产品名称：**WNK463**
产品别名：**WNK463**

生物活性：

Description	WNK463 is an orally bioavailable pan-With-No-Lysine (K) (WNK)-kinase inhibitor with IC50s of 5 nM, 1 nM, 6 nM, and 9 nM for WNK1, WNK2, WNK3, and WNK4, respectively[1].	
IC_{50} & Target	IC50: 5 nM (WNK1), 1 nM (WNK2), 6 nM (WNK3), and 9 nM (WNK4)[1]	
In Vitro	WNK463 (50 nM, 1 μM, 10 μM; 6 days; Human tissue-engineered corneas (hTECs)) treatment reduces phosphorylation of the WNK1 downstream targets SPAK/OSR1 in wounded hTECs.	
	Western Blot Analysis[2]	
	Cell Line:	Human tissue-engineered corneas (hTECs)
	Concentration:	50 nM, 1 μM, 10 μM
	Incubation Time:	6 days
	Result:	Reduced phosphorylation of the WNK1 downstream targets SPAK/OSR1 in wounded hTECs.
In Vivo	WNK463 (1-10 mg/kg; oral administration; 4 hours; Spontaneously hypertensive Sprague Dawley rats) treatment produces dose-dependent decreases in blood pressure and simultaneous increases in heart rate in conscious SHRs. WNK463 produces significant and dose-dependent increases in urine output as well as urinary sodium and potassium excretion rates. WNK463 is orally bioavailable in Sprague Dawley rats with a half-life of 2.1 hours[1].	
	Animal Model:	Spontaneously hypertensive Sprague Dawley rats (34-42 weeks of age) [1]
	Dosage:	1 mg/kg, 3 mg/kg, or 10 mg/kg (Pharmacokinetic study)
	Administration:	Oral administration; 4 hours
	Result:	Decreased in blood pressure and simultaneous increases in heart rate. WNK463 produced significant and dose-dependent increased in urine output as well as urinary sodium and potassium excretion rates.

Solvent&Solubility

In Vitro:

DMSO : ≥ 30 mg/mL (64.73 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1577 mL	10.7884 mL	21.5768 mL
5 mM	0.4315 mL	2.1577 mL	4.3154 mL
10 mM	0.2158 mL	1.0788 mL	2.1577 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 (5.39 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.39 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 (5.39 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.39 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]. Yamada K et al. Small-molecule WNK inhibition regulates cardiovascular and renal function. Nat Chem Biol. 2016 Nov;12(11):896-898. [2]. Desjardins P, et al. Contribution of the WNK1 kinase to corneal wound healing using the tissue-engineered human cornea as an in vitro model. J Tissue Eng Regen Med. 2019 Sep;13(9):1595-1608.