



上海源叶生物科技有限公司
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产品名称: **Oxytocin**
CAS 号: **50-56-6**
产品货号: **S80757**

生物活性:				
Description	Oxytocin (α -Hypophamine; Oxytocic hormone) 是一种多效的下丘脑肽 (hypothalamic peptide), 有助于分娩、哺乳和亲社会行为。Oxytocin 可以作为一种压力应对分子, 具有抗炎、抗氧化剂和保护作用, 特别是在面对逆境或创伤时.			
IC50 & Target	Human Endogenous Metabolite			
Cellular Effect	Cell Line	Type	Value	Description
	CHO	EC ₅₀	0.04 nM	Agonist activity at human oxytocin receptor expressed in CHO cells assessed as increase in intracellular calcium flux measured for 90 sec by fluo-4 dye based FLIPR assay
	CHO	EC ₅₀	10.8 nM	Agonist activity at human oxytocin receptor expressed in CHO cells assessed as induction of phospholipase C activity after 15 mins by inositol phosphate accumulation assay
	CHO	EC ₅₀	24.5 nM	Agonist activity at human vasopressin V1b receptor expressed CHO cells assessed as induction of phospholipase C activity after 15 mins by inositol phosphate accumulation assay
	CHO-K1	EC ₅₀	2.3 nM	Agonist activity at human oxytocin receptor expressed in CHO-K1 cells after 5 hrs by firefly luciferase reporter gene assay
	COS-1	EC ₅₀	15 nM	Activity at oxytocin receptor expressed in COS1 cells assessed as IP-one generation by HTRF assay
	HEK293	IC ₅₀	> 10000 nM	Antagonist activity at human vasopressin V1a expressed in AVP-stimulated HEK293 cells after 5 hrs by firefly luciferase reporter gene assay
	HEK293	EC ₅₀	0.0046 nM	Agonist activity at human OTR receptor expressed in HEK293 cells assessed as intracellular calcium level measured at 3 secs interval for 5 mins by fura-2/AM dye based micro spectrofluorometric method
	HEK293	EC ₅₀	0.01 nM	Agonist activity at recombinant human OTR expressed in HEK293 cells assessed as increase in intracellular calcium level measured at 3 secs interval for 5 mins by fura-2/AM dye based micro spectrofluorometric method
	HEK293	EC ₅₀	0.18 nM	Agonist activity at human V1A receptor expressed in HEK293 cells assessed as intracellular calcium level measured at 3 secs interval for 5 mins by fura-2/AM dye based micro spectrofluorometric method
	HEK293	EC ₅₀	0.19 nM	Agonist activity at recombinant human V1a receptor expressed in HEK293 cells assessed as increase in



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				intracellular calcium level measured at 3 secs interval for 5 mins by fura-2/AM dye based micro spectrofluorometric method
	HEK293	EC ₅₀	0.2 nM	Agonist activity at human V1B receptor expressed in HEK293 cells assessed as intracellular calcium level measured at 3 secs interval for 5 mins by fura-2/AM dye based micro spectrofluorometric method
	HEK293	EC ₅₀	0.24 nM	Agonist activity at recombinant human V1b receptor expressed in HEK293 cells assessed as increase in intracellular calcium level measured at 3 secs interval for 5 mins by fura-2/AM dye based micro spectrofluorometric method
	HEK293	EC ₅₀	10 nM	Agonist activity at human vasopressin V1a expressed in HEK293 cells after 5 hrs by firefly luciferase reporter gene assay
	HEK293	EC ₅₀	2.1 nM	Agonist activity at human oxytocin receptor expressed in HEK293 cells coexpressing Rluc8-tagged Galphaq, N-terminal GFP-tagged Ggamma2 and Gbeta1 protein incubated for 2 mins by Gq protein activation based BRET assay
	HEK293	EC ₅₀	240 nM	Agonist activity at human vasopressin V1b expressed in HEK293 cells after 5 hrs by firefly luciferase reporter gene assay
	HEK293	EC ₅₀	5 nM	Agonist activity at wild type OTR (unknown origin) expressed in HEK293 cells assessed as intracellular calcium flux after 3 mins by fluorescence assay
	HEK293	EC ₅₀	7.3 nM	Agonist activity at human vasopressin V2 expressed in HEK293 cells after 5 hrs by firefly luciferase reporter gene assay
	HEK293	EC ₅₀	8 nM	Agonist activity at SNAP-tagged oxytocin receptor (unknown origin) expressed in HEK293 cells assessed as intracellular calcium flux after 3 mins by fluorescence assay
In Vivo	在 LMA 任务期间, 大鼠核心体温略有下降。Oxytocin (皮下注射; 0.1 mg/kg - 0.3 mg/kg; 单剂量) 产生的低温效应 (0.3 mg/kg) 显著高于生理盐水或两种较低剂量的 Oxytocin。0.3 mg/kg 的 Oxytocin 在注射后 15-60 分钟内产生的温度下降幅度显著高于载体, 而 0.1 mg/kg 的 Oxytocin 仅在 30 分钟时间点略微降低温度[1]。与盐水对照组相比, Oxytocin (0.1 mg/kg) 参与了显著更多的身体嗅探和肛门生殖器嗅探[1]。			
	Animal Model:		Fifty-six male Lister-hooded rats (150-200 g)[1]	
	Dosage:		0.1 mg/kg-0.3 mg/kg	
	Administration:		Subcutaneous injection; 0.1 mg/kg-0.3 mg/kg; single dose	
	Result:		Produced significantly greater hypothermia (at 0.3 mg/kg) than the saline group	



