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产品名称：ML364
产品别名：ML364

生物活性：

Description	ML364 is a selective ubiquitin specific peptidase 2 (USP2) inhibitor (IC50=1.1 μM) with anti-proliferative activity, which direct binds to USP2 (Kd=5.2 μM), induces an increase in cellular cyclin D1 degradation and causes cell cycle arrest. ML364 increases the levels of mitochondrial ROS and decreases in the intracellular content of ATP[1][2].
IC_{50} & Target	IC50: 1.1 μM (USP2)[1] Kd: 5.2 μM (USP2)[1]

In Vitro

ML364 (5-20 μM; 24-48 hours) inhibits LnCAP and MCF7 cells viability in a dose-dependent manner[1].
ML364 (10 μM; 2-24 hours) reduces cyclin D1 protein levels in a time-, dose-, and proteasome-dependent manner in HCT116 cells and Mino cells[1].

Cell Viability Assay[1]

Cell Line:	LnCAP, MCF7 cells
Concentration:	5, 10, 15, 20 μM
Incubation Time:	24, 48 hours
Result:	LnCAP and MCF7 cells showed a decrease in cell viability in a dose-dependent manner.

Western Blot Analysis[1]

Cell Line:	HCT116, Mino cells
Concentration:	2, 4, 8, 16, 24 hours
Incubation Time:	10 μM
Result:	Reduced cyclin D1 protein levels in a time-, dose-, and proteasome-dependent manner in HCT116 cells and Mino cells.

Solvent&Solubility

In Vitro:

DMSO : ⩾ 33 mg/mL (63.76 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9322 mL	9.6611 mL	19.3222 mL
	5 mM	0.3864 mL	1.9322 mL	3.8644 mL
	10 mM	0.1932 mL	0.9661 mL	1.9322 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 (4.83 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.83 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% corn oil Solubility: ≥ 2.5 mg/mL (4.83 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.83 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]. Davis MI, et al. Small Molecule Inhibition of the Ubiquitin-specific Protease USP2 Accelerates cyclin D1 Degradation and Leads to Cell Cycle Arrest in Colorectal Cancer and Mantle Cell Lymphoma Models. J Biol Chem. 2016 Nov 18;291(47):24628-24640. [2]. Hashimoto M, et al. Inhibition of ubiquitin-specific protease 2 causes accumulation of reactive oxygen species, mitochondria dysfunction, and intracellular ATP decrement in C2C12 myoblasts. Physiol Rep. 2019 Jul;7(14):e14193.