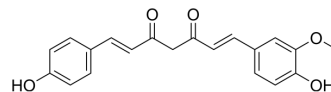


Demethoxycurcumin

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



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (295.54 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	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.					
In Vivo	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

Description	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 ^{[1][2][3][4][5]} .	
IC₅₀ & Target	ChAT	iNOS
In Vitro	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 ^[1] . 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 ^[2] . The IC ₅₀ 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 ^[5] .	

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

Cell Viability Assay^[1]

Cell Line:	Caco-2 Cells (LPS-induced inflammation model cell)
Concentration:	0-150 μ M
Incubation Time:	0-96 h
Result:	Showed cytotoxic effects on CACO-2-differentiated cells at 130 μ M and 150 μ 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 β + Ibotenic acid (HY-N2311) and helps to improve Alzheimer's disease^[3].

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) ^[4].

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Animal Model:	Male ICR mice (6 weeks old) weighing 30–35 g, memory impairment induced by Scopolamine ^[5]
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 β 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.

[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.

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

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