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产品名称：N-[4-[[[反式-4-(1,1-二甲基乙基)环己基][[[4-(三氟甲氧基)苯基]氨基]羰基]氨基]甲基]苄基]-B-丙氨酸
产品别名：GRA Ex-25

生物活性：

Description	GRA Ex-25 is an inhibitor of glucagon receptor, with IC50 of 56 and 55 nM for rat and human glucagon receptors, respectively.
IC_{50} & Target	IC50: 56 nM (rat glucagon receptor), 55 nM (human glucagon receptor)[2]
In Vitro	GRA Ex-25 binds a human glucagon receptor (h-GlucRbind) with Ki of 63 nM and a moderate glucagon induced adenylate cyclase inhibition (h-GlucRcyclase) with Ki of 254 nM under our assay conditions[1]. GRA Ex-25 has similar affinity to the rat and human glucagon receptors (IC50=56 and 55 nM, respectively)[2].
In Vivo	GRA Ex-25 (3 mg/kg, i.v.) significantly reduces blood glucose caused by exogenous administration of glucagon in rat model. GRA Ex-25 is able to inhibit the rise in blood glucose levels elicited by exogenous administered glucagon, most likely because of the direct inhibition of glucagon stimulated hepatic glucose output[2].

Solvent&Solubility

In Vitro:

DMSO : ≥ 32 mg/mL (56.78 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.7743 mL	8.8714 mL	17.7428 mL
	5 mM	0.3549 mL	1.7743 mL	3.5486 mL
	10 mM	0.1774 mL	0.8871 mL	1.7743 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: ≥ 2.5 mg/mL (4.44 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (4.44 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 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。

2.请依序添加每种溶剂： 10% DMSO→ 90% (20% SBE-β-CD in saline)

	Solubility: ≥ 2.5 mg/mL (4.44 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.44 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。 3.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 2.5 mg/mL (4.44 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.44 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。
References	[1]. Kurukulasuriya R, et al. Biaryl amide glucagon receptor antagonists. Bioorg Med Chem Lett. 2004 May 3;14(9):2047-50. [2]. Lau J, et al. New beta-alanine derivatives are orally available glucagon receptor antagonists. J Med Chem. 2007 Jan 11;50(1):113-28.

实验参考：

Animal Administration	Non-fasted male Sprague Dawley rats (200 g) are maintained in the anaesthetized state during the test by s.c. administration of a 1:1 mixture of Hypnorm (fentanyl, 0.05 mg/mL and fluanizone, 2.5 mg/mL) and Dormicum (Midazolam, 1.25 mg/mL). Acatheter is inserted in a jugular vein for administration of compounds. Approximately 60 min after initiation of anesthesia, test compounds (0, 1, 3, 10 and 30 mg/kg) and glucagon (3 μg/kg) are administered in 5 min intervals, respectively. Samples for determination of blood glucose concentrations are taken from the tail tip 25 and 5 min prior to administration of the compound to represent average basal values and again 10 min after administration of glucagon (time for peak response of glucagon). The results are expressed as delta values calculated as the value obtained 10 min after alucagon administration minus the average of the two basal values. [2]
References	[1]. Kurukulasuriya R, et al. Biaryl amide glucagon receptor antagonists. Bioorg Med Chem Lett. 2004 May 3;14(9):2047-50. [2]. Lau J, et al. New beta-alanine derivatives are orally available glucagon receptor antagonists. J Med Chem. 2007 Jan 11;50(1):113-28.