

产品名称: **Anamorelin**

产品别名: 阿拉莫林

生物活性:				
Description	Anamorelin is a novel ghrelin receptor agonist with EC ₅₀ value of 0.74 nM in the FLIPR assay.			
IC ₅₀ & Target	Ki: 0.7 nM (ghrelin receptor)[1] EC ₅₀ : 0.74 nM (ghrelin receptor)[1]			
In Vitro	In the FLIPR assay, Anamorelin (ANAM) shows significant agonist activity on the ghrelin receptor, with EC ₅₀ value of 0.74 nM. No significant antagonist activity is observed with Anamorelin at concentrations of up to 1,000 nM. In the binding experiments, Anamorelin binds to the ghrelin receptor with a binding affinity constant (Ki) of 0.70 nM. In the competition assay with radiolabeled ibutamoren (35S-MK-677; another ghrelin receptor agonist) Anamorelin (ANAM) is also found to bind with high affinity to the ghrelin receptor (IC ₅₀ =0.69 nM). In rat pituitary cells incubated with Anamorelin, there is a dose-dependent stimulatory effect on GH release and the potency (EC ₅₀) is 1.5 nM. Anamorelin is screened for activity against a set of over 100 receptors, ion channels, transporters, and enzymes. Anamorelin demonstrates binding to the tachykinin neurokinin 2 (NK2) site (IC ₅₀ =0.021 μM); however, a subsequent NK2 functional assay demonstrates no functional activity[1].			
In Vivo	In rats, Anamorelin (ANAM) at an oral dose of 3, 10, or 30 mg/kg once daily significantly increases both food intake and body weight from Day 2 to Day 7 of treatment compared with the vehicle control. The cumulative change in food intake and weight gain increases dose-dependently, and these changes are significant at all dose levels (P<0.05) compared to the control. Administration of Anamorelin at a single oral dose of 3, 10, or 30 mg/kg induces a dose-dependent increase in plasma GH levels and GH AUC0-6h in rats[1].			
Solvent&Solubility	In Vitro: DMSO : ≥ 100 mg/mL (182.92 mM) * "≥" means soluble, but saturation unknown.			
	<div>Preparing Stock Solutions</div>	<div>Solvent / Mass / Concentration</div>	1 mg	5 mg
		1 mM	1.8292 mL	9.1458 mL
		5 mM	0.3658 mL	1.8292 mL
		10 mM	0.1829 mL	0.9146 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℃，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。 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: ≥ 2.5 mg/mL (4.57 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.57 mM, 饱和度未知) 的澄清溶液。			

	<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% (20% SBE-β-CD in saline) Solubility: \geq 2.5 mg/mL (4.57 mM); Clear solution 此方案可获得 \geq 2.5 mg/mL (4.57 mM，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</p> <p>3.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: \geq 2.5 mg/mL (4.57 mM); Clear solution 此方案可获得 \geq 2.5 mg/mL (4.57 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 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]. Pietra C, et al. Anamorelin HCl (ONO-7643), a novel ghrelin receptor agonist, for the treatment of cancer anorexia-cachexiasyndrome: preclinical profile. J Cachexia Sarcopenia Muscle. 2014 Dec;5(4):329-37.</p>
实验参考：	
Animal Administration	<p>Rats[1] For the assessment of food intake and body weight, rats are divided into four groups: Anamorelin 3 mg/kg (n=7), 10 mg/kg (n=7), or 30 mg/kg (n=7), or vehicle control (n=8), and 100 μL blood samples are collected before and 0.25, 0.5, 1, 2, 3, 4, 5, and 6 h after single dosing. Rats are anesthetized with sodium pentobarbital 64.8 mg/kg. A catheter filled with heparinized saline solution is inserted in the left femoral artery for blood collection and fitted with an extension tube, 1 mL sampling syringe, and a three-way cock to allow excess blood to return. Plasma levels of GH are measured immunochemically using a Rat Growth Hormone EIA kit and microplate reader. Measurements are performed in duplicate. Area under the GH concentration curve from 0 to 6 h (AUC0-6h) postdose and the time course of GH plasma concentrations are evaluated.</p> <p>Pig[1] In pigs (n=6 per group), Anamorelin is dosed directly into the gastric lumen via the dosing catheter. Blood samples are collected for the stimulation profile of GH at 30 and 15 min before, and 0, 5, 15, 30, 45, 60, and 120 min following dosing. Animals received either a single dose (3.5 mg/kg), or once-daily administration (1 mg/kg) for 7 days and stimulation profiles are taken after the first and seventh dose of Anamorelin. To assess IGF-1 levels, pigs receive either placebo or Anamorelin for 7 days (1 mg/kg/day), and the following 7 days the two treatments are crossed over. A single blood sample is taken once a day immediately before dosing.</p>
Kinase Assay	<p>For the competition assay, Anamorelin (ANAM) concentrations (1 pM-10 μM) are added to the membranes together with 35S-MK-677. Nonspecific binding is determined by adding 10 μM nonlabeled MK-677. The mixture is incubated at 30°C for 60 min, followed by application of the samples to GF/B filters, which has been pretreated with 0.5 % PEI for 60 min. The filters are subsequently washed in 0.9 % NaCl and counted using an OptiPhase counter[1].</p>
References	<p>[1]. Pietra C, et al. Anamorelin HCl (ONO-7643), a novel ghrelin receptor agonist, for the treatment of cancer anorexia-cachexiasyndrome: preclinical profile. J Cachexia Sarcopenia Muscle. 2014</p>



源叶生物