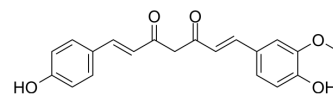


## Demethoxycurcumin

<b>Cat. No.:</b>	HY-N0006		
<b>CAS No.:</b>	22608-11-3		
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>18</sub> O <sub>5</sub>		
<b>Molecular Weight:</b>	338.36		
<b>Target:</b>	Apoptosis; Bacterial; Cholinesterase (ChE); NO Synthase		
<b>Pathway:</b>	Apoptosis; Anti-infection; Neuronal Signaling; Immunology/Inflammation		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (295.54 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	2.9554 mL	14.7772 mL	29.5543 mL
		5 mM	0.5911 mL	2.9554 mL	5.9109 mL
10 mM		0.2955 mL	1.4777 mL	2.9554 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 3.25 mg/mL (9.61 mM); Clear solution				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Demethoxycurcumin is one of the main active ingredients of curcumin, which has anti-inflammatory, antioxidant, antibacterial, anti-cancer and neuroprotective effects. Demethoxycurcumin is orally active. Demethoxycurcumin can be used in inflammation, cancer and Alzheimer's disease research <sup>[1][2][3][4][5]</sup> .	
<b>IC<sub>50</sub> &amp; Target</b>	ChAT	iNOS
<b>In Vitro</b>	Demethoxycurcumin (0-150 μM, 0-96 h) exerts anti-inflammatory effect on Caco-2 cells of in vitro inflamed human intestinal mucosa model by inhibiting NO secretion induced by iNOS <sup>[1]</sup> . Demethoxycurcumin (35 μM, 48 h) can change the expression of DNA damage, cell cycle and apoptosis-related genes in human lung cancer NCI-H460 cells, and exhibit anticancer activity <sup>[2]</sup> . The IC <sub>50</sub> values of Demethoxycurcumin (2-1024 μg/mL, 12-14 h) for E. coli, S. aureus, and S. dysenteriae are 212.5, 282.5 and 465.0 μg/mL, and the MIC values are 512, 1024 and 1024 μg/mL, respectively <sup>[5]</sup> .	

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

#### Cell Viability Assay<sup>[1]</sup>

Cell Line:	Caco-2 Cells (LPS-induced inflammation model cell)
Concentration:	0-150 $\mu$ M
Incubation Time:	0-96 h
Result:	Showed cytotoxic effects on CACO-2-differentiated cells at 130 $\mu$ M and 150 $\mu$ M concentrations.

#### In Vivo

Demethoxycurcumin (3-30 mg/kg/day for 5 days or 20 days, i.p.) regulates the expression of inflammatory and apoptotic genes in the hippocampus and frontal cortex of rat models infused with A $\beta$  + Ibotenic acid (HY-N2311) and helps to improve Alzheimer's disease<sup>[3]</sup>.

Demethoxycurcumin (10 mg/kg/day for 28 days, p.o.) can enhance cognition and enhance choline acetyltransferase (ChAT) activity in mice induced by Scopolamine (HY-N0296) <sup>[4]</sup>.

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

Animal Model:	Male ICR mice (6 weeks old) weighing 30–35 g, memory impairment induced by Scopolamine <sup>[5]</sup>
Dosage:	10 mg/kg/day for 28 days
Administration:	Oral gavage (p.o.)
Result:	Significantly improved scopolamine induced passive avoidance task learning disabilities and memory impairments in Morris Water Maze. The activity of choline acetyltransferase (ChAT) was significantly increased to 33.03%.

## CUSTOMER VALIDATION

- Philos Trans R Soc Lond B Biol Sci. 2023 Nov 20;378(1890):20220248.
- Vet Microbiol. 2021 Aug;259:109152.
- Future Pharmacol. 2024 Mar 8, 4(1), 256-278.

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## REFERENCES

[1]. Ahmed T, et al. A comparative study of curcuminoids to measure their effect on inflammatory and apoptotic gene expression in an A $\beta$  plus ibotenic acid-infused rat model of Alzheimer's disease. Brain Res. 2011 Jul 11;1400:1-18.

[2]. Lim DW, et al. Enhanced Cognitive Effects of Demethoxycurcumin, a Natural Derivative of Curcumin on Scopolamine-Induced Memory Impairment in Mice. Molecules. 2016 Aug 5;21(8):1022.

[3]. Luo J, et al. Demethoxycurcumin: A potential antimicrobial agent: Exposure by microcalorimetry and modified broth microdilution method[J]. Journal of Thermal Analysis and Calorimetry, 2014, 115: 2331-2338.

[4]. Somchit M, et al. Demethoxycurcumin from Curcuma longa rhizome suppresses iNOS induction in an in vitro inflamed human intestinal mucosa model. Asian Pac J Cancer Prev. 2014;15(4):1807-10.

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[5]. Ko YC, et al. Demethoxycurcumin Alters Gene Expression Associated with DNA Damage, Cell Cycle and Apoptosis in Human Lung Cancer NCI-H460 Cells In Vitro. In Vivo. 2015 01-02;29(1):83-94.

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

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