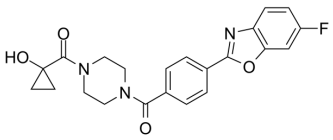
FT113

Cat. No.:	HY-111551
CAS No.:	1630808-89-7
Molecular Formula:	$C_{22}H_{20}FN_3O_4$
Molecular Weight:	409
Target:	Fatty Acid Synthase (FASN)
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 62.5 mg/mL (152.81 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4450 mL	12.2249 mL	24.4499 mL
	5 mM	0.4890 mL	2.4450 mL	4.8900 mL
	10 mM	0.2445 mL	1.2225 mL	2.4450 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 (5.09 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.09 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

FT113 is a potent and orally active fatty acid synthase (FASN) inhibitor, with an IC_{50} of 213 nM for full-length recombinant human FASN enzyme. In cell-based assay, FT113 blocks FASN activity in BT474 cells (IC_{50}, 90 nM). FT113 shows anti-proliferative activity, and exhibits anti-cancer activity both in vitro and in vivo[1].

IC_{50} & Target

IC50: 213 nM (FASN), 90 nM (FASN, in BT474 cell)[1]

In Vitro

FT113 shows anti-proliferative activity against PC3 and MV-411 cells with IC_{50}s of 47 and 26 nM, respectively[1].

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

In Vivo

FT113 (5 mg/kg, p.o.) exhibits potent oral bioavailability of 95% and 84% in mice and rats, respectively[1].

FT113 (5, 25, or 50 mg/kg, p.o., twice daily for 16 days) increases malonyl-CoA concentration in tumors, inhibits tumor growth in a dose-dependent manner in mice[1].

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

Animal Model:	Athymic nude mice bearing MV-411 cells[1]
Dosage:	5, 25, or 50 mg/kg
Administration:	P.O., twice daily for 16 days
Result:	Caused 32 % and 50% tumor growth inhibition at 25 and 50 mg/kg, respectively in mice.

REFERENCES

[1]. Martin MW, et al. Discovery and optimization of novel piperazines as potent inhibitors of fatty acid synthase (FASN). Bioorg Med Chem Lett. 2019 Apr 15;29(8):1001-1006.

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

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