产品名称：**Ruxolitinib Phosphate**
产品别名：鲁索利替尼磷酸盐；**INCB018424 phosphate**

生物活性：

Description

Ruxolitinib phosphate (INCB018424 phosphate) is a potent JAK1/2 inhibitor with IC_{50}s of 3.3 nM/2.8 nM, respectively, showing more than 130-fold selectivity over JAK3.

IC_{50} & Target

JAK2	JAK1	Tyk2	JAK3
2.8 nM (IC_{50})	3.3 nM (IC_{50})	19 nM (IC_{50})	428 nM (IC_{50})

In Vitro

Ruxolitinib (INCB018424) potently and selectively inhibits JAK2V617F-mediated signaling and proliferation. Ruxolitinib inhibits the growth of HEL cells with EC50 of 186 nM. Ruxolitinib markedly increases apoptosis in Ba/F3-EpoR-JAK2V617F cell system, and inhibits hematopoietic progenitor cell proliferation in primary MPN patient samples[1].

In Vivo

Ruxolitinib (180 mg/kg, p.o.) reduces the tumor burden of mice inoculated with JAK2V617F-expressing cells without causing anemia or lymphopenia[1].

Solvent&Solubility

In Vitro:

DMSO : ≥ 31 mg/mL (76.66 mM)

H_2O : 5.4 mg/mL (13.35 mM; Need ultrasonic and warming)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4730 mL	12.3652 mL	24.7304 mL
	5 mM	0.4946 mL	2.4730 mL	4.9461 mL
	10 mM	0.2473 mL	1.2365 mL	2.4730 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: ≥ 2.08 mg/mL (5.14 mM); Clear solution

此方案可获得 ≥ 2.08 mg/mL (5.14 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 20.8 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% (20% SBE-β-CD in saline)

Solubility: ≥ 2.08 mg/mL (5.14 mM); Clear solution

此方案可获得 ≥ 2.08 mg/mL (5.14 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 20.8 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。 3.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 2.08 mg/mL (5.14 mM); Clear solution 此方案可获得 ≥ 2.08 mg/mL (5.14 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 20.8 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
References	[1]. Quintas-Cardama A, et al. Preclinical characterization of the selective JAK1/2 inhibitor INCB018424: therapeutic implications for the treatment of myeloproliferative neoplasms. Blood, 2010, 115(15), 3109-3117. [2]. Fleischman AG, et al. The CSF3R T618I mutation causes a lethal neutrophilic neoplasia in mice that is responsive to therapeutic JAK inhibition. Blood. 2013 Nov 21;122(22):3628-31. [3]. de Bock CE, et al. HOXA9 Cooperates with Activated JAK/STAT Signaling to Drive Leukemia Development. Cancer Discov. 2018 May;8(5):616-631.

实验参考：

Cell Assay	Cells are seeded at 2000/well of white bottom 96-well plates, treated with compounds from DMSO stocks (0.2% final DMSO concentration), and incubated for 48 hours at 37°C with 5% CO_2. Viability is measured by cellular ATP determination using the Cell-Titer Glo luciferase reagent or viable cell counting. Values are transformed to percent inhibition relative to vehicle control, and IC_{50} curves are fitted according to nonlinear regression analysis of the data using PRISM GraphPad. [1]
Animal Administration	Mice are fed standard rodent chow and provided with water ad libitum. Ba/F3-JAK2V617F cells (10^5 per mouse) are inoculated intravenously into 6- to 8-week-old female BALB/c mice. Survival is monitored daily, and moribund mice are humanely killed and considered deceased at time of death. Treatment with vehicle (5% dimethyl acetamide, 0.5% methocellulose) or Ruxolitinib (INCB018424) begins within 24 hours of cell inoculation, twice daily by oral gavage. Hematologic parameters are measured using a Bayer Advia120 analyzed, and statistical significance is determined using Dunnett testing. [1]
References	[1]. Quintas-Cardama A, et al. Preclinical characterization of the selective JAK1/2 inhibitor INCB018424: therapeutic implications for the treatment of myeloproliferative neoplasms. Blood, 2010, 115(15), 3109-3117. [2]. Fleischman AG, et al. The CSF3R T618I mutation causes a lethal neutrophilic neoplasia in mice that is responsive to therapeutic JAK inhibition. Blood. 2013 Nov 21;122(22):3628-31. [3]. de Bock CE, et al. HOXA9 Cooperates with Activated JAK/STAT Signaling to Drive Leukemia Development. Cancer Discov. 2018 May;8(5):616-631.