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产品名称: 4-吡啶羧酸 2-苯基酰胺
产品别名: PluriSln 1

生物活性:				
Description	PluriSln 1 (NSC 14613) is an inhibitor of stearyl-coA desaturase (SCD), and is a pluripotent cell-specific inhibitor.			
IC ₅₀ & Target	SCD[1]			
In Vitro	PluriSln 1, a small-molecule inhibitor of stearyl-coA desaturase (SCD), on induced pluripotent stem cells (iPS)-derived cardiomyocytes (CM). PluriSln 1 treatment significantly decreases the mRNA and protein level of Nanog, a marker for both cell pluripotency and tumor progression; importantly, we provide evidence that PluriSln 1 treatment at 20 μM for 1 day significantly induces the apoptosis of Nanog-positive iPS derivatives (iPSD). In addition, PluriSln 1 treatment at 20 μM for 4 days diminished Nanog-positive stem cells in cultured iPSD while not increasing apoptosis of iPS-derived CM. To investigate whether PluriSln 1 treatment prevents tumorigenicity of iPSD after cell transplantation, we intramyocardially injected PluriSln 1- or DMSO-treated iPSD in a mouse model of myocardial infarction (MI). DMSO-treated iPSD readily formed Nanog-expressing tumors 2 weeks after injection, which is prevented by treatment with PluriSln 1. Moreover, treatment with PluriSln 1 does not change the expression of cTnI, α-MHC, or MLC-2v, markers of cardiac differentiation ($P>0.05$, $n=4$). Importantly, PluriSln 1-treated iPS-derived CM exhibits the ability to engraft and survive in the infarcted myocardium[1].			
Solvent&Solubility	In Vitro: DMSO : ≥ 100 mg/mL (468.96 mM) * "$\geq$" means soluble, but saturation unknown.			
		Solvent Concentration	Mass	
	Preparing	1 mM	4.6896 mL	23.4478 mL
	Stock Solutions	5 mM	0.9379 mL	4.6896 mL
		10 mM	0.4690 mL	2.3448 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 (11.72 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (11.72 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。			



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	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$\rightarrow$ 90% (20% SBE-β-CD in saline) Solubility: $\geq$ 2.5 mg/mL (11.72 mM); Clear solution 此方案可获得 $\geq$ 2.5 mg/mL (11.72 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]. Zhang L, et al. Inhibition of stearyl-coA desaturase selectively eliminates tumorigenic Nanog-positive cells: improving the safety of iPS cell transplantation to myocardium. Cell Cycle. 2014;13(5):762-71.
实验参考:	
Cell Assay	The differentiation of iPS cells to cardiomyocytes (CM) is induced by embryoid body (EB) formation. When iPS cells reached 70% confluency in 10-cm dishes, cells are digested using 0.25% trypsin/EDTA. Cell pellets are re-suspended in differentiation medium (DMEM with 20% FBS and 10 ng/mL BMP4) to a final concentration of 200,000 cells/mL. Cell suspensions are added to 6-well plates with Ultra-Low Attachment surfaces for 4 d to initiate EB formation. On day 5, EBs are cultured on 0.1% gelatin-coated dishes for 14 d using CF culture medium for the outgrowth of cardiac structures. At this stage, iPS cells undergoing EB formation are termed iPS derivatives (iPSD)[1].
References	[1]. Zhang L, et al. Inhibition of stearyl-coA desaturase selectively eliminates tumorigenic Nanog-positive cells: improving the safety of iPS cell transplantation to myocardium. Cell Cycle. 2014;13(5):762-71.

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