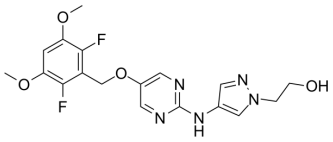
ASP5878

Cat. No.:	HY-19983
CAS No.:	1453208-66-6
Molecular Formula:	$C_{18}H_{19}F_2N_5O_4$
Molecular Weight:	407.37
Target:	FGFR
Pathway:	Protein Tyrosine Kinase/RTK
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 : ≥ 250 mg/mL (613.69 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4548 mL	12.2739 mL	24.5477 mL
	5 mM	0.4910 mL	2.4548 mL	4.9095 mL
	10 mM	0.2455 mL	1.2274 mL	2.4548 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 (5.11 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.11 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ASP5878 is an oral active inhibitor of FGFR 1, 2, 3, and 4, with IC_{50} values of 0.47 nM, 0.6 nM, 0.74 nM and 3.5 nM for FGFR 1, 2, 3, and 4 kinase activity. ASP5878 has potential antineoplastic activity[1].

IC_{50} & Target

FGFR1	FGFR2	FGFR3	FGFR4
0.47 nM (IC_{50})	0.6 nM (IC_{50})	0.74 nM (IC_{50})	3.5 nM (IC_{50})

In Vitro

ASP5878 shows potent antiproliferative activity in most human HCC cell lines[1].
ASP5878 inhibits FGFR4 phosphorylation in a concentration-dependent manner. ASP5878 treatment results in the suppression of phosphorylation, mobility shift of FRS2, and suppression of ERK phosphorylation[1].

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

Cell Viability Assay[1]

Cell Line:	Human HCC cell lines.
Concentration:	0-1000 nM.
Incubation Time:	5 days.
Result:	HuH-7, Hep3B2.1-7, and JHH-7 cell lines exhibited potent sensitivity to ASP5878, with IC_{50} values of 27, 8.5, and 21 nmol/L, respectively. The growth inhibition rate of HLF was 64% and those of other ASP5878-sensitive cell lines were higher than 95% at 1000 nM.

In Vivo

ASP5878 (3 mg/kg, orally, once daily) shows antitumor activity in a Hep3B2.1-7 subcutaneous xenograft and HCC orthotopic xenograft mouse model[1].

ASP5878 induces shrinkage of FGF19-expressing HCC xenograft model[1].

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

Animal Model:	Four-week-old male nude mice (CAnN.Cg-Foxn1nu/CrlCrlj [nu/nu]) (Hep3B2.1-7 cells inoculated subcutaneously)[1].
Dosage:	3 mg/kg.
Administration:	Orally once daily from days 14 to 52.
Result:	Induced tumor regression by 9% and 88% at 1 and 3 mg/kg, respectively, without affecting the body weight for 14 days. Induced the suppression of FGFR4 phosphorylation, mobility shift of FRS2, and suppression of ERK phosphorylation.

Animal Model:	HCC orthotopic xenograft model (mouse)[1].
Dosage:	3 mg/kg.
Administration:	Orally once daily for 24 days.
Result:	Exhibited a lower tumor burden than vehicle- and sorafenibtreated mice. Induced sustained tumor regression without tumor regrowth.

REFERENCES

[1]. Futami T, et al. ASP5878, a Novel Inhibitor of FGFR1, 2, 3, and 4, Inhibits the Growth of FGF19-Expressing Hepatocellular Carcinoma. Mol Cancer Ther. 2017 Jan;16(1):68-75.

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