

产品名称: **Spautin-1**

产品别名: **Spautin-1**

生物活性:				
Description	Spautin-1 is a specific and potent autophagy inhibitor which inhibits ubiquitin-specific peptidases, USP10 and USP13 with IC50s of 0.6-0.7 μ M.			
In Vitro	Spautin-1 enhances imatinib mesylate (IM)-induced CmL cell apoptosis by reducing the expression of the anti-apoptotic proteins Mcl-1 and Bcl-2. The pro-apoptotic activity of spautin-1 is associated with activation of GSK3 β , an important downstream effector of PI3K/AKT. Spautin-1 enhances IM-induced cytotoxicity in CmL cell line K562, decreasing the IC50 from 1 to 0.5 μ M[1]. The mechanism of spautin-1 acting on acute pancreatitis is associated with impaired autophagy inhibition[2].			
In Vivo	Spautin-1 ameliorates the pathogenesis of acute pancreatitis induced by cerulein or L-arginine. Spautin-1 pretreatment significantly diminishes the elevation of serum amylase and lipase levels, which are indicative of trypsin activity. Increasing levels of serum TNF α caused by cerulein are inhibited in the presence of spautin-1. Spautin-1 treatment can ameliorate the inflammation damage induced by cerulein, such as edema, degeneration, coagulative necrosis and infiltration of inflammatory cells[2].			
Solvent&Solubility	In Vitro: DMSO : 50 mg/mL (184.33 mM; Need ultrasonic) H₂O : < 0.1 mg/mL (insoluble)			
	Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg
		1 mM	3.6865 mL	18.4325 mL
		5 mM	0.7373 mL	3.6865 mL
		10 mM	0.3687 mL	1.8433 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。 -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。			
	In Vivo: 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			
	1.请依序添加每种溶剂: 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline Solubility: $\geq$ 2.5 mg/mL (9.22 mM); Clear solution 此方案可获得 $\geq$ 2.5 mg/mL (9.22 mM, 饱和度未知) 的澄清溶液。 以 1 mL 工作液为例, 取 100 μ L 25.0 mg/mL 的澄清 DMSO 储备液加到 400 μ L PEG300 中, 混合均匀向上述体系中加入 50 μ L Tween-80, 混合均匀; 然后继续加入 450 μ L 生理盐水定容至 1 mL。			
	2.请依序添加每种溶剂: 10% DMSO →90% corn oil Solubility: $\geq$ 2.5 mg/mL (9.22 mM); Clear solution 此方案可获得 $\geq$ 2.5 mg/mL (9.22 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。			

	以 1 mL 工作液为例，取 100 μ L 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μ L 玉米油中，混合均匀。
References	[1]. Shao S, et al. Spautin-1, a novel autophagy inhibitor, enhances imatinib-induced apoptosis in chronic myeloid leukemia. <i>Int J Oncol</i>. 2014 May;44(5):1661-1668. [2]. Xiao J, et al. Spautin-1 Ameliorates Acute Pancreatitis via Inhibiting Impaired Autophagy and Alleviating Calcium Overload. <i>Mol Med</i>. 2016 Aug 18;22.
实验参考：	
Cell Assay	Spautin-1 is dissolved in DMSO. Cell proliferation is evaluated using CCK-8 kit. K562 cells (1×10^5 /mL) are seeded into 96-well plates in triplicate and then treated with 125 to 4,000 nM IM alone or in combination with spautin-1 (10 μ M). After 48 h of incubation, 10 μ L of CCK-8 reagent is added to each well. Four hours later, the absorbance is read at 450 nm using a microplate reader[1].
Animal Administration	Mice: In this study, mice models with acute pancreatitis, including cerulein- and L-arginine-induced models, are constructed. For the cerulein-induced model, four intraperitoneal injections of cerulein (50 μ g/kg body weight) are given consecutively at hourly intervals; The L-arginine-induced model received hourly intraperitoneal injections of 1.4 g/kg (optimal dosage for this study) L-arginine three times[2].
References	[1]. Shao S, et al. Spautin-1, a novel autophagy inhibitor, enhances imatinib-induced apoptosis in chronic myeloid leukemia. <i>Int J Oncol</i>. 2014 May;44(5):1661-1668. [2]. Xiao J, et al. Spautin-1 Ameliorates Acute Pancreatitis via Inhibiting Impaired Autophagy and Alleviating Calcium Overload. <i>Mol Med</i>. 2016 Aug 18;22.

源叶生物