CMK

Cat. No.: HY-52101

CAS No.: 821794-90-5

Molecular Formula: $C_{18}H_{19}ClN_4O_2$

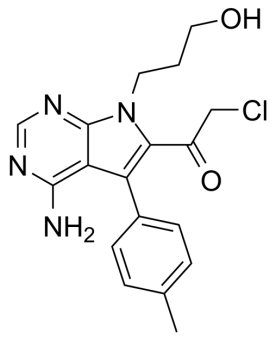
Molecular Weight: 358.82

Target: Ribosomal S6 Kinase (RSK)

Pathway: MAPK/ERK Pathway

Storage: 4°C, stored under nitrogen

* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 150 mg/mL (418.04 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7869 mL	13.9346 mL	27.8691 mL
	5 mM	0.5574 mL	2.7869 mL	5.5738 mL
	10 mM	0.2787 mL	1.3935 mL	2.7869 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: ≥ 2.5 mg/mL (6.97 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.97 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CMK is a RSK2 kinase inhibitor which exhibits similar potency but less chemical stability compared with FMK.

In Vitro

CMK inhibits the growth of Cdc5 (L158G) with IC_{50} of 36 nM, greater than 30 μM for wild type Cdc5. CMK exhibits a concentration-dependent first cell cycle mitotic arrest in the cdc5-as1 strain with an IC_{50} of 1.1 μM. CMK inhibition of Cdc5 (L158G) leads to a first cell cycle anaphase arrest and delay in anaphase spindle migration[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay [1]	For Cdc5 kinase assays, Spc72-TAP is isolated from cell extract by pulldown with IgG sepharose or rabbit IgG coupled to M-270 epoxy dynabeads and incubated in kinase buffer (25 mM HEPES, pH 8.0, 60 mM KCl, 15 mM $MnCl_2$, 100 μg/mL BSA, 80 nM microcystin, 1mM DTT, 100 μM 200 μCi/mL [γ-^{32}P]ATP) in the absence or presence of 100 ng purified baculovirus expressed 6xHis-Cdc5. ^{32}P incorporation is visualized on a Typhoon PhosphorImager, and images are processed using ImageQuant software. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Commun. 2022 Oct 26;13(1):6345.
- Mol Cell. 2022 Oct 1;S1097-2765(22)00905-4.
- EMBO J. 2023 Sep 20;e114288.
- Cell Chem Biol. 2018 Feb 15;25(2):154-165.e11.
- J Am Heart Assoc. 2021 Aug 5;e020554.

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REFERENCES

[1]. Snead JL, et al. A coupled chemical-genetic and bioinformatic approach to Polo-like kinase pathway exploration. Chem Biol. 2007 Nov;14(11):1261-72.

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