产品名称：**PFI-1**
产品别名：**PFI-1**

生物活性：

Description	PFI-1 is a selective **BET** (bromodomain-containing protein) inhibitor for BRD4 with **IC_{50}** of 0.22 μM in a cell-free assay.
IC_{50} & Target	IC50: 0.22 μM (BRD4)
In Vitro	PFI-1 has antiproliferative effects on leukemic cell lines and efficiently abrogates their clonogenic growth. Exposure of sensitive cell lines with PFI-1 results in G1 cell-cycle arrest, downregulation of MYC expression, as well as induction of apoptosis and induces differentiation of primary leukemic blasts. Cells exposed to PFI-1 show significant downregulation of Aurora B kinase, thus attenuating phosphorylation of the Aurora substrate H3S10, providing an alternative strategy for the specific inhibition of this well-established oncology target[1]. PFI-1 binds to with cyclic AMP response binding protein with Kd of 49 μM. PFI-1 has an EC50 of 1.89 μM for the inhibition of IL6 production from human blood mononuclear cells stimulated by LPS[2]. PFI-1 induces dose-dependent reduction of cell viability in T4302 CD133+ cells[3]. PFI-1 inhibits the proliferating of three NET cell lines (Bon-1 derived from a pancreatic NET, and H727 and H720 derived from lung NETs)[4].
In Vivo	PFI-1 administrated (1 mg/kg, i.v.) in the rat results in the volume of distribution of 1 L/kg, the plasma clearance of 18 mL/min/kg and half-life of 1 hour. PFI-1 oral dosed (2 mg/kg) in the rat results in the oral bioavailability as low as 32%. PFI-1 administrated (2 mg/kg, s.c.) in the mouse results in a Cmax of 58 ng/mL with a Tmax of 1 h and a half-life of approximately 2 hours[2].
Solvent&Solubility	***In Vitro:*** **DMSO : 33.33 mg/mL (95.94 mM; Need ultrasonic)**

Preparing Stock Solutions	Solvent / Mass / Concentration	**1 mg**	**5 mg**	**10 mg**
	1 mM	2.8786 mL	14.3930 mL	28.7861 mL
	5 mM	0.5757 mL	2.8786 mL	5.7572 mL
	10 mM	0.2879 mL	1.4393 mL	2.8786 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 (7.20 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (7.20 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。

	2.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 2.5 mg/mL (7.20 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (7.20 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]. Picaud S, et al. PFI-1, a Highly Selective Protein Interaction Inhibitor, Targeting BET Bromodomains. Cancer Res. 2013 May 21. [Epub ahead of print] [2]. Fish PV, et al. Identification of a chemical probe for bromo and extra C-terminal bromodomain inhibition through optimization of a fragment-derived hit. J Med Chem. 2012 Nov 26;55(22):9831-7. [3]. Cheng Z, et al. Inhibition of BET bromodomain targets genetically diverse glioblastoma. Clin Cancer Res. 2013 Apr 1;19(7):1748-59. [4]. Kate E Lines, et al. Epigenetic modifiers reduce proliferation of human neuroendocrine tumour cell lines. Endocrine Abstracts (2013) 31 P149