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产品名称: 安丝菌素 P 3

产品别名: Ansamitocin P-3; Antibiotic C 15003P3; Maytansinol isobutyrate

生物活性:				
Description	Ansamitocin P-3 (Antibiotic C 15003P3) is a microtubule inhibitor. Ansamitocin P-3 is a macrocyclic antitumor antibiotic.			
IC ₅₀ & Target	Maytansinoids			
In Vitro	Ansamitocin P-3 (Antibiotic C 15003P3) potently inhibits the proliferation of MCF-7, HeLa, EMT-6/AR1 and MDA-MB-231 cells in culture with a half-maximal inhibitory concentration of 20±3, 50±0.5, 140±17, and 150±1.1 pM, respectively. Further, Ansamitocin P3 is found to bind to purified tubulin in vitro with a dissociation constant (K _d) of 1.3±0.7 μM. The binding of Ansamitocin P3 induces conformational changes in tubulin. Ansamitocin P3 inhibits the proliferation of MCF-7, HeLa, EMT-6/AR1 and MDA-MB-231 cells in culture in a concentration dependent manner. Flow cytometric analysis of PI-stained cells suggests that Ansamitocin P3 inhibits the cell cycle progression of MCF-7 cells in G2/M phase. For example, 26, 50 and 70% of the cells are found to be in G2/M phase in the absence and presence of 50 and 100 pM Ansamitocin P3, respectively[2].			
Solvent&Solubility	In Vitro: DMSO : ≥ 100 mg/mL (157.45 mM) H₂O : < 0.1 mg/mL (insoluble) * "≥" means soluble, but saturation unknown.			
	Preparing Stock Solutions	Solvent Concentration	Mass	
			1 mg	5 mg
		1 mM	1.5745 mL	7.8723 mL
		5 mM	0.3149 mL	1.5745 mL
		10 mM	0.1574 mL	0.7872 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 (3.94 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (3.94 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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	2.请依序添加每种溶剂: 10% DMSO→ 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (3.94 mM); Suspended solution; Need ultrasonic 此方案可获得 2.5 mg/mL (3.94 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 (3.94 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (3.94 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]. Kiso T, et al. Screening for microtubule-disrupting antifungal agents by using a mitotic-arrest mutant of <i>Aspergillus nidulans</i> and novel action of phenylalanine derivatives accompanying tubulin loss. <i>Antimicrob Agents Chemother</i>. 2004 May;48(5):1739-48 [2]. Venghateri JB, et al. Ansamitocin P3 depolymerizes microtubules and induces apoptosis by binding to tubulin at the vinblastine site. <i>PLoS One</i>. 2013 Oct 4;8(10):e75182.
实验参考:	
Cell Assay	MCF-7, EMT-6/AR1, HeLa and MDA-MB-231 cells are seeded in 96 well plates. Subsequently, cells are incubated with vehicle (0.1% DMSO) or different concentrations (1-1000 pM) of Ansamitocin P3 for 48 h in MCF-7 cells and 24 h for EMT-6/AR1, HeLa and MDA-MB-231 cells, respectively. The half maximal inhibitory concentration of cell proliferation (IC50) for Ansamitocin P3 is determined by sulforhodamine B assay. Four independent experiments are carried out in MCF-7 cells and three independent sets of experiments are performed in EMT-6/AR1, HeLa and MDA-MB-231 cells[2].
References	[1]. Kiso T, et al. Screening for microtubule-disrupting antifungal agents by using a mitotic-arrest mutant of <i>Aspergillus nidulans</i> and novel action of phenylalanine derivatives accompanying tubulin loss. <i>Antimicrob Agents Chemother</i>. 2004 May;48(5):1739-48 [2]. Venghateri JB, et al. Ansamitocin P3 depolymerizes microtubules and induces apoptosis by binding to tubulin at the vinblastine site. <i>PLoS One</i>. 2013 Oct 4;8(10):e75182.