

产品名称: **YM-58483**

产品别名: **YM-58483**

生物活性:

Description	YM-58483 is the first selective and potent inhibitor of CRAC channels and subsequent Ca ²⁺ signals.			
In Vitro	YM-58483 can decrease the levels of P-ERK and P-CREB, without affecting the expression of CD11b and GFAP. YM-58483 also inhibits the release of spinal cord IL-1β, TNF-α, and PGE2[1]. YM-58483 and cyclosporine A inhibits T cell proliferation in a one-way mixed lymphocyte reaction (mLR) with IC50 values of 330 and 12.7 nM, respectively[2]. YM-58483 inhibits DNP antigen-induced histamine release from and leukotrienes (LTs) production in IgE-primed RBL-2H3 cells, a rat basophilic leukemia cell line, with IC50 values of 460 and 310 nM, respectively. YM-58483 also inhibits phytohemagglutinin-P (PHA)-stimulated IL-5 and IL-13 production in human peripheral blood cells with IC50 values of 125 and 148 nM, respectively, which is approximately 5 times less potent than prednisolone[3]. YM-58483 inhibits IL-4 and IL-5 production in a conalbumine-stimulated murine Th2 T cell clone (D10.G4.1), and IL-5 production in phytohemagglutinin-stimulated human whole blood cells with IC50 values comparable to those reported for its CRAC channel inhibition (around 100 nM)[4].			
In Vivo	Intrathecal YM-58483 at the concentration of 300 μM (1.5 nmol) and 1000 μM (10 nmol) produces a significant central analgesic effect on the SNL rats[1]. In the mouse graft-versus-host disease (GVHD) model, YM-58483 (1-30 mg/kg, p.o.) and cyclosporine A (1-30 mg/kg, p.o.) inhibit donor anti-host cytotoxic T lymphocyte (CTL) activity and IFN-γ production, and also reduce the number of donor T cells, especially donor CD8+ T cells, in the spleen. YM-58483 (1-10 mg/kg, p.o.) and cyclosporine A (2, 10 mg/kg, p.o.) inhibit the sheep red blood cell (SRBC)-induced delayed type hypersensitivity (DTH) response[2]. M-58483 (30 mg/kg, p.o.) significantly suppresses ovalbumin (OVA)-induced bronchoconstriction in OVA-sensitized guinea pigs, whereas prednisolone does not. YM-58483 (3-30 mg/kg, p.o.) and prednisolone (100 mg/kg, p.o.) both significantly and completely suppress airway hyperresponsiveness (AHR) caused by OVA exposure[3]. YM-58483 inhibits antigen-induced eosinophil infiltration into airways, and decreases IL-4 and cysteinyl-leukotrienes content in inflammatory airways induced in actively sensitized Brown Norway rats. Orally administered YM-58483 prevents antigen-induced late phase asthmatic broncoconstriction and eosinophil infiltration in actively sensitized guinea pigs[4].			
In Vitro: DMSO : ≥ 32 mg/mL (75.95 mM) * "≥" means soluble, but saturation unknown.				
Preparing Stock Solutions	<div><div>SolventMass</div><div>Concentration</div></div>	1 mg	5 mg	10 mg
	1 mM	2.3735 mL	11.8675 mL	23.7349 mL
	5 mM	0.4747 mL	2.3735 mL	4.7470 mL
	10 mM	0.2373 mL	1.1867 mL	2.3735 mL
<p>*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。</p> <p>储备液的保存方式和期限: -80℃, 6 months; -20℃, 1 month。 -80℃ 储存时, 请在 6 个月内使用, -20℃ 储存时, 请在 1 个月内使用。</p> <p>In Vivo:</p> <p>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:</p>				

Solvent&Solubility	<p>——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</p> <p>1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline Solubility: ≥ 2.5 mg/mL (5.93 mM); Clear solution</p> <p>此方案可获得 ≥ 2.5 mg/mL (5.93 mM，饱和度未知) 的澄清溶液。</p> <p>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。</p> <p>2.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 2.5 mg/mL (5.93 mM); Clear solution</p> <p>此方案可获得 ≥ 2.5 mg/mL (5.93 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。</p> <p>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。</p>
References	<p>[1]. Qi Z, et al. The Central Analgesic Mechanism of YM-58483 in Attenuating Neuropathic Pain in Rats. <i>Cell Mol Neurobiol.</i> 2016 Oct;36(7):1035-43.</p> <p>[2]. Ohga K, et al. Characterization of YM-58483/BTP2, a novel store-operated Ca²⁺ entry blocker, on T cell-mediated immune responses in vivo. <i>Int Immunopharmacol.</i> 2008 Dec 20;8(13-14):1787-92</p> <p>[3]. Ohga K, et al. The suppressive effects of YM-58483/BTP-2, a store-operated Ca²⁺ entry blocker, on inflammatory mediator release in vitro and airway responses in vivo. <i>Pulm Pharmacol Ther.</i> 2008;21(2):360-9.</p> <p>[4]. Yoshino T, et al. YM-58483, a selective CRAC channel inhibitor, prevents antigen-induced airway eosinophilia and late phase asthmatic responses via Th2 cytokine inhibition in animal models. <i>Eur J Pharmacol.</i> 2007 Apr 10;560(2-3):225-33.</p>
实验参考：	
Animal Administration	<p>Male Balb/c mice are immunized by subcutaneous injection of SRBC (2×10^7 cells) on day 0.</p> <p>Immunized mice are challenged with 30 μL of 1×10^8 SRBC into the left hind footpad on day 5.</p> <p>Footpad swelling is measured 24 h after the challenge using a thickness gauge and expressed as the difference between the thickness of the left footpad and that of the right one, which receives an equal volume of 0.9% saline. As a negative control, male Balb/c mice are injected with 0.9% saline and challenged with SRBC. YM-58483 and cyclosporine A are administered orally once daily from day 0 to day 5 (6 consecutive days). [2]</p>
References	<p>[1]. Qi Z, et al. The Central Analgesic Mechanism of YM-58483 in Attenuating Neuropathic Pain in Rats. <i>Cell Mol Neurobiol.</i> 2016 Oct;36(7):1035-43.</p> <p>[2]. Ohga K, et al. Characterization of YM-58483/BTP2, a novel store-operated Ca²⁺ entry blocker, on T cell-mediated immune responses in vivo. <i>Int Immunopharmacol.</i> 2008 Dec 20;8(13-14):1787-92</p> <p>[3]. Ohga K, et al. The suppressive effects of YM-58483/BTP-2, a store-operated Ca²⁺ entry blocker, on inflammatory mediator release in vitro and airway responses in vivo. <i>Pulm Pharmacol Ther.</i> 2008;21(2):360-9.</p> <p>[4]. Yoshino T, et al. YM-58483, a selective CRAC channel inhibitor, prevents antigen-induced airway eosinophilia and late phase asthmatic responses via Th2 cytokine inhibition in animal</p>



源叶生物