产品名称：**TAK-285**
产品别名：**TAK-285**

生物活性：

Description	TAK-285 is a potent, selective, ATP-competitive and orally active HER2 and EGFR(HER1) inhibitor with IC_{50} of 17 nM and 23 nM, respectively. TAK-285 is >10-fold selectivity for HER1/2 than HER4, and less potent to MEK1/5, c-Met, Aurora B, Lck, CSK etc. TAK-285 has effective antitumor activity[1]. TAK-285 can cross the blood-brain barrier (BBB)[2].	
IC_{50} & Target	EGFR	HER2
	23 nM (IC_{50})	17 nM (IC_{50})
In Vitro	TAK-285 (Compound 34e) shows significant growth inhibitory activity against BT-474 cells (HER2-overexpressing human breast cancer cell line) with GI50 of 17 nM[1]. TAK-285 (Compound 34e) exhibits HER4 inhibitory activity with an IC50 value of 260 nM. TAK-285 also inhibits MEK1, MEK5, c-Met, Aurora B, Lck, CSK and Lyn B with IC50s of 1100 nM, 5700 nM, 4200 nM, 1700 nM, 2400 nM, 4700 nM and 5200 nM, respectively[1].	
In Vivo	TAK-285 (Compound 34e; 50-100 mg/kg; oral administration; twice daily; for 14 days; female BALB/cAJcl mice) treatment exhibits dose-dependent tumor growth inhibition (tumor/control ratio [T/C]): 44% and 11% at 50 and 100 mg/kg, respectively) without significant body weight loss in mice[1].	
	Animal Model:	Female BALB/cAJcl mice (7-weeks old) with 4−1ST xenograft models[1]
	Dosage:	50 mg/kg, 100 mg/kg
	Administration:	Oral administration; twice daily; for 14 days
	Result:	Exhibited dose-dependent tumor growth inhibition.

Solvent&Solubility

In Vitro:

DMSO : ≥ 50 mg/mL (91.25 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.8250 mL	9.1248 mL	18.2495 mL
	5 mM	0.3650 mL	1.8250 mL	3.6499 mL
	10 mM	0.1825 mL	0.9125 mL	1.8250 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 (4.56 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (4.56 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% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (4.56 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.56 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 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: ≥ 2.5 mg/mL (4.56 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.56 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]. Ishikawa T, et al. Design and synthesis of novel human epidermal growth factor receptor 2 (HER2)/epidermal growth factor receptor (EGFR) dual inhibitors bearing a pyrrolo[3,2-d]pyrimidine scaffold. J Med Chem. 2011 Dec 8;54(23):8030-50. [2]. Erdo F, et al. Verification of brain penetration of the unbound fraction of a novel HER2/EGFR dual kinase inhibitor (TAK-285) by microdialysis in rats. Brain Res Bull. 2012 Mar 10;87(4-5):413-9.