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：6-甲酰基吲哚并[3,2-B]咔唑
产品别名：FICZ；6-Formylindolo[3,2-b]carbazole

生物活性：

Description	FICZ is a potent aryl hydrocarbon receptor (AhR) agonist with a K_d of 70 pM.
In Vitro	FICZ (0.01 nM-1 μM) alone or in combination with 50 nM MNF induces sustained CYP1A1 activity and leads to oxidative stress and activation of apoptosis via a mitochondrial-dependent pathway. In HepG2 cells, FICZ stimulates cell growth at low concentrations but inhibits cell growth at high concentrations[1]. FICZ (10,000-30,000 nM) significantly decreases CEH viability with an estimated LC_{50} (95% confidence intervals) of 14,000 nM. FICZ shows concentration-dependent effects on EROD activity in CEH cultures, with the mean EC_{50} values at 3, 8, and 24 h of 0.016 nM, 0.80 nM, and 11 nM, respectively[2]. FICZ treatment increases transcript expression of CYP1A1 in a dose-dependent manner in both the parental iPSC line and the CYP1A1 targeted clone[3]. CYP1 inhibition in the presence of FICZ results in enhanced AHR activation, suggesting that FICZ accumulates in the cell when its metabolism is blocked. CYP1 enzymes plays a role in regulating biological effects of FICZ[4].
Solvent&Solubility	***In Vitro:*** **DMSO : 10 mg/mL (35.17 mM;** Need ultrasonic and warming)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.5173 mL	17.5864 mL	35.1729 mL
5 mM	0.7035 mL	3.5173 mL	7.0346 mL
10 mM	0.3517 mL	1.7586 mL	3.5173 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 →90% corn oil

Solubility: ≥ 0.83 mg/mL (2.92 mM); Clear solution

此方案可获得 ≥ 0.83 mg/mL (2.92 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 8.3 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。

[1]. Mohammadi-Bardbori A, et al. The highly bioactive molecule and signal substance 6-formylindolo[3,2-b]carbazole (FICZ) plays bi-functional roles in cell growth and apoptosis in vitro. Arch

References	Toxicol. 2017 Mar 13 [2]. Farmahin R, et al. Time-dependent transcriptomic and biochemical responses of 6-formylindolo[3,2-b]carbazole (FICZ) and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) are explained by AHR activation time. Biochem Pharmacol. 2016 Sep 1;115:134-43 [3]. Smith BW, et al. Genome Editing of the CYP1A1 Locus in iPSCs as a Platform to Map AHR Expression throughout Human Development. Stem Cells Int. 2016;2016:2574152. [4]. Wincent E, et al. Biological effects of 6-formylindolo[3,2-b]carbazole (FICZ) in vivo are enhanced by loss of CYP1A function in an Ahr2-dependent manner. Biochem Pharmacol. 2016 Jun 15;110-111:117-29.
实验参考：	
Cell Assay	The cell viability of CEH treated with FICZ or TCDD is studied with the untreated cells (used as a live cell control) and sodium hypochlorite (5%)-treated cells (used as a dead cell control). This assay is based upon the bioluminescent measurement of adenosine triphosphate (ATP) that is present in all metabolically active cells. Luciferase is utilized in this method to catalyze the formation of light from ATP and luciferin. CEH are lysed 24 h after dosing and the luminescence emitted from the ATP-dependent oxidation of luciferin is measured with a LuminoSkan Ascent luminometer. [2]
References	[1]. Mohammadi-Bardbori A, et al. The highly bioactive molecule and signal substance 6-formylindolo[3,2-b]carbazole (FICZ) plays bi-functional roles in cell growth and apoptosis in vitro. Arch Toxicol. 2017 Mar 13 [2]. Farmahin R, et al. Time-dependent transcriptomic and biochemical responses of 6-formylindolo[3,2-b]carbazole (FICZ) and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) are explained by AHR activation time. Biochem Pharmacol. 2016 Sep 1;115:134-43 [3]. Smith BW, et al. Genome Editing of the CYP1A1 Locus in iPSCs as a Platform to Map AHR Expression throughout Human Development. Stem Cells Int. 2016;2016:2574152. [4]. Wincent E, et al. Biological effects of 6-formylindolo[3,2-b]carbazole (FICZ) in vivo are enhanced by loss of CYP1A function in an Ahr2-dependent manner. Biochem Pharmacol. 2016 Jun 15;110-111:117-29.