产品名称：利那洛肽
产品别名：**Linaclotide**

生物活性：

Description	Linaclotide is a potent and selective guanylate cyclase C agonist; developed for the treatment of constipation-predominant irritable bowel syndrome (IBS-C) and chronic constipation.
In Vitro	Linaclotide inhibits in vitro [^{125}I]-STa binding to intestinal mucosal membranes from wt mice in a concentration-dependent manner. In contrast, [^{125}I]-STa binding to these membranes from GC-C null mice is significantly decreased. After incubation in vitro in jejunal fluid for 30 min, linaclotide is completely degraded[1]. Linaclotide acts on guanylate cyclase-C receptors on the luminal membrane to increase chloride and bicarbonate secretions into the intestine and inhibit the absorption of sodium ions, thus increasing the secretion of water into the lumen and improving defecation; the drug is minimally absorbed into the systemic circulation[2].
In Vivo	Pharmacokinetic analysis shows very low oral bioavailability (0.10%). In intestinal secretion and transit models, linaclotide exhibits significant pharmacological effects in wt, but not in GC-C null mice: induction of increased fluid secretion into surgically ligated jejunal loops is accompanied by the secretion of elevated levels of cyclic guanosine-3',5-monophosphate and accelerated gastrointestinal transit[1]. Linaclotide significantly increases weekly spontaneous bowel movements and complete spontaneous bowel movements (CSBMs) while reducing abdominal pain in patients with chronic constipation[2].
Solvent&Solubility	***In Vitro:*** **H_2O : 20 mg/mL (13.10 mM;** Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	0.6550 mL	3.2750 mL	6.5499 mL
5 mM	0.1310 mL	0.6550 mL	1.3100 mL
10 mM	0.0655 mL	0.3275 mL	0.6550 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。

References	[1]. Bryant AP, et al. Linaclotide is a potent and selective guanylate cyclase C agonist that elicits pharmacological effects locally in the gastrointestinal tract. Life Sci. 2010 May 8;86(19-20):760-5. [2]. Love BL, et al. Linaclotide: a novel agent for chronic constipation and irritable bowel syndrome. Am J Health Syst Pharm. 2014 Jul 1;71(13):1081-91.

实验参考：

Animal Administration	Mice: To determine oral bioavailability, three groups (n=3) of female CD-1 mice receive linaclotide (8 mg/kg) intravenously (i.v.), while two groups (n=3) receive linaclotide (8 mg/kg) by gavage (p.o.). Blood is allowed to clot for 5 min, centrifuged at 13,000×g for 3 min, and the serum is collected and stored at −80 °C until sample preparation and analysis by LC-MS/MS[1].
References	[1]. Bryant AP, et al. Linaclotide is a potent and selective guanylate cyclase C agonist that elicits pharmacological effects locally in the gastrointestinal tract. Life Sci. 2010 May 8;86(19-20):760-5. [2]. Love BL, et al. Linaclotide: a novel agent for chronic constipation and irritable bowel syndrome.

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