



上海源叶生物科技有限公司
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产品名称: **BQCA**
CAS 号: **338747-41-4**
产品货号: **S88098**

生物活性:

Description	BQCA 是高度选择性的 M1 mAChR 变构调节剂。				
Cellular Effect	Cell Line	Type	Value	Description	
	CHO	EC ₅₀	170 nM	Activation of human M1 mAChR expressed in FlpIn-CHO cells assessed as FBS-induced ERK1/2 phosphorylation incubated for 5 mins by Alphascreen assay	
	CHO	EC ₅₀	845 nM	Potential of muscarinic M1 receptor expressed in CHO cells assessed as effect on acetylcholine-induced intracellular calcium mobilization after 1 hr by FLIPR assay	
	HepG2	IC ₅₀	> 40 μM	Cytotoxicity against human HepG2 cells assessed as reduction in cell viability after 24 hrs by MTT assay	
In Vitro	BQCA reduces the concentration of ACh required to activate M1 up to 129-fold with an inflection point value of 845 nM. No potentiation, agonism, or antagonism activity on other mAChRs is observed up to 100 μ M[1]. BQCA increases M1 receptor affinity for acetylcholine. The activation of the M1 receptor by BQCA induces a robust inward current and increases spontaneous excitatory postsynaptic currents in medial prefrontal cortex (mPFC) pyramidal cells[2]。				
In Vivo	BQCA requires M1 to promote inositol phosphate turnover in primary neurons and to increase c-fos and arc RNA expression and ERK phosphorylation in the brain. BQCA reverses scopolamine-induced memory deficits in contextual fear conditioning, increases blood flow to the cerebral cortex, and increases wakefulness while reducing delta sleep. BQCA induces β -arrestin recruitment to M1, suggesting a role for this signal transduction mechanism in the cholinergic modulation of memory[1]. BQCA increases firing of mPFC pyramidal cells in vivo. BQCA also restores discrimination reversal learning in a transgenic mouse model of Alzheimer's disease[2].				
Solvent&Solubility	细胞实验: DMSO 中的溶解度 : 4.17 mg/mL (13.48 mM; 超声助溶 (<60° C); 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	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
		1 mM	3.2329 mL	16.1645 mL	32.3290 mL
		5 mM	0.6466 mL	3.2329 mL	6.4658 mL
		10 mM	0.3233 mL	1.6164 mL	3.2329 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℃, 2 years; -20℃, 1 year。-80℃ 储存时, 请在 2 年内使用, -20℃ 储存时, 请在 1 年内使用。					
参考文献	[1]. Ma L, et al. Selective activation of the M1 muscarinic acetylcholine receptor achieved by allosteric potentiation. Proc Natl Acad Sci U S A. 2009 Sep 15;106(37):15950-5. [2]. Shirey JK, et al. A selective allosteric potentiator of the M1 muscarinic acetylcholine receptorincreases activity of medial prefrontal cortical neurons and restores impairments in reversal learning. J Neurosci. 2009 Nov 11;29(45):14271-86..				



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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。

储备液的保存方式和期限: -80° C, 2 years; -20° C, 1 year。-80° C 储存时,请在 2 年内使用, -20° C 储存时,请在 1 年内使用。

可选溶剂	质量 溶剂体积 浓度	1 mg	5 mg	10 mg	25 mg
DMSO	1 mM	3.2329 mL	16.1645 mL	32.3290 mL	80.8224 mL
	5 mM	0.6466 mL	3.2329 mL	6.4658 mL	16.1645 mL
	10 mM	0.3233 mL	1.6164 mL	3.2329 mL	8.0822 mL



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