产品名称：**TAK-901**
产品别名：**TAK-901**

生物活性：

Description	TAK-901 is a multi-targeted aurora inhibitor with IC_{50}s of 21 and 15 nM for aurora A and B, respectively.	
IC_{50} & Target	Aurora A	Aurora B
	21 nM (IC_{50})	15 nM (IC_{50})
In Vitro	TAK-901 exhibits time-dependent, tight-binding inhibition of Aurora B, but not Aurora A. Consistent with Aurora B inhibition, TAK-901 suppresses cellular histone H3 phosphorylation and induces polyploidy. In various human cancer cell lines, TAK-901inhibits cell proliferation with effective concentration values from 40 to 500 nM. Examination of a broad panel of kinases in biochemical assays reveals inhibition of multiple kinases. However, TAK-901 potently inhibits only a few kinases other than Aurora B in intact cells, including FLT3 and FGFR2[1].	
In Vivo	In rodent xenografts, TAK-901 exhibits potent activity against multiple human solid tumor types, and complete regression is observed in the ovarian cancer A2780 model. TAK-901 also displayed potent activity against several leukemia models. TAK-901 induces pharmacodynamic responses consistent with Aurora B inhibition and correlating with retention of TAK-901 in tumor tissue[1].	
Solvent&Solubility	***In Vitro:*** **DMSO : 2 mg/mL** (**3.96 mM;** Need ultrasonic and warming)	

Preparing Stock Solutions	Solvent / Mass / Concentration	**1 mg**	**5 mg**	**10 mg**
	1 mM	1.9816 mL	9.9081 mL	19.8161 mL
	5 mM	---	---	---
	10 mM	---	---	---

*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。

References	[1]. Farrell P, et al. Biological characterization of TAK-901, an investigational, novel, multitargeted Aurora B kinase inhibitor. Mol Cancer Ther. 2013 Apr;12(4):460-70.

实验参考：

Cell Assay	Cells are plated in 96-well microtiter plates and incubated with serial dilutions of TAK-901 for 72 hours. Cell proliferation is determined by ELISA analysis of bromodeoxyuridine (BrdUrd) incorporation into DNA. IMR-90 immortalized lung fibroblasts are seeded in 96-well microtiter plates and cultured for 3 to 4 days until confluent. Cells are then incubated with serial dilutions of TAK-901 for 72 hours. The MTS assay is conducted[1].
Animal Administration	Mice: Tumor-bearing mice or rats are treated intravenously twice daily (b.i.d.) with either vehicle or TAK-901 on 2 consecutive days per week or every other day for 2 or 3 cycles. The antitumor activity of TAK-901 in human tumor and leukemia xenograft models are monitored[1]. Nude rats bearing A2780 tumors averaging 250 to 500 mg receive an intravenous dose of TAK-901. Plasma samples are collected by terminal cardiac puncture under CO2 anesthesia. Tumors are dissected and snap-frozen at -80°C[1].

Kinase Assay	Enzyme activities of Aurora A/TPX2 and Aurora B/INCENP complexes are assayed at room temperature in buffer containing serially diluted TAK-901, and the product is quantified using IMAP detection reagents. Aurora A/TPX2 (2 nM) is assayed with 100 nM FL-Kemptide and 1 mM ATP. Aurora B/INCENP (0.8 nM) is assayed with 100 nM 5-carboxy-fluorescein-GRTGRRNSI-NH2 (FL-PKAtide) and 10 mM ATP. For time-dependent inhibition, Aurora B/INCENP is incubated with TAK-901 for 1 hour at room temperature followed by addition of 150 mM ATP to initiate the reaction[1].
References	[1]. Farrell P, et al. Biological characterization of TAK-901, an investigational, novel, multitargeted Aurora B kinase inhibitor. Mol Cancer Ther. 2013 Apr;12(4):460-70.