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：AM-2099
产品别名：AM-2099

生物活性：

Description	AM-2099 is a potent and selective inhibitor of voltage-gated sodium channel Nav1.7 with an IC_{50} of 0.16 μM for human Nav1.7.
IC_{50} & Target	IC50: 0.16 μM (human Nav1.7), 0.18 μM (mouse Nav1.7), 3.5 μM (rat Nav1.7) [1]
In Vitro	In heterologous cells, comparable inhibition is observed across human, mouse, dog, and cynomolgus monkey NaV1.7 with reduced activity against rat NaV1.7. AM-2099 is more than 100-fold selective over Nav1.3, Nav1.4, Nav1.5, and Nav1.8, while lower levels of selectivity are observed against Nav1.1, Nav1.2, and Nav1.6. AM-2099 demonstrates low affinity for hERG (>30 μM) and does not show greater than 50% inhibition against a panel of 100 kinases (1 μM) and a broad CEREP panel (10 μM). [1].
In Vivo	AM-2099 demonstrates a favorable pharmacokinetic profile in rat and dog. In rats AM-2099 shows low total clearance and moderate Vdss and half-life. In contrast, when dosed in dogs AM-2099 shows very low clearance, a low Vdss and long halflife (18 h). AM-2099 demonstrates a dose-dependent increase in plasma exposure with a concomitant dose-dependent reduction in scratching bouts compared to vehicle-treated animals, with a statistically significant reduction observed at the 60 mg/kg dose[1].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 150 mg/mL (321.57 mM)** * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1438 mL	10.7190 mL	21.4381 mL
	5 mM	0.4288 mL	2.1438 mL	4.2876 mL
	10 mM	0.2144 mL	1.0719 mL	2.1438 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 (5.36 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (5.36 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 (5.36 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.36 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。
References	[1]. Marx IE, et al. Sulfonamides as Selective NaV1.7 Inhibitors: Optimizing Potency and Pharmacokinetics to Enable in Vivo Target Engagement. ACS Med Chem Lett. 2016 Sep 21;7(12):1062-1067.

实验参考：

Animal Administration	Mice: AM-2099 (5, 20, 60 mg/kg) is dosed orally to C57BL/6 male mice 120 minutes prior to intradermal administration of histamine. Instances of scratching behavior are then measured over a 30-minute time period[1].
References	[1]. Marx IE, et al. Sulfonamides as Selective NaV1.7 Inhibitors: Optimizing Potency and Pharmacokinetics to Enable in Vivo Target Engagement. ACS Med Chem Lett. 2016 Sep 21;7(12):1062-1067.