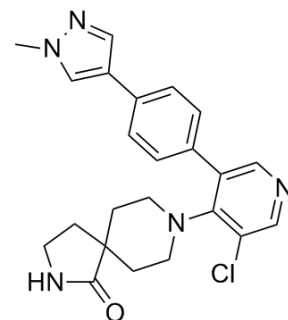


## CCT251545

<b>Cat. No.:</b>	HY-12681		
<b>CAS No.:</b>	1661839-45-7		
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>24</sub> ClN <sub>5</sub> O		
<b>Molecular Weight:</b>	421.92		
<b>Target:</b>	Wnt		
<b>Pathway:</b>	Stem Cell/Wnt		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 50 mg/mL (118.51 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.3701 mL	11.8506 mL	23.7012 mL
	5 mM	0.4740 mL	2.3701 mL	4.7402 mL
	10 mM	0.2370 mL	1.1851 mL	2.3701 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: ≥ 1.67 mg/mL (3.96 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 1.67 mg/mL (3.96 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 1.67 mg/mL (3.96 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

CCT251545 is an orally bioavailable and potent inhibitor of WNT signaling with an IC<sub>50</sub> of 5 nM in 7dF3 cells<sup>[1]</sup>. CCT251545 is a selective chemical probe for exploring the role of CDK8 and CDK19 in human disease<sup>[2]</sup>.

#### IC<sub>50</sub> & Target

IC<sub>50</sub>: 5 nM (WNT, 7dF3 cells)<sup>[1]</sup>

#### In Vitro

CCT251545 potently inhibits WNT pathway activity in COLO205-F1756 clone 4 (an APC -mutant human colorectal cancer cell

line engineered to express a modified luciferase-based WNT reporter construct) with an IC<sub>50</sub> of 0.035 μM<sup>[1]</sup>. CCT251545 has weak inhibition of tankyrase enzymes (TNKS1 IC<sub>50</sub> > 10 μM, TNKS2 IC<sub>50</sub> = 15.0)<sup>[1]</sup>. CCT251545 is a potent and selective chemical probe for the human mediator complex-associated protein kinases CDK8 and CDK19 with >100-fold selectivity over 291 other kinases<sup>[2]</sup>. CCT251545 alters WNT pathway-regulated gene expression and other on-target effects of modulating CDK8 and CDK19, including expression of genes regulated by STAT1<sup>[2]</sup>. CCT251545 also reduces phospho-STAT1<sup>SER727</sup> levels in SW620 cells with an IC<sub>50</sub> of 9 nM<sup>[2]</sup>. CCT251545 displays potent cell-based activity<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

CCT251545 (70mg/kg; p.o.; twice daily) causes an inhibition of tumor growth in NCr athymic mice bearing established SW620 human colorectal cancer xenografts<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	6-8 weeks female NCr athymic mice bearing established SW620 xenografts <sup>[2]</sup>
Dosage:	70mg/kg
Administration:	Oral administration; twice daily; from days 0-7 and days 10-14
Result:	Caused an inhibition of tumor growth with a 70% reduction in final tumor weight relative to control.

## REFERENCES

[1]. Mallinger A, et al. Discovery of potent, orally bioavailable, small-molecule inhibitors of WNT signaling from a cell-based pathway screen. J Med Chem. 2015 Feb 26;58(4):1717-35.

[2]. Dale T, et al. A selective chemical probe for exploring the role of CDK8 and CDK19 in human disease. Nat Chem Biol. 2015 Dec;11(12):973-980.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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