Capsaicinoid (65%Capsaicin)

Cat. No.: HY-10448A

CAS No.: 404-86-4

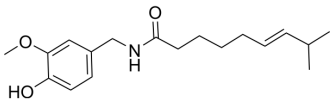
Molecular Formula: $C_{18}H_{27}NO_3$

Molecular Weight: 305.41

Target: TRP Channel; Autophagy; Apoptosis; Endogenous Metabolite

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; Autophagy; Apoptosis; Metabolic Enzyme/Protease

Storage: 4°C, protect from light
* In solvent : -80°C, 2 years; -20°C, 1 year (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (327.43 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2743 mL	16.3714 mL	32.7429 mL
	5 mM	0.6549 mL	3.2743 mL	6.5486 mL
	10 mM	0.3274 mL	1.6371 mL	3.2743 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 (8.19 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.19 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.19 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Capsaicinoid (65%Capsaicin) is a mixture of Capsaicin and Dihydrocapsaicin. Capsaicinoid is an capsaicin receptor (TRPV1) agonist[1][2].

In Vitro

Capsaicin is the main Capsaicinoid in chili peppers, followed by Dihydrocapsaicin. These two compounds provide about twice hotness to the taste and nerves as the minor capsaicinoids[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Capsaicinoid (65%Capsaicin) (1-10 mg/kg, oral gavage) increases chlorzoxazone 6-hydroxylase activity and the expression of

CYP2E1 in liver microsomes of rats[4].
Capsaicinoid (65%Capsaicin) (10 mg/kg, s.c.) shows the Cmax of 104.9 ng/mL for Capsaicin and 54.3 ng/mL for Dihydrocapsaicin, the Tmax of 5 h for Capsaicin and 4 h for Dihydrocapsaicin[5].
Capsaicin is more pungent than Dihydrocapsaicin (HY-N0361)[6].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	
Dosage:	
Administration:	
Result:	

REFERENCES

[1]. Zhang QH, et al. Effects of capsaicin and dihydrocapsaicin on human and rat liver microsomal CYP450 enzyme activities in vitro and in vivo. J Asian Nat Prod Res. 2012;14(4):382-95.

[2]. Zhang Q, et al. Simultaneous quantification of capsaicin and dihydrocapsaicin in rat plasma using HPLC coupled with tandem mass spectrometry. J Chromatogr B Analyt Technol Biomed Life Sci. 2010 Aug 15;878(24):2292-7.

[3]. Joshi SK, et al Comparison of antinociceptive actions of standard analgesics in attenuating capsaicin and nerve-injury-induced mechanical hypersensitivity. Neuroscience. 2006 Dec 1;143(2):587-96.

[4]. Hoyoun Cho, et al. Development of a database of capsaicinoid contents in foods commonly consumed in Korea. Food Sci Nutr. 2020 Jul 16;8(8):4611-4624.

[5]. Krishnapura Srinivasan. Biological Activities of Red Pepper (Capsicum annuum) and Its Pungent Principle Capsaicin: A Review. Crit Rev Food Sci Nutr. 2016 Jul 3;56(9):1488-500.

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