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产品名称：Dehydrocorydaline (chloride)
产品别名：盐酸脱氢紫堇碱；13-Methylpalmatine chloride

生物活性：

Description	Dehydrocorydaline chloride is an alkaloidal that has anti-inflammatory and anti-cancer activities. Dehydrocorydaline chloride can elevate p38 MAPK activation.
IC_{50} & Target	p38 MAPK[1]
In Vitro	Treatment of C2C12 myoblasts with 500 nM Dehydrocorydaline increases the expression levels of muscle-specific proteins, including MyoD, myogenin and myosin heavy chain. Treatment with Dehydrocorydaline elevates p38 MAPK activation and the interaction of MyoD with an E protein. Furthermore, defects in differentiation-induced p38 MAPK activation and myoblast differentiation induced by depletion of the promyogenic receptor protein Cdo in C2C12 myoblasts are restored by Dehydrocorydaline treatment[1]. Dehydrocorydaline significantly inhibits MCF-7 cell proliferation in a dose-dependent manner, which can be reversed by a caspase-8 inhibitor, Z-IETD-FMK. Dehydrocorydaline increases DNA fragments without affecting ΔΨm. Western blotting assay shows that dehydrocorydaline dose-dependently increases Bax protein expression and decreases Bcl-2 protein expression. Furthermore, dehydrocorydaline induces activation of caspase-7,-8 and the cleavage of PARP without affecting caspase-9. These results show that dehydrocorydaline inhibits MCF-7 cell proliferation by inducing apoptosis mediated by regulating Bax/Bcl-2, activating caspases as well as cleaving PARP[3].
In Vivo	Dehydrocorydaline (3.6, 6 or 10 mg/kg, i.p.) shows a dose-dependent antinociceptive effect in the acetic acid-induced writhing test and significantly attenuates the formalin-induced pain responses in mice. In the formalin test, dehydrocorydaline decreases the expression of caspase 6 (CASP6), TNF-α, IL-1β and IL-6 proteins in the spinal cord. These findings confirm that Dehydrocorydaline has antinociceptive effects in mice[2].
Solvent&Solubility	***In Vitro:*** **DMSO : 25 mg/mL (62.21 mM;** Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.4883 mL	12.4415 mL	24.8830 mL
5 mM	0.4977 mL	2.4883 mL	4.9766 mL
10 mM	0.2488 mL	1.2442 mL	2.4883 mL

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

In Vivo:

请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 In Vitro 方式配制澄清的储备液，再依次添加助溶剂：

——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶

	1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline Solubility: ≥ 2.5 mg/mL (6.22 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.22 mM，饱和度未知) 的澄清溶液。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL。 2.请依序添加每种溶剂： 10% DMSO→ 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (6.22 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.22 mM，饱和度未知) 的澄清溶液。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。 3.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 2.5 mg/mL (6.22 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.22 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
References	[1]. Yoo M, et al. Dehydrocorydaline promotes myogenic differentiation via p38 MAPK activation. Mol Med Rep. 2016 Oct;14(4):3029-36. [2]. Yin ZY, et al. Antinociceptive effects of dehydrocorydaline in mouse models of inflammatory pain involve the opioid receptor and inflammatory cytokines. Sci Rep. 2016 Jun 7;6:27129 [3]. Xu Z, et al. Dehydrocorydaline inhibits breast cancer cells proliferation by inducing apoptosis in MCF-7 cells. Am J Chin Med. 2012;40(1):177-85.

实验参考：

Cell Assay	Briefly, MCF-7 cells (1×10⁴ cells/well) are seeded in 96-well plates and treated with different concentrations of dehydrocorydaline (0-200 μM) for 24 h. The cell viability is determined. To explore the role of caspase-8 in dehydrocorydaline induced cytotoxicity, a caspase-8 inhibitor Z-IETD-FMK (10 μM) is co-incubated with 200 μM dehydrocorydaline. [3]
Animal Administration	Briefly, the mice are placed individually in glass beakers and are allowed to acclimate for 30 min before the test. The vehicle or Dehydrocorydaline (3.6, 6 or 10 mg/kg) are injected (10 ml/kg, i.p.) 15 min prior to the formalin injection. Morphine (10 mg/kg) or diclofenac sodium (20 mg/kg) are injected 15 and 30 min, respectively, prior to the formalin injection as positive controls. Then, 25 μL of a 5% formalin solution is injected into the plantar surface of the right hind paw of each mouse. Immediately after the formalin injection, the mice are placed individually in the beakers, and a mirror is placed under the beaker to allow clear observation of the paws of the animals. The time that the animals spent on biting/licking the injected paw is measured with a stopwatch every 5 min and considered as indication of nociception. [2]
	[1]. Yoo M, et al. Dehydrocorydaline promotes myogenic differentiation via p38 MAPK activation. Mol Med Rep. 2016 Oct;14(4):3029-36. [2]. Yin ZY, et al. Antinociceptive effects of dehydrocorydaline in mouse models of inflammatory pain

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