上海源叶生物科技有限公司
Shanghai yuanye Bio-Technology Co., Ltd
电话：021-61312973　　传真：021-55068248
网址：www.shyuanye.com
邮箱：shyysw@sina.com

产品名称：Celgosivir (hydrochloride)
产品别名：MBI 3253 hydrochloride; MDL 28574 hydrochloride; MX3253 hydrochloride

生物活性：

Description	Celgosivir hydrochloride (MBI 3253 hydrochloride; MDL 28574 hydrochloride; MX3253 hydrochloride) is an α-glucosidase I inhibitor; inhibits bovine viral diarrhoea virus (BVDV) with an IC50 of 1.27 μM in in vitro assay.
IC_{50} & Target	IC50: 1.27 μM (α-glucosidase I)[1]
In Vitro	Celgosivir is more effective (IC_{50}=20 μM) than the parent molecule (IC_{50}=254 μM) at causing the accumulation of glucosylated oligosaccharides in HIV-infected cells by inhibition of glycoprotein processing. Celgosivir exhibits potent antiviral activity against HIV-1 with an IC_{50} of 2.0±2.3 μM[1]. Bovine viral diarrhoea virus (BVDV) is a closely related virus of hepatitis C virus (HCV). Celgosivir inhibits BVDV with IC_{50} values of 16 and 47 μM in plaque assay and cytopathic effect assay, respectively[2]. Celgosivir inhibits DENV2 replication with an EC_{50} of 0.2 μM. The EC_{50}values against DENV1, 3 and 4 are less than 0.7 μM[3].
In Vivo	Celgosivir fully protects AG129 mice from lethal infection with a mouse adapted dengue virus at a dose of 50 mg/kg twice daily (BID) for 5 days and is effective even after 48 h delayed treatment. The protection by celgosivir is dose- and schedule-dependent and that a twice-a-day regimen of 50, 25 or 10 mg/kg is more protective than a single daily dose of 100 mg/kg. Pharmacokinetics studies of celgosivir in mice shows that it rapidly metabolizes to castanospermine[4]. During primary infection with a mouse-adapted DENV strain S221, mice shows increased viremia on day 3, yet 80% survived day 10 with virus completely cleared by day 8[3].
Solvent&Solubility	***In Vitro:*** **H_2O : ≥ 100 mg/mL (338.11 mM)** **DMSO : 100 mg/mL (338.11 mM;** Need ultrasonic) * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.3811 mL	16.9056 mL	33.8112 mL
5 mM	0.6762 mL	3.3811 mL	6.7622 mL
10 mM	0.3381 mL	1.6906 mL	3.3811 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 (8.45 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (8.45 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 (8.45 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (8.45 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 (8.45 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (8.45 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]. Taylor DL, et al. Inhibition of alpha-glucosidase I of the glycoprotein-processing enzymes by 6-O-butanoylcastanospermine (MDL 28,574) and its consequences in human immunodeficiency virus-infected T cells. Antimicrob Agents Chemother. 1994 Aug;38(8):1780-7. [2]. Whitby K, et al. Action of celgosivir (6 O-butanoyl castanospermine) against the pestivirus BVDV: implications for the treatment of hepatitis C. Antivir Chem Chemother. 2004 May;15(3):141-51. [3]. Watanabe S, et al. Dose- and schedule-dependent protective efficacy of celgosivir in a lethal mouse model for dengue virus infection informs dosing regimen for a proof of concept clinical trial. Antiviral Res. 2012 Oct;96(1):32-5. [4]. Rathore AP, et al. Celgosivir treatment misfolds dengue virus NS1 protein, induces cellular pro-survival genes andprotects against lethal challenge mouse model. Antiviral Res. 2011 Dec;92(3):453-60.

实验参考：

Cell Assay	The cytotoxicity of Celgosivir is measured by the Cell titer-Glo Luminescent cell viability assay. The luminescence signals for cells treated with the test compounds are compared to those for cells treated with the maximum tolerated DMSO to determine the 50% cytotoxic concentration[3].
Animal Administration	Mice: To model ADE, mice are injected i.p. with 20 μg /mouse of mouse monoclonal antibody against DENV E protein one day prior to infection. For treatment during infection, celgosivir (50 mg/kg) is injected i.p. twice daily for 5 days, starting from day 0, 1 or 2. Blood is collected at days 1, 3 and 7 by submandibular bleeding. Survival of mice is followed until day 10 and survival curves are plotted[3].
	[1]. Taylor DL, et al. Inhibition of alpha-glucosidase I of the glycoprotein-processing enzymes by 6-O-butanoylcastanospermine (MDL 28,574) and its consequences in human immunodeficiency virus-infected T cells. Antimicrob Agents Chemother. 1994 Aug;38(8):1780-7.

References	[2]. Whitby K, et al. Action of celgosivir (6 O-butanoyl castanospermine) against the pestivirus BVDV: implications for the treatment of hepatitis C. Antivir Chem Chemother. 2004 May;15(3):141-51. [3]. Watanabe S, et al. Dose- and schedule-dependent protective efficacy of celgosivir in a lethal mouse model for dengue virus infection informs dosing regimen for a proof of concept clinical trial. Antiviral Res. 2012 Oct;96(1):32-5. [4]. Rathore AP, et al. Celgosivir treatment misfolds dengue virus NS1 protein, induces cellular pro-survival genes andprotects against lethal challenge mouse model. Antiviral Res. 2011 Dec;92(3):453-60.

源叶生物