



上海源叶生物科技有限公司
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产品名称: (+)-丁香树脂酚; Syringaresinol

CAS 号: 487-35-4

产品货号: V88016

生物活性:

Description	Syringaresinol 是一种具有抗炎活性的木脂素类植物化学物质。Syringaresinol 抑制 IL-1 β 激活的小鼠软骨细胞中的 NF-κB 和 AKT 信号通路。Syringaresinol 增加 HUVECs 中 AMPK、eNOS 的磷酸化以及细胞内 Ca²⁺ 水平。Syringaresinol 减缓内侧半月板失稳术 (DMM) 诱导的骨关节炎小鼠的骨关节炎进展。Syringaresinol 可用于骨关节炎 (OA) 研究。																
In Vitro	Syringaresinol (0-100 μM, 2 h 预处理) 以剂量依赖方式降低 IL-1β 激活的小鼠软骨细胞中炎症介质 (PGE2, IL-6, TNF-α, NO) 的产生, 并下调 iNOS 和 COX-2 的蛋白表达[1]。 Syringaresinol (0-100 μM, 2 h 预处理) 上调 IL-1β 激活的小鼠软骨细胞中 ECM 组分的产生, 并下调 ECM 降解酶的分泌[1]。 Syringaresinol (0-100 μM, 2 h 预处理) 抑制 NF-κB 和 AKT 信号通路的激活[1]。 Syringaresinol (10-30 μM, 30 min) 增加 HUVECs 中 AMPK 和 eNOS 的磷酸化, 并增加细胞内 Ca²⁺ 水平[2]。 Syringaresinol (30 μM, 30 min) 显著增加 HUVECs 中 eNOS 二聚化, 并减少 eNOS 单体[2]。 ELISA Assay[1] <table><tr><td>Cell Line:</td><td>IL-1β-activated mouse chondrocytes</td></tr><tr><td>Concentration:</td><td>0, 25, 50, 100 μM</td></tr><tr><td>Incubation Time:</td><td>2 h pretreatment</td></tr><tr><td>Result:</td><td>Reduced the the production of inflammatory mediators (PGE2, IL-6, TNF-α). Upregulated the production of ECM components (collagen II, aggrecan). Downregulated the secretion of ECM-degrading enzymes (MMP-13, ADAMTS-5).</td></tr></table> Western Blot Analysis[1] <table><tr><td>Cell Line:</td><td>IL-1β-activated mouse chondrocytes</td></tr><tr><td>Concentration:</td><td>0, 25, 50, 100 μM</td></tr><tr><td>Incubation Time:</td><td>2 h pretreatment</td></tr><tr><td>Result:</td><td>Downregulated the protein expression of iNOS and COX-2. Downregulated the protein expression of iNOS and COX-2. Suppressed IL-1β-induced degradation of IκB-α, phosphorylation of p65, and nuclear translocation of p65. Decreased IL-1β-induced phosphorylation of AKT</td></tr></table>	Cell Line:	IL-1 β -activated mouse chondrocytes	Concentration:	0, 25, 50, 100 μ M	Incubation Time:	2 h pretreatment	Result:	Reduced the the production of inflammatory mediators (PGE2, IL-6, TNF- α). Upregulated the production of ECM components (collagen II, aggrecan). Downregulated the secretion of ECM-degrading enzymes (MMP-13, ADAMTS-5).	Cell Line:	IL-1 β -activated mouse chondrocytes	Concentration:	0, 25, 50, 100 μ M	Incubation Time:	2 h pretreatment	Result:	Downregulated the protein expression of iNOS and COX-2. Downregulated the protein expression of iNOS and COX-2. Suppressed IL-1 β -induced degradation of I κ B- α , phosphorylation of p65, and nuclear translocation of p65. Decreased IL-1 β -induced phosphorylation of AKT
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In Vivo	Syringaresinol (10 mg/kg, 关节内注射, 每周一次, 连续 4 周) 减缓 DMM 诱导的骨关节炎小鼠的骨关节炎[1]。 <table><tr><td>Animal Model:</td><td>60-day-old male C57BL/6 mice with DMM-induced osteoarthritis[1]</td></tr><tr><td>Dosage:</td><td>10 mg/kg</td></tr><tr><td>Administration:</td><td>Intra-articular injection, once weekly for 4 consecutive weeks</td></tr><tr><td>Result:</td><td>Reduced joint space narrowing, osteophyte formation and cartilage calcification (X-ray detection).</td></tr></table>	Animal Model:	60-day-old male C57BL/6 mice with DMM-induced osteoarthritis[1]	Dosage:	10 mg/kg	Administration:	Intra-articular injection, once weekly for 4 consecutive weeks	Result:	Reduced joint space narrowing, osteophyte formation and cartilage calcification (X-ray detection).								
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		Alleviated cartilage erosion and proteoglycan depletion.			
		Reversed the elevation of Osteoarthritis Research Society International (OARSI) scores.			
		Decreased COX-2 protein expression in cartilage tissue.			
Solvent&Solubility	细胞实验:				
	DMSO 中的溶解度 : 50 mg/mL (119.49 mM; 超声助溶; 吸湿的 DMSO 对产品的溶解度有显著影响, 请使用新开封的 DMSO)				
	Preparing Stock Solutions	SolventMassConcentration	1 mg	5 mg	10 mg
		1 mM	2.3898 mL	11.9491 mL	23.8983 mL
		5 mM	0.4780 mL	2.3898 mL	4.7797 mL
	10 mM	0.2390 mL	1.1949 mL	2.3898 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 (protect from light)。-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。				
参考文献	[1]. Wang X, et al. Syringaresinol attenuates osteoarthritis via regulating the NF- κ B pathway. Int Immunopharmacol. 2023 May;118:109982. [2]. Chung BH, et al. Syringaresinol causes vasorelaxation by elevating nitric oxide production through the phosphorylation and dimerization of endothelial nitric oxide synthase. Exp Mol Med. 2012 Mar 31;44(3):191-201.				
完整储备液配制表:					
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。					
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可选溶剂	质量溶剂体积浓度	1 mg	5 mg	10 mg	25 mg
DMSO	1 mM	2.3898 mL	11.9491 mL	23.8983 mL	59.7457 mL
	5 mM	0.4780 mL	2.3898 mL	4.7797 mL	11.9491 mL
	10 mM	0.2390 mL	1.1949 mL	2.3898 mL	5.9746 mL
	15 mM	0.1593 mL	0.7966 mL	1.5932 mL	3.9830 mL
	20 mM	0.1195 mL	0.5975 mL	1.1949 mL	2.9873 mL
	25 mM	0.0956 mL	0.4780 mL	0.9559 mL	2.3898 mL
	30 mM	0.0797 mL	0.3983 mL	0.7966 mL	1.9915 mL
	40 mM	0.0597 mL	0.2987 mL	0.5975 mL	1.4936 mL



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	50 mM	0.0478 mL	0.2390 mL	0.4780 mL	1.1949 mL
	60 mM	0.0398 mL	0.1992 mL	0.3983 mL	0.9958 mL
	80 mM	0.0299 mL	0.1494 mL	0.2987 mL	0.7468 mL
	100 mM	0.0239 mL	0.1195 mL	0.2390 mL	0.5975 mL



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