Solvent&Solubility	细胞实验:			
	H2O 中的溶解度 : ≥ 100 mg/mL (99.29 mM)			
	DMSO 中的溶解度 : 100 mg/mL (99.29 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)			
	* "≥" means soluble, but saturation unknown			
Preparing Stock Solutions	Solvent / Mass Concentration	1 mg	5 mg	10 mg
	1 mM	0.9929 mL	4.9643 mL	9.9286 mL
	5 mM	0.1986 mL	0.9929 mL	1.9857 mL
	10 mM	0.0993 mL	0.4964 mL	0.9929 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 (sealed storage, away from moisture)。-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。 * 备注: 如您选择水作为储备液, 请稀释至工作液后, 再用 0.22 μm 的滤膜过滤除菌后使用。 动物实验: 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 方案 一 请依序添加每种溶剂: 10% DMSO → 90% (20% SBE-β-CD in Saline) Solubility: ≥ 2.5 mg/mL (2.48 mM); 澄清溶液 此方案可获得 ≥ 2.5 mg/mL (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。 2 g SBE-β-CD (磺丁基醚 β-环糊精) 粉末定容于 10 mL 的生理盐水中, 完全溶解至澄清透明。 方案 二 请依序添加每种溶剂: 2% DMSO → 40% PEG300 → 5% Tween-80 → 53% PBS Solubility: ≥ 0.5 mg/mL (0.50 mM); 澄清溶液 以下溶解方案, 请直接配制工作液。建议现用现配, 在短期内尽快用完。 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。 方案 一 请依序添加每种溶剂: PBS Solubility: ≥ 25 mg/mL (24.82 mM); 澄清溶液。				
参考文献	[1]. Shivali Kohli, et al. Oxytocin attenuates phencyclidine hyperactivity and increases social interaction and nucleus accumbens dopamine release in rats. Neuropsychopharmacology. 2019 Jan;44(2):295-305. [2]. C Sue Carter, et al. Is Oxytocin "Nature's Medicine"? Pharmacol Rev. 2020 Oct;72(4):829-861.			
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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储备液的保存方式和期限: -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)。-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。

可选溶剂	质量 溶剂体积 浓度	1 mg	5 mg	10 mg	25 mg
DMSO/H ₂ O	1 mM	0.9929 mL	4.9643 mL	9.9286 mL	24.8215 mL
	5 mM	0.1986 mL	0.9929 mL	1.9857 mL	4.9643 mL
	10 mM	0.0993 mL	0.4964 mL	0.9929 mL	2.4822 mL
	15 mM	0.0662 mL	0.3310 mL	0.6619 mL	1.6548 mL
	20 mM	0.0496 mL	0.2482 mL	0.4964 mL	1.2411 mL
	25 mM	0.0397 mL	0.1986 mL	0.3971 mL	0.9929 mL
	30 mM	0.0331 mL	0.1655 mL	0.3310 mL	0.8274 mL
	40 mM	0.0248 mL	0.1241 mL	0.2482 mL	0.6205 mL
	50 mM	0.0199 mL	0.0993 mL	0.1986 mL	0.4964 mL
	60 mM	0.0165 mL	0.0827 mL	0.1655 mL	0.4137 mL
	80 mM	0.0124 mL	0.0621 mL	0.1241 mL	0.3103 mL

备注: 如您选择水作为储备液, 请稀释至工作液后, 再用 0.22 μ m 的滤膜过滤除菌后使用。

源叶