产品名称：DGAT-1 抑制剂
产品别名：A 922500；DGAT-1 Inhibitor 4a

生物活性：

Description	A 922500 (DGAT-1 Inhibitor 4a) is a potent, selective, and orally bioavailable diacylglycerol acyltransferase 1 (DGAT-1) inhibitor with IC_{50}s of 9 and 22 nM against human and mouse DGAT-1, respectively.
IC_{50} & Target	IC50: 9 nM (human DGAT-1), 22 nM (mouse DGAT-1)[1]
In Vitro	A 922500 (A-922500) demonstrates excellent selectivity over other acyltransferases, including DGAT-2 (IC50=53 μM) and the phylogenetic family members acyl coenzyme A cholesterol acyltransferase-1 and -2 (IC50=296 μM) [1].
In Vivo	DGAT-1 inhibitor A 922500 (A-922500) reduces serum triglyceride levels from baseline at all doses tested; however, this is only statistically significant at the 3 mg/kg dose, which lowers serum triglycerides by 53%. Similarly, the 3 mg/kg dose of A 922500 significantly reduces serum FFA concentrations by 55% and total cholesterol by 25%. DGAT-1 inhibition has no significant effect on body weight at any dose tested. Although A 922500 dpes not significantly affect LDL-cholesterol or HDL-cholesterol individually, the serum LDL/HDL-cholesterol ratio is significantly improved by A 922500 at 0.3 and 3 mg/kg. Similar to the dyslipidemic hamster, treatment with 3 mg/kg A 922500 significantly reduces serum triglyceride concentrations (39%). FFA levels significantly increase over the 14-day period in vehicle-treated animals. This increase is inhibited in a dose-dependent manner by A 922500 such that FFA concentrations are 32% lower after 14 days of treatment with the DGAT-1 inhibitor at 3 mg/kg, compared with the vehicle group ($p < 0.05$). HDL-cholesterol is significantly increased from baseline levels by A 922500 at 0.3 and 3 mg/kg; however, this is only significantly increased compared with vehicle at the 3 mg/kg dose. Body weight significantly increases over the 2-week period in vehicle-treated rats, and this is not affected by A 922500. LDL-cholesterol is significantly reduced in the vehicle treated group. DGAT-1 inhibition does not further reduce LDL-cholesterol and has no effect on total cholesterol[1].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 50 mg/mL (116.69 mM)** * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3338 mL	11.6692 mL	23.3383 mL
	5 mM	0.4668 mL	2.3338 mL	4.6677 mL
	10 mM	0.2334 mL	1.1669 mL	2.3338 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 (5.83 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.83 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% corn oil Solubility: ≥ 2.5 mg/mL (5.83 mM); Precipitated solution 此方案可获得 ≥ 2.5 mg/mL (5.83 mM，饱和度未知) 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]. King AJ, et al. Diacylglycerol acyltransferase 1 inhibition lowers serum triglycerides in the Zucker fatty rat and the hyperlipidemic hamster. J Pharmacol Exp Ther. 2009 Aug;330(2):526-31.

实验参考：

Animal Administration	Mice and Hamsters[1] Thirteen-week-old male Golden Syrian hamsters (n=40), initially weighing approximately 140 g, are used. Ten-week-old Male Zucker fatty rats (n=32), weighing between 270 and 330 g, are used. After collection of baseline lipid profiles, hyperlipidemic hamsters (n=10/group) and Zucker fatty rats (n=8/group) are administered vehicle [20:80 (v/v), polyethylene glycol/hydroxypropyl-β-cyclodextrin (10% w/v)] or DGAT-1 inhibitor A 922500 (A-922500) at 0.03, 0.3, and 3 mg/kg, once daily by oral gavage. The dosing volume is 5 mL/kg. Serum lipid profiles are then measured 3 h after the dose on day 7 and day 14. Hamsters continue to be fed a high-fat diet with 10% fructose in the drinking water throughout the treatment period. Zucker fatty rats remain on standard rodent diet throughout the study.
References	[1]. King AJ, et al. Diacylglycerol acyltransferase 1 inhibition lowers serum triglycerides in the Zucker fatty rat and the hyperlipidemic hamster. J Pharmacol Exp Ther. 2009 Aug;330(2):526-31.