CTP Synthetase-IN-1

Cat. No.: HY-152149

CAS No.: 2338811-71-3

Molecular Formula: $C_{20}H_{19}F_3N_6O_3S_2$

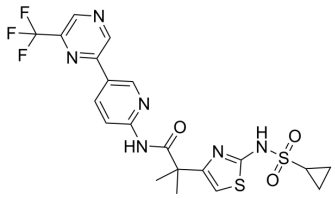
Molecular Weight: 512.53

Target: DNA/RNA Synthesis

Pathway: Cell Cycle/DNA Damage

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (195.11 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9511 mL	9.7555 mL	19.5111 mL
	5 mM	0.3902 mL	1.9511 mL	3.9022 mL
	10 mM	0.1951 mL	0.9756 mL	1.9511 mL

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

BIOLOGICAL ACTIVITY

Description

CTP Synthetase-IN-1 is a potent, orally active cytidine 5'-triphosphate synthetase (CTPS) inhibitor with IC_{50}s of 32 nM and 18 nM for human CTPS1 and human CTPS2, respectively. CTP Synthetase-IN-1 has anti-inflammatory effects[1].

IC_{50} & Target

IC50: 32 nM (human CTPS1) and 18 nM (human CTPS2)[1]

In Vitro

CTP Synthetase-IN-1 (compound 27) inhibits rat CTPS1, rat CTPS2, mouse CTPS1, and mouse CTPS2 with IC_{50} values of 27 nM, 23 nM, 26 nM, and 33 nM, respectively[1].

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

In Vivo

CTP Synthetase-IN-1 (compound 27; 10-50 mg/kg; p.o; twice daily; for 18 days) shows significant pharmacological responses in collagen-induced arthritis (CIA) model[1].

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

Animal Model:	Mouse collagen-induced arthritis (CIA) model[1]

Dosage:	10 mg/kg and 50 mg/kg
Administration:	p.o; twice daily; for 18 days
Result:	Resulted in improvements in specific indicators of disease severity.

REFERENCES

[1]. Andrew Novak, et al. Discovery and Optimization of Potent and Orally Available CTP Synthetase Inhibitors for Use in Treatment of Diseases Driven by Aberrant Immune Cell Proliferation. J Med Chem. 2022 Dec 22;65(24):16640-16650.

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