



上海源叶生物科技有限公司
Shanghai yuanye Bio-Technology Co., Ltd
电话: 021-61312973 传真: 021-55068248
网址: www.shyuanye.com
邮箱: shyysw@sina.com

产品名称: 4-氯-2-甲基苯基硫氰酸酯
产品别名: BTB-1

生物活性:

Description	BTB-1 is a potent, selective and reversible mitotic motor protein Kif18A inhibitor with an IC50 of 1.69 μM.				
IC50 & Target	IC50: 1.69 μM (Kif18A)[1]				
In Vitro	BTB-1 blocks the motility of Kif18A in a reversible manner. BTB-1 inhibits Kif18A in an adenosine triphosphate (ATP)-competitive but microtubule-uncompetitive manner and slows down the progression of cells through mitosis. 100 μM BTB-1 does not significantly inhibit any of the other tested mitotic kinesins. BTB-1 competes with ATP for Kif18A binding only when the motor-protein is associated with its pseudosubstrate microtubules. HeLa cells treated with BTB-1 accumulate in mitosis in a dose-dependent manner[1]. BTB-1 shows cell toxicity with an EC50 values of 35.8 μM. HeLa cells treated with 50 μM BTB-1 reveals severe defects in spindle morphology and chromosome alignment. Treatment with high concentrations of BTB-1 does not result in elongated spindles[2].				
Solvent&Solubility	In Vitro: DMSO : ≥ 100 mg/mL (335.90 mM) * "≥" means soluble, but saturation unknown.				
		Solvent Mass Concentration	1 mg	5 mg	10 mg
	Preparing	1 mM	3.3590 mL	16.7949 mL	33.5897 mL
	Stock Solutions	5 mM	0.6718 mL	3.3590 mL	6.7179 mL
		10 mM	0.3359 mL	1.6795 mL	3.3590 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 (8.40 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (8.40 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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	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 $\rightarrow$ 90% corn oil Solubility: $\geq$ 2.5 mg/mL (8.40 mM); Clear solution 此方案可获得 $\geq$ 2.5 mg/mL (8.40 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]. Catarinella M, et al. BTB-1: a small molecule inhibitor of the mitotic motor protein Kif18A. Angew Chem Int Ed Engl. 2009;48(48):9072-6. [2]. Braun J, et al. Synthesis and biological evaluation of optimized inhibitors of the mitotic kinesin Kif18A. ACS Chem Biol. 2015 Feb 20;10(2):554-60.
实验参考:	
Kinase Assay	BTB-1 is prepared in DMSO. The activity of His-Kif18A^{motor} at increasing concentrations of ATP is monitored in the presence of 3 μM Mts and increasing concentrations of BTB-1 (0.21 μM, 0.42 μM, 0.85 μM, 1.7 μM) or DMSO as control[1].
References	[1]. Catarinella M, et al. BTB-1: a small molecule inhibitor of the mitotic motor protein Kif18A. Angew Chem Int Ed Engl. 2009;48(48):9072-6. [2]. Braun J, et al. Synthesis and biological evaluation of optimized inhibitors of the mitotic kinesin Kif18A. ACS Chem Biol. 2015 Feb 20;10(2):554-60.

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