

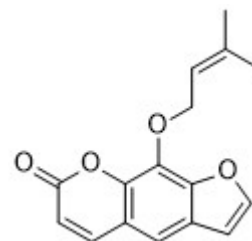
欧前胡素(98%, HPLC)

产品编号	产品名称	包装
SM1123-10mM	欧前胡素(98%, HPLC)	10mM×0.2ml
SM1123-25mg	欧前胡素(98%, HPLC)	25mg
SM1123-100mg	欧前胡素(98%, HPLC)	100mg

产品简介:

➤ 化学信息:

中文名	欧前胡素
英文名	Imperatorin
中文别名	白茅苷; 前胡素; 主人草素; 白芷乙素; 欧芹属素乙; 前胡内酯
英文别名	Marmelide; Ammidin; Marmelosin
来源	白芷 <i>Angelica dahurica</i> (Fisch. ex Hoffm.) Benth. et Hook. f. ex Franch. et Sav; 前胡 <i>Peucedanum praeruptorum</i> Dunn
化合物类型	苯丙素类(Phenylpropanoids)>香豆素(Coumarins)
化学式	C ₁₆ H ₁₄ O ₄
分子量	270.28
CAS号	482-44-0
纯度	98%, HPLC
溶剂/溶解度	Water: < 0.1 mg/ml (insoluble); DMSO: 50 mg/ml (184.99 mM)
溶液配制	5mg加入1.85ml DMSO, 或者每2.70mg加入1ml DMSO, 配制成10mM溶液。



➤ 生物信息

产品描述	Imperatorin is an effective of NO synthesis inhibitor (IC ₅₀ =9.2 μmol), which also is a BChE inhibitor (IC ₅₀ =31.4 μmol). Imperatorin is a weak agonist of TRPV1 with EC ₅₀ of 12.6±3.2 μM.				
信号通路	-				
靶点	NO Synthesis	BChE	TRPV1	-	-
IC ₅₀	9.2 μM	31.4 μM	12.6±3.2 μM	-	-
体外研究	<p>Imperatorin is a plant secondary metabolite belonging to the coumarins-specifically the furanocoumarins. Imperatorin enhances the GABA-induced chloride ion current (IGABA) through the α1β2γ2S receptors. Imperatorin potentiates IGABA at 100 μmol by 50.5±16.3 % and at 300 μmol by 109.8±37.7 %, respectively. Imperatorin, together with Phellopterin, found in the roots of <i>A. dahurica</i>, inhibit [3H]diazepam binding to the benzodiazepine site of the rat brain GABA receptor in vitro with an IC₅₀ of 12.3 μmol for Imperatorin and 400 nmol for Phellopterin. Imperatorin, in a concentration ranging from 3.5 to 14 mmol, significantly and irreversibly inhibits GABA-T in a time-dependent and concentration-dependent manner, by irreversibly binding with the active site of GABA-T. Imperatorin is a reversible acetylcholinesterase (AChE) inhibitor, and acts in dose-dependent manner. The AChE and BChE inhibitory activities of Imperatorin and a crude extract from the fruits of <i>Angelica archangelica</i> L. is tested by the spectrophotometric method at concentrations of 12.5, 25, 50, and 100 μg/ml. Imperatorin displays low inhibition towards AChE (13.75-46.11 %), whereas it has remarkable inhibitory effect against BChE (37.46-83.98 %). Imperatorin shows selectivity toward BChE rather than AChE, with an IC₅₀ for BChE of 31.4 μmol. Imperatorin, together with (+)-Byakangelicol, are found to be the most effective BACE-1 inhibitors, with IC₅₀s of 91.8 and 104.9 μmol, respectively. Imperatorin (IC₅₀=9.2 μmol) is also effective as an inhibitor of NO synthesis. Imperatorin is a weak agonist of TRPV1, a</p>				

	channel implicated in detecting several noxious stimuli, exhibiting EC50 of 12.6±3.2 μM.
体内研究	At doses of 10 and 20 mg/kg and 30 min after injection, Imperatorin shows an anxiolytic effect and improved different stages of memory and learning processes-both acquisition and consolidation. It is also shown that acute administration Imperatorin at doses of 10 and 20 mg/kg reduced the anxiogenic effect of nicotine (0.1 mg/kg, subcutaneous, s.c.). At 30 and 40 mg/kg, i.p. Imperatorin significantly potentiates the anticonvulsant activity of carbamazepine against maximal electroshock-induced seizures expressed by lowering the ED50 from 10.8 to 6.8 mg/kg (by 34 %) and 6 mg/kg (by 42 %), respectively. Moreover, Imperatorin at 30 mg/kg and carbamazepine at 6.8 mg/kg shows increases the total brain concentration of carbamazepine from 1.260 to 2.328 μg/ml (by 85%), which may be caused by modifying the blood-barrier permeability or acting like an inhibitor of multi-drug resistance proteins. Imperatorin, a naturally occurring furanocoumarin, inactivates gamma-aminobutyric acid transaminase and inhibits acetylcholinesterase activity. Imperatorin administered acutely at the doses of 5 and 10 mg/kg prior to the injection of scopolamine (1 mg/kg) improves memory acquisition and consolidation impaired by scopolamine. Furthermore, repeatable (7 days, twice daily) administration of the highest dose of Imperatorin (10 mg/kg) significantly attenuates the effects of scopolamine on memory acquisition, whereas the doses of 5 and 10 mg/kg of this furanocoumarin are effective when memory consolidation is measured.
临床实验	N/A

参考文献:

1. Koziol E, et al. Phytochem Rev. 2016,15:627-649.
2. Chen X, et al. J Biol Chem. 2014,289(14):9600-10.
3. Budzynska B, et al. Psychopharmacology (Berl). 2015,232(5):931-42.

包装清单:

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-	说明书	1份

保存条件:

-20°C保存, 至少一年有效。固体粉末4°C保存, 至少一个月有效。如果溶于非DMSO溶剂, 建议分装后-80°C保存, 预计6个月内有效。

注意事项:

- 本产品可能对人体有一定的毒害作用, 请注意适当防护, 以避免直接接触人体或吸入体内。
- 本产品仅限于专业人员的科学研究用, 不得用于临床诊断或治疗, 不得用于食品或药品, 不得存放于普通住宅内。
- 为了您的安全和健康, 请穿实验服并戴一次性手套操作。

使用说明:

1. 收到产品后请立即按照说明书推荐的条件保存。使用前可以在2,000-10,000g离心数秒, 以使液体或粉末充分沉降至管底后再开盖使用。
2. 对于10mM溶液, 可直接稀释使用。对于固体, 请根据本产品的溶解性及实验目的选择相应溶剂配制高浓度的储备液(母液)后使用。
3. 具体的最佳工作浓度请参考本说明书中的体外、体内研究结果或其它相关文献, 或者根据实验目的, 以及所培养的特定细胞和组织, 通过实验进行摸索和优化。
4. 不同实验动物依据体表面积等效剂量转换表请参考如下网页:
<https://www.beyotime.com/support/animal-dose.htm>

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