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产品名称: **MKC9989**
产品别名: **MKC9989**

生物活性:				
Description	MKC9989 is a Hydroxy aryl aldehydes (HAA) inhibitor and also inhibits IRE1α with an IC ₅₀ of 0.23 to 44 μM.			
IC ₅₀ & Target	IC ₅₀ : 0.23 to 44 μM (IRE1α) ^[1]			
In Vitro	At 10 μM concentration, MKC9989 completely inhibits both basal and thapsigargin induced splicing of XBP1 mRNA. These effects are observed even in cells pre-treated with thapsigargin, indicating that MKC9989 can fully reverse the onset of XBP1 splicing after the UPR is initiated. In parallel analysis, MKC9989, significantly stabilizes the RIDD target CD59 mRNA when co-administered with thapsigargin relative to thapsigargin treatment alone and modestly increases levels of CD59 mRNA in non-stressed cells, the latter likely reflects the inhibition of baseline RIDD activity. In contrast to effects on XBP1 splicing, MKC9989 moderately stabilizes CD59 levels when administered 2 hour post treatment with thapsigargin. Finally, the potency of MKC9989 against the splicing of XBP1 mRNA (EC ₅₀ =0.33 μM) is comparable to its potency against RNA cleavage in vitro ^[1] .			
Solvent&Solubility	In Vitro: DMSO : ≥ 50 mg/mL (148.66 mM) H₂O : < 0.1 mg/mL (insoluble) * "≥" means soluble, but saturation unknown.			
		<div><div>Solvent</div><div>Mass</div><div>Concentration</div></div>	1 mg	5 mg
	Preparing	1 mM	2.9732 mL	14.8659 mL
	Stock Solutions	5 mM	0.5946 mL	2.9732 mL
		10 mM	0.2973 mL	1.4866 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 (7.43 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (7.43 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。				



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References	[1]. Sanches M, et al. Structure and mechanism of action of the hydroxy-aryl-aldehyde class of IRE1 endoribonuclease inhibitors. Nat Commun. 2014 Aug 28;5:4202.
实验参考:	
Cell Assay	Human RPMI 8226 plasmacytoma cells are grown in monolayer culture using medium (DMEM) supplemented with 10% fetal calf serum (FCS) at 37°C and 5% CO ₂ . MKC9989 is prepared as 10 mM stocks in DMSO, stored at -20°C, and diluted in medium. Thapsigargin (Tg) is resuspended in DMSO and diluted in medium. Cells are grown to 50% confluency, treated with 1 µM Tg and/or 10 µM MKC9989 at the indicated time points. After incubation of cells for the indicated periods, cells are harvested ^[1] .
References	[1]. Sanches M, et al. Structure and mechanism of action of the hydroxy-aryl-aldehyde class of IRE1 endoribonuclease inhibitors. Nat Commun. 2014 Aug 28;5:4202.