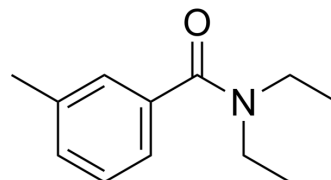


## Diethyltoluamide

<b>Cat. No.:</b>	HY-B0978		
<b>CAS No.:</b>	134-62-3		
<b>Molecular Formula:</b>	C <sub>12</sub> H <sub>17</sub> NO		
<b>Molecular Weight:</b>	191.27		
<b>Target:</b>	Parasite		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Pure form	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 100 mg/mL (522.82 mM)  
 H<sub>2</sub>O : 2 mg/mL (10.46 mM; Need ultrasonic)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		5.2282 mL	26.1411 mL	52.2821 mL
	5 mM		1.0456 mL	5.2282 mL	10.4564 mL
	10 mM		0.5228 mL	2.6141 mL	5.2282 mL

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

#### In Vivo

1. Add each solvent one by one: PBS  
 Solubility: 100 mg/mL (522.82 mM); Clear solution; Need ultrasonic

### BIOLOGICAL ACTIVITY

#### Description

Diethyltoluamide (DEET) is the most common active ingredient in insect repellents. It is intended to provide protection against mosquitoes, ticks, fleas, chiggers, leeches, and many other biting insects. Diethyltoluamide is toxic to hepatocytes and can lead to many physiological, pharmacological, and behavioral abnormalities, particularly motor deficits and learning and memory dysfunction<sup>[1][2][3]</sup>.

#### IC<sub>50</sub> & Target

Mite

#### In Vitro

Diethyltoluamide (25-250 μM, 24-72h) has toxicity in HepG2 cells<sup>[2]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## In Vivo

Diethyltoluamide (40 mg/kg was applied directly to the skin, 7 days a week, for 60 days) causes diffuse neuronal cell death and cytoskeletal abnormalities in the cerebral cortex and the hippocampus, and purkinje neuron loss in the cerebellum in rats<sup>[3]</sup>.

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

## REFERENCES

- [1]. Das PC, et al. Enzyme induction and cytotoxicity in human hepatocytes by chlorpyrifos and N,N-diethyl-m-toluamide (DEET). *Drug Metabol Drug Interact.* 2008;23(3-4):237-60.
- [2]. Abdel-Rahman A, et al. Subchronic dermal application of N,N-diethyl m-toluamide (DEET) and permethrin to adult rats, alone or in combination, causes diffuse neuronal cell death and cytoskeletal abnormalities in the cerebral cortex and the hippocampus, and Purkinje neuron loss in the cerebellum. *Exp Neurol.* 2001 Nov;172(1):153-71.
- [3]. Lu W, et al. DEET as a feeding deterrent. *PLoS One.* 2017 Dec 14;12(12):e0189243.

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

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