产品名称：LCZ696
产品别名：Sacubitril/Valsartan

生物活性：

Description	LCZ696 (Sacubitril/Valsartan), comprised Valsartan (an ARB) and Sacubitril (AHU377) in 1:1 molar ratio, is a first-in-class, orally bioavailable, and dual-acting angiotensin receptor-neprilysin (ARN) inhibitor for hypertension and heart failure[1][2][3]. LCZ696 ameliorates diabetic cardiomyopathy by inhibiting inflammation, oxidative stress and apoptosis[4].
IC_{50} & Target	Angiotensin receptor-neprilysin[1]
In Vitro	LCZ696 (1-30 μM; 0.5 hours) inhibits HG-treated H9C2 cells apoptosis in an experimental model of Diabetic cardiomyopathy (DCM)[4]. LCZ696 (1-30 μM; 0.5 hours) increases the expression level of cleaved caspase-3 and the ratio of Bax/Bcl-2 in HG-treated H9C2 cells[4].

Apoptosis Analysis[4]	
Cell Line:	HG-treated H9C2 cells
Concentration:	1, 10, or 30 μM
Incubation Time:	0.5 hours
Result:	Inhibited HG-treated H9C2 cells apoptosis.

Western Blot Analysis[4]	
Cell Line:	HG-treated H9C2 cells
Concentration:	1, 10, or 30 μM
Incubation Time:	0.5 hours
Result:	Increased the expression level of cleaved caspase-3 and the ratio of Bax/Bcl-2.

In Vivo	LCZ696 (perorally; 68 mg/kg for 4 weeks) significantly exhibits small weights and reduces interstitial fibrosis both in the noninfarct zone and peri-infarct zone[2].	
	Animal Model:	Adult 6- to 8-week-old male Sprague-Dawley rats (220-250 g body weight) [2]
	Dosage:	68 mg/kg
	Administration:	Perorally; for 4 weeks
	Result:	Exhibited small weights and reduced interstitial fibrosis both in the noninfarct zone and peri-infarct zone.

In Vitro:

DMSO : ≥ 100 mg/mL (104.39 mM)

H_2O : ≥ 50 mg/mL (52.19 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	**1 mg**	**5 mg**	**10 mg**
	1 mM	1.0439 mL	5.2193 mL	10.4385 mL
	5 mM	0.2088 mL	1.0439 mL	2.0877 mL
	10 mM	0.1044 mL	0.5219 mL	1.0439 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。

Solvent&Solubility	***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 (2.61 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (2.61 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 (2.61 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (2.61 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 (2.61 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (2.61 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]. Gu J, et al. Pharmacokinetics and pharmacodynamics of LCZ696, a novel dual-acting angiotensin receptor-neprilysin inhibitor (ARNi). J Clin Pharmacol. 2010 Apr;50(4):401-14. [2]. von Lueder TG, et al. Angiotensin receptor neprilysin inhibitor LCZ696 attenuates cardiac remodeling and dysfunction after myocardial infarction by reducing cardiac fibrosis and hypertrophy. Circ Heart Fail. 2015 Jan;8(1):71-8. [3]. Huo H, et al. Erastin Disrupts Mitochondrial Permeability Transition Pore (mPTP) and Induces Apoptotic Death of Colorectal Cancer Cells. PLoS One. 2016 May 12;11(5):e0154605. [4]. Ge Q, et al. Feature article: LCZ696, an angiotensin receptor-neprilysin inhibitor, ameliorates diabeticcardiomyopathy by inhibiting inflammation, oxidative stress and apoptosis. Exp Biol Med (Maywood). 2019 Sep;244(12):1028-1039.