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产品名称：KJ Pyr 9
产品别名：KJ Pyr 9

生物活性：

Description	KJ Pyr 9 is an inhibitor of MYC with a K_d of 6.5 nM in *in vitro* assay.
IC_{50} & Target	Kd: 6.5±1.0 nM (MYC)[1]
In Vitro	KJ Pyr 9 (KJ-Pyr-9) interferes with MYC-MAX complex formation in the cell, as shown in a protein fragment complementation assay. KJ Pyr 9 specifically inhibits MYC-induced oncogenic transformation in cell culture; it has no or only weak effects on the oncogenic activity of several unrelated oncoproteins. KJ Pyr 9 preferentially interferes with the proliferation of MYC-overexpressing human and avian cells and specifically reduces the MYC-driven transcriptional signature. KJ Pyr 9 against three cell lines is tested known to be dependent on increased MYC activity: NCI-H460, MDA-MB-231, and SUM-159PT. The proliferation of all cell lines tested is inhibited, with IC_{50}values between 5 and 10 μM. Additionally, the proliferation of Burkitt lymphoma cell lines, which show constitutively high expression of c-MYC, is more sensitive to KJ Pyr 9 (IC_{50} values between 1 and 2.5 μM)[1].
In Vivo	To test the in vivo effectiveness of KJ Pyr 9 (KJ-Pyr-9), nude mice receive a xenograft of MDA-MB-231 cells suspended in Matrigel and injected s.c. into the left and right flanks. When the tumors have reached an average volume of 100 mm^3, mice are treated daily with 10 mg/kg KJ Pyr 9 or vehicle control by i.p. injection for 31 d. Inhibition of tumor growth by KJ Pyr 9 is noted after 8 d of treatment. By day 31, the tumor volume in the KJ Pyr 9-treated animals has not increased significantly. At the conclusion of the experiment the tumors are extracted and weighed. The weight measurements are in agreement with the volume determinations and confirmed the ability of KJ Pyr 9 to halt tumor growth[1].
Solvent&Solubility	***In Vitro:*** **DMSO : 100 mg/mL** (**259.49 mM;** Need ultrasonic) **H_2O : < 0.1 mg/mL** (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	**1 mg**	**5 mg**	**10 mg**
	1 mM	2.5949 mL	12.9745 mL	25.9491 mL
	5 mM	0.5190 mL	2.5949 mL	5.1898 mL
	10 mM	0.2595 mL	1.2975 mL	2.5949 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 (6.49 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.49 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 (6.49 mM); Suspended solution; Need ultrasonic 此方案可获得 2.5 mg/mL (6.49 mM)的均匀悬浊液，悬浊液可用于口服和腹腔注射。 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 (6.49 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.49 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]. Hart JR, et al. Inhibitor of MYC identified in a Kr?hnke pyridine library. Proc Natl Acad Sci U S A. 2014 Aug 26;111(34):12556-61.

实验参考：

Cell Assay	Assays used staining with the redox dye resazurin to measure cell viability. Cells are seeded at 10^3 per 100 μL well in 96-well plates and grown in the presence of 2.5% FBS. MDA-MB-231 cells are cultured in DMEM; SUM-159PT cells are cultured in HAM's F12; and NCI-H460 cells are cultured in RPMI-1640. MDA-MB-231 cells are exposed to KJ Pyr 9 (KJ-Pyr-9) for 216 h with fresh compound-containing medium supplied at 120 and 192 h; SUM-159PT cells are exposed to the compound for 120 h and fresh medium with the appropriate compound concentrations is supplied at 48 h; and NCI-H460 cells are grown with compound for 72 h. Triplicate cultures of P493-6 cells are grown in six-well plates from a starting density of 1×10^5 cells per mL in 4 mL culture medium per well. Compounds are added immediately following cell seeding. Following compound addition, cells are distributed by vortexing the plate at 400 rpm for 10 s. One hundred-microliter samples are taken after vortexing and counted using a Beckman Coulter Z1 counter at 0, 12, 24, 36, 48, 60, 72, and 96 h of incubation[1].
Animal Administration	Mice[1] Ten 8-wk-old female nude mice (HSD:athymic nude-*Foxn1*^{nu}) are injected with 5×10^6 MDA-MB-231 cells s.c. into the left and right flanks. Cells are suspended in high-concentration Matrigel before injection. Xenograft tumors are allowed to grow until the average volume of the tumors reached 100 mm^3, as measured by external calipers. At this point, the mice are divided into two groups. One receive 10 mg/kg KJ Pyr 9 and the other receive vehicle only, dosed daily by i.p. injection. Tumor volume and mouse weight are measured daily. Vehicle used in all cases is 10:10:80 Tween 80:DMSO:5% dextrose in water. The mice are treated for a period of 31 d. At the end of the experiment, the mice are euthanized and tumors are excised. Tumors are weighed. Samples of

	each tumor are fixed in formalin for histology and frozen for Western blotting.
References	[1]. Hart JR, et al. Inhibitor of MYC identified in a Kr?hnke pyridine library. Proc Natl Acad Sci U S A. 2014 Aug 26;111(34):12556-61.