPC cell line CNE1
Concentration:	6 μM
Incubation Time:	24 hours
Result:	Increased phospho-LYRIC s568 and LYRIC expression.

In Vivo

N,N'-Dinitrosopiperazine (injected into the tail veins; 40 mg/kg; 30 days) inhibits cell motility and invasion, and facilitates NPC metastasis in vivo. From a IHC result, Phospho-LYRIC expression is higher in the metastatic tumors of DNP-treated mice than in those of the untreated control mice[1].

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

Animal Model:	BABL/c nude mice injected with labeled 6-10B cell suspensions (1×10^4 cells) with or without DNP(40 mg/kg)[1]
Dosage:	40 mg/kg
Administration:	Injected into the tail veins; 30 days
Result:	Induced LYRIC phosphorylation at serine 568 associated with NPC metastasis in vivo.

REFERENCES

[1]. Damao Huang, et al. Identification of Novel Signaling Components in N,N'-dinitrosopiperazine-mediated Metastasis of Nasopharyngeal Carcinoma by Quantitative Phosphoproteomics. BMC Cancer. 2014 Apr 5;14:243.

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