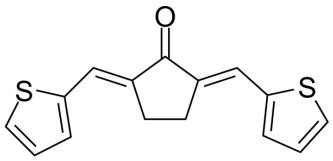
CCT007093

Cat. No.:	HY-15880
CAS No.:	176957-55-4
Molecular Formula:	$C_{15}H_{12}OS_2$
Molecular Weight:	272.39
Target:	Apoptosis; Phosphatase; Autophagy
Pathway:	Apoptosis; Metabolic Enzyme/Protease; Autophagy
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMF : 3.33 mg/mL (12.23 mM; Need ultrasonic)

DMSO : ≥ 2.8 mg/mL (10.28 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.6712 mL	18.3560 mL	36.7121 mL
5 mM	0.7342 mL	3.6712 mL	7.3424 mL
10 mM	0.3671 mL	1.8356 mL	3.6712 mL

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

BIOLOGICAL ACTIVITY

Description

CCT007093 is an effective protein phosphatase 1D (PPM1D Wip1) inhibitor. Wip1 inhibition can activate the mTORC1 pathway and enhance hepatocyte proliferation after hepatectomy[1][2].

In Vitro

CCT007093 (25 or 50 μM, 8 h) significantly increases the phosphorylation levels of mTOR at Ser2448, Ser2481 and Ser2159, and the phosphorylation levels of p70S6K (Thr389) and S6 (Ser235/236) are also up-regulated in transfected HEK293T cell line[1].

CCT007093 shows specificity for MCF-7 cells, reducing viability by 40% after 2 days with no observable effect on the growth of HeLa cells[2].

CCT007093 induces P38 phosphorylation at 4 h post exposure in MCF-7 cells (sensitive to PPM1D inhibition), and does not induce P38 phosphorylation in HeLa cells (relatively resistant to PPM1D inhibition)[2].

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

Western Blot Analysis[1]

Cell Line:	HEK293T cell line.
Concentration:	25 or 50 μM.
Incubation Time:	8 h.
Result:	The phosphorylation levels of mTOR at Ser2448, Ser2481 and Ser2159 were all significantly increased[1]. The phosphorylation levels of p70S6K (Thr389) and S6 (Ser235/236) were also up-regulated[1].

In Vivo

CCT007093 (6.4 mg/kg) enhances liver regeneration and increases the survival rate of mice following major hepatectomy[1].

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

Animal Model:	Wild-type mice[1].
Dosage:	3.2 and 6.4 mg/kg.
Administration:	Injected intraperitoneally 4 times (mice were sacrificed at 36 h post-PH).
Result:	Significantly improved survival in mice following major hepatectomy (80% hepatectomy). The level of PCNA was also significantly increased in the liver of CCT007093-treated mice at 36h, 48h and 72h post-PH.

CUSTOMER VALIDATION

- J Virol. 2023 May 31;e0041223.
- J Inflamm Res. 2021 Dec 14;14:6857-6869.

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REFERENCES

[1]. Lingling Zhang, et al. Inhibition of wild-type p53-induced phosphatase 1 promotes liver regeneration in mice by direct activation of mammalian target of rapamycin. Hepatology. 2015 Jun;61(6):2030-41.

[2]. S Rayter, et al. A chemical inhibitor of PPM1D that selectively kills cells overexpressing PPM1D. Oncogene. 2008 Feb 14;27(8):1036-44.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA