产品名称：MI-2
产品别名：Menin-MLL inhibitor MI-2

生物活性：

Description	Menin-MLL inhibitor MI-2 is a Menin-MLL interaction inhibitor with IC50 of 446±28 nM.
IC_{50} & Target	IC50: 446±28 nM (Menin-MLL)[1]
In Vitro	Menin-MLL inhibitor MI-2 very effectively blocks proliferation of MLL-AF9 and MLL-ENL transduced BMC, with GI_{50}values of about 5 μM. Assessment of diverse hydrophobic groups at R1 led to the development of several compounds with IC_{50} values in the nanomolar range, including MI-2 (IC_{50}= 446±28 nM) and MI-3 (IC_{50}=648±25 nM).The dissociation constants measured for the menin-MLL inhibitors are at the nanomolar level, K_d=158 nM for MI-2. MI-2 can access the protein target and very effectively inhibit the menin-MLL-AF9 interaction in human cells. Furthermore, MI-2 shows only a small effect on the cell growth of E2A-HLF transduced BMC (GI_{50}>50 μM), which may be due to inhibition of the menin interaction with wild-type MLL. Treatment with MI-2 results in GI_{50} values below 10 μM in MV4;11 (harboring MLL-AF4; GI_{50}=9.5 μM), KOPN-8 (MLL-ENL; GI_{50}=7.2 μM) and ML-2 (MLL-AF6; GI_{50}=8.7 μM), and in MonoMac6 (MLL-AF9; GI_{50}=18 μM)[1].
Solvent&Solubility	***In Vitro:*** **DMSO : 50 mg/mL** (**133.14 mM;** Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6628 mL	13.3138 mL	26.6276 mL
	5 mM	0.5326 mL	2.6628 mL	5.3255 mL
	10 mM	0.2663 mL	1.3314 mL	2.6628 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 (6.66 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (6.66 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 (6.66 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (6.66 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 (6.66 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.66 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]. Grembecka J, et al. Menin-MLL inhibitors reverse oncogenic activity of MLL fusion proteins in leukemia. Nature Chemical Biology (2012), 8(3), 277-284.
实验参考：	
Cell Assay	5×10^5 HEK 293 cells/mL are plated in 12-well plates (1 mL/well) and treated with compounds (e.g., MI-2) (0.25% final concentration of DMSO for each condition) or 0.25% DMSO control and incubated for 48h at 37°C in a 5% CO_2incubator. After incubation, 1.5×10^5 cells are harvested and resuspended in 100 μL 1× Annexin V binding buffer from the Annexin V-FITC Apoptosis kit, incubated with 4 μL of AnnexinV-FITC and 6 μL of Propidium iodide at room temperature in the dark for 10 minutes and analyzed by flow cytometry on a LSR II instrument. Data analysis is performed using WinList software. The experiments are performed three times in triplicates with calculation of mean and standard deviation for each condition[1].
References	[1]. Grembecka J, et al. Menin-MLL inhibitors reverse oncogenic activity of MLL fusion proteins in leukemia. Nature Chemical Biology (2012), 8(3), 277-284.