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Zuschläge

- Mindermengenzuschlag
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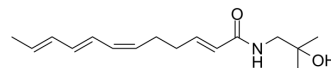
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Hydroxy- α -sanshool

Cat. No.:	HY-N6825
CAS No.:	83883-10-7
Molecular Formula:	C ₁₆ H ₂₅ NO ₂
Molecular Weight:	263.38
Target:	TRP Channel; Endogenous Metabolite
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; Metabolic Enzyme/Protease
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (379.68 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM		3.7968 mL	18.9840 mL	37.9680 mL
		5 mM		0.7594 mL	3.7968 mL	7.5936 mL
		10 mM		0.3797 mL	1.8984 mL	3.7968 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 (9.49 mM); Suspended solution; Need ultrasonic					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (9.49 mM); Suspended solution; Need ultrasonic					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (7.90 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Hydroxy- α -sanshool is a transient receptor potential ankyrin 1 (TRPA1) and TRP vanilloid 1 (TRPV1) agonist with EC ₅₀ s of 69 and 1.1 μ M, respectively. Hydroxy- α -sanshool can be used for pain research ^{[1][2]} .
IC ₅₀ & Target	Human Endogenous Metabolite
In Vitro	Hydroxy-α-sanshool (0-10 mM; 20 s) induces inward currents in cultured DRG neuron^[2]. Hydroxy-α-sanshool (1 mM; 0-1 min) increases intracellular Ca²⁺ in cultured DRG neuron^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only. Cell Viability Assay^[2]

Cell Line:	Dorsal root ganglion (DRG) neurons
Concentration:	0-10 mM
Incubation Time:	20 s
Result:	Induced small but robust inward currents for DRG neuron with an EC ₅₀ of 66.2 μM.

Cell Viability Assay^[2]

Cell Line:	Dorsal root ganglion (DRG) neurons
Concentration:	1 mM
Incubation Time:	0-1 min
Result:	Led to an intracellular Ca ²⁺ increase in the majority of DRG neurons tested (98 of 100).

In Vivo

Hydroxy-α-sanshool (intradermal injection; 4 mg per mouse; once) shows paw-licking response in wild-type and TRPV1-deficient mice^[2].

Hydroxy-α-sanshool (1 mM) is markedly aversive to WT mice, but in TRPV1 KO mice, the aversion is almost entirely eliminated (P<0.001)^[1].

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

Animal Model:	Wild-type and TRPV1-deficient mice ^[2]
Dosage:	4 mg per mouse
Administration:	Intradermal injection; 4 mg per mouse; once
Result:	Reduced paw-licking response in TRPV1-deficient mice (160 times, P < 0.05). Showed paw-licking response in wild-type mice (mean 284.8 times) in 20 min.

CUSTOMER VALIDATION

- Food Funct. 09 Aug 2022.
- Foods. 2023 Sep 27, 12(19), 3589.
- bioRxiv. 2023 Aug 19.

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REFERENCES

[1]. Koo JY, et al. Hydroxy-alpha-sanshool activates TRPV1 and TRPA1 in sensory neurons. Eur J Neurosci. 2007 Sep;26(5):1139-47.

[2]. Koo JY, et al. Compounds from Sichuan and Melegueta peppers activate, covalently and non-covalently, TRPA1 and TRPV1 channels. Br J Pharmacol. 2009 Aug;157(8):1398-409.

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

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