# CC-671

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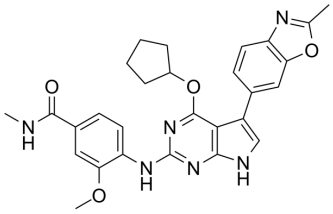
| **Cat. No.:** | HY-108709 |
| **CAS No.:** | 1618658-88-0 |
| **Molecular Formula:** | $C_{28}H_{28}N_6O_4$ |
| **Molecular Weight:** | 512.56 |
| **Target:** | CDK |
| **Pathway:** | Cell Cycle/DNA Damage |
| **Storage:** | Powder -20°C 3 years<br>4°C 2 years<br>In solvent -80°C 2 years<br>-20°C 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : ≥ 60 mg/mL (117.06 mM)

* "≥" means soluble, but saturation unknown.

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 1.9510 mL | 9.7550 mL | 19.5099 mL |
| | 5 mM | 0.3902 mL | 1.9510 mL | 3.9020 mL |
| | 10 mM | 0.1951 mL | 0.9755 mL | 1.9510 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.06 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (4.06 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 2.08 mg/mL (4.06 mM); Clear solution; Need warming

## BIOLOGICAL ACTIVITY

**Description**

CC-671 is a dual TTK protein kinase/CDC2-like kinase (CLK2) inhibitor with $IC_{50}$s of 0.005 and 0.006 μM for TTK and CLK2, respectively.

**$IC_{50}$ & Target**

CLK2
0.006 μM ($IC_{50}$)

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| **In Vitro** | CC-671 (compound 23) is a dual TTK protein kinase/CDC2-like kinase (CLK2) inhibitor with $IC_{50}$s of 0.005 and 0.006 μM for TTK and CLK2, respectively. HCT-116 cell lysates treated with CC-671 at 3 μM for 1 h demonstrates that only four kinases show cellular binding of 75% or more including CLK2, CAMKK2, PIP4K22, and JNK[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | CC-671 (compound 23) demonstrates significant tumor growth inhibition (TGI) ((vehicle -treated/vehicle) ×100%) of 71% at both 10 and 20 mg/kg on a every 3 days (q3d) dosing schedule. The body weight loss (BWL) in the CC-671 treated group (20 mg/kg ) is higher than in the 10 mg/kg group (17% vs 5%)[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## PROTOCOL

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| **Kinase Assay** [1] | The kinase selectivity profile of CC-671 (compound 23) is assessed. The screen is conducted with the concentration of CC-671 held constant at 3 μM. The TTK binding affinity is measured using the kinase binding assays. The kinase binding assays are based on the binding and displacement of a proprietary, Alexa Fluor 647-labeled, ATP-competitive kinase inhibitor scaffold[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **Animal Administration** [1] | Female SCID mice are inoculated subcutaneously with $5\times10^6$ Cal-51 cells. Mice with tumors of approximately 125 $mm^3$ are randomized and treated intravenously at various doses and schedules of CC-671 (compound 23) (n=8 to10/group). Tumors are measured twice a week for the duration of the study. The long and short axes of each tumor are measured using a digital caliper in millimeters and the tumor volumes are calculated[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## CUSTOMER VALIDATION

- Cancer Cell. 2022 Sep 18;S1535-6108(22)00379-8.

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## REFERENCES

[1]. Riggs JR, et al. The Discovery of a Dual TTK Protein Kinase/CDC2-Like Kinase (CLK2) Inhibitor for the Treatmentof Triple Negative Breast Cancer Initiated from a Phenotypic Screen. J Med Chem. 2017 Nov 9;60(21):8989-9002.



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