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产品名称：RG7090
产品别名：Basimglurant；RG7090; CTEP Derivative

生物活性：

Description	Basimglurant (RG7090) is a potent, selective and orally available mGlu5 negative allosteric modulator with a K_d of 1.1 nM.
IC_{50} & Target	Kd: 1.1 nM (mGlu5)[1]
In Vitro	[^{3}H]-basimglurant saturation analysis on recombinant human mGlu5 reveals monophasic saturation isotherms with K_d of 1.1 nM. In competition binding experiments on human recombinant mGlu5, Basimglurant (RG7090) fully displaces [^{3}H]-MPEP with a K_i of 35.6 nM and [^{3}H]-ABP688 with a K_i of 1.4 nM. In HEK293 cells stably expressing human mGlu5, Basimglurant (RG7090) inhibits quisqualate induced Ca^{2+} mobilization with an IC_{50} of 7.0 nM and [^{3}H]-inositolphosphate accumulation with an IC_{50} of 5.9 nM. Basimglurant (RG7090) shows similar potencies in radioligand binding and functional assay on human and rodent mGlu5 receptor orthologues[1].
In Vivo	Basimglurant (RG7090) is a potent, selective, and safe mGlu5 inhibitor with good oral bioavailability and long half-life supportive of once-daily administration, good brain penetration, and high in vivo potency. It has antidepressant properties which are corroborated by its functional magnetic imaging (fMRI) profile, as well as anxiolytic-like and antinociceptive features[1]. It is currently in phase II clinical studies for the treatment of depression and fragile X syndrome. In the Vogel conflict drinking test, Basimglurant dose dependently increases the drinking time. The total plasma exposure of efficacious doses of Basimglurant (RG7090) ranges from 5 ng/mL (0.03 mg/kg) to 37 ng/mL (0.3 mg/kg)[2].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 33.33 mg/mL (102.31 mM)** **H_2O : < 0.1 mg/mL** (insoluble) * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.0697 mL	15.3483 mL	30.6965 mL
5 mM	0.6139 mL	3.0697 mL	6.1393 mL
10 mM	0.3070 mL	1.5348 mL	3.0697 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 (7.67 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (7.67 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 (7.67 mM); Suspended solution; Need ultrasonic and warming 此方案可获得 2.5 mg/mL (7.67 mM)的均匀悬浊液，悬浊液可用于口服和腹腔注射。 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 (7.67 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (7.67 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]. Lindemann L, et al. Pharmacology of basimglurant (RO4917523, RG7090), a unique metabotropic glutamate receptor 5 negative allosteric modulator in clinical development for depression. J Pharmacol Exp Ther. 2015 Apr;353(1):213-33. [2]. Jaeschke G, et al. Metabotropic glutamate receptor 5 negative allosteric modulators: discovery of 2-chloro-4-[1-(4-fluorophenyl)-2,5-dimethyl-1H-imidazol-4-ylethynyl]pyridine (basimglurant, RO4917523), a promising novel medicine for psychiatric diseases.

实验参考：

Animal Administration	Rats: For intravenous PK, Basimglurant (RG7090) is formulated in N-methyl-pyrollidone (NMP)/saline (30%/70%) as vehicle and administered at a volume of 2 mL/kg. For oral gavage (p.o.) the compound is administered as suspension using gelatine/saline (7.5%/0.62% in water) at an administration volume of 4 mL/kg[1]. Monkey: For intravenous PK, Basimglurant (RG7090) is formulated in cyclodextrin solution as vehicle and administered at a volume of 2 mL/kg. For oral gavage (p.o.), the compound is administered in capsule (2 mg in size-2 capsules, i.e. ~0.3 mg/kg) to fasted or fed monkeys in a cross-over design[1].
References	[1]. Lindemann L, et al. Pharmacology of basimglurant (RO4917523, RG7090), a unique metabotropic glutamate receptor 5 negative allosteric modulator in clinical development for depression. J Pharmacol Exp Ther. 2015 Apr;353(1):213-33. [2]. Jaeschke G, et al. Metabotropic glutamate receptor 5 negative allosteric modulators: discovery of 2-chloro-4-[1-(4-fluorophenyl)-2,5-dimethyl-1H-imidazol-4-ylethynyl]pyridine (basimglurant, RO4917523), a promising novel medicine for psychiatric diseases.