

产品名称: NCT-501

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生物活性:					
Description	NCT-501 is a potent and selective theophylline-based inhibitor of aldehyde dehydrogenase 1A1 (ALDH1A1) , inhibits hALDH1A1 with IC₅₀ of 40 nM, typically shows better selectivity over other ALDH isozymes and other dehydrogenases (hALDH1B1, hALDH3A1, and hALDH2, IC₅₀ >57 μM).				
IC ₅₀ & Target	IC50: 40 nM (hALDH1A1)[2]				
In Vitro	NCT-501 shows a 16% decrease in the Cal-27 CisR cell line at 20 nM concentration, though the difference was not statistically significant[1].				
In Vivo	NCT-501 (100 μg/animal; i.t.; every alternate day for 20 days) shows a 78% inhibition in tumor growth in Cal-27 CisR derived xenografts[1].				
	Animal Model:	5-6 weeks old male Hsd: Athymic Nude-Foxn1nu (immuno-deficient-mice bearing Cal-27 CisR cells)[1]			
	Dosage:	100μg/animal			
	Administration:	Intra-tumorally (i.t); every alternate day for 20 days			
	Result:	Showed a 78% inhibition in tumor growth in Cal-27 CisR derived xenografts.			
In Vitro: DMSO : ≥ 28 mg/mL (67.22 mM) <small>* "≥" means soluble, but saturation unknown.</small>					
Preparing Stock Solutions		<div><div>Solvent</div><div>Mass</div><div>Concentration</div></div>	1 mg	5 mg	10 mg
		1 mM	2.4008 mL	12.0042 mL	24.0085 mL
		5 mM	0.4802 mL	2.4008 mL	4.8017 mL
		10 mM	0.2401 mL	1.2004 mL	2.4008 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℃, 6 months; -20℃, 1 month。-80℃ 储存时，请在 6 个月内使用，-20℃ 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→ 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.25 mg/mL (3.00 mM); Clear solution 此方案可获得 ≥ 1.25 mg/mL (3.00 mM，饱和度未知) 的澄清溶液。 以 1 mL 工作液为例，取 100 μL 12.5 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。 2.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 1.25 mg/mL (3.00 mM); Clear solution					

	<p>此方案可获得 ≥ 1.25 mg/mL (3.00 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。</p> <p>以 1 mL 工作液为例, 取 100 μL 12.5 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中, 混合均匀。</p>
References	<p>[1]. <u>Kulsum S et al. Cancer stem cell mediated acquired chemoresistance in head and neck cancer can be abrogated by Aldehydedehydrogenase 1 A1 inhibition. Mol Carcinog. 2016 Jul 6.</u></p> <p>[2]. <u>Yang SM, et al. Discovery of NCT-501, a Potent and Selective Theophylline-Based Inhibitor of Aldehyde Dehydrogenase 1A1(ALDH1A1). J Med Chem. 2015 Aug 13;58(15):5967-5978.</u></p>



源叶生物