Bisdemethoxycurcumin

Cat. No.: HY-N0007

CAS No.: 33171-05-0

Molecular Formula: $C_{19}H_{16}O_4$

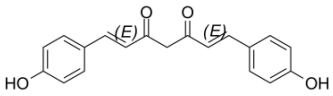
Molecular Weight: 308.33

Target: Apoptosis; Autophagy

Pathway: Apoptosis; Autophagy

Storage:

Powder	-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 (324.33 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	3.2433 mL	16.2164 mL	32.4328 mL
5 mM	0.6487 mL	3.2433 mL	6.4866 mL
10 mM	0.3243 mL	1.6216 mL	3.2433 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 (8.11 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Bisdemethoxycurcumin(Curcumin III; Didemethoxycurcumin) is a natural derivative of curcumin with anti-inflammatory and anti-cancer activities.IC50 value:Target: Anticancer natural compoundin vitro: BDMC-induced apoptosis was mediated by a combinatory inhibition of cytoprotective proteins, such as Bcl2 and heme oxygenase-1 and increased generation of reactive oxygen species. Intriguingly, BDMC-induced apoptosis was reversed with co-treatment of sr144528, a cannabinoid receptor (CBR) 2 antagonist, which was confirmed with genetic downregulation of the receptor using siCBR2 [1]. Induction of cell cycle arrest in HepG2 cells by NB and BDCur in combination was evidenced by accumulation of the G2/M cell population. Further investigation on the molecular mechanism showed that NB and BDCur in combination resulted in a significant decrease in the expression level of Cdc2 and cyclin B [2]. BDMC treatment activated Sirt1/AMPK signaling pathway. Moreover, downregulating Sirt1 by the pharmacological inhibitor nicotianamine or small interfering RNA blocked BDMC-mediated protection against t-BHP-mediated decrease in proliferation [4].in vivo: human gastric adenocarcinoma xenograft model was generated in vivo using nude mice and BDMC was observed to suppress the growth and activity of tumors, in

addition to improving the physical and mental capacity of the mice [3].

CUSTOMER VALIDATION

- Vet Microbiol. 2021, 109152.

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REFERENCES

[1]. Lee PJ, et al. Bisdemethoxycurcumin Induces Apoptosis in Activated Hepatic Stellate Cells via Cannabinoid Receptor 2. Molecules. 2015 Jan 14;20(1):1277-92.

[2]. Chen J, et al. Natural borneol enhances bisdemethoxycurcumin-induced cell cycle arrest in the G2/M phase through up-regulation of intracellular ROS in HepG2 cells. Food Funct. 2014 Dec 24.

[3]. Luo C, et al. Bisdemethoxycurcumin attenuates gastric adenocarcinoma growth by inducing mitochondrial dysfunction. Oncol Lett. 2015 Jan;9(1):270-274.

[4]. Li YB, et al. Bisdemethoxycurcumin Increases Sirt1 to Antagonize t-BHP-Induced Premature Senescence in WI38 Fibroblast Cells. Evid Based Complement Alternat Med. 2013;2013:851714.

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