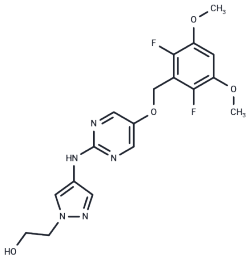
Data Sheet (Cat.No.T5473)

TargetMol

ASP5878

Chemical Properties



CAS No. : 1453208-66-6

Formula: C18H19F2N5O4

Molecular Weight: 407.37

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	ASP5878 potently inhibited the tyrosine kinase activities of recombinant FGFR1, 2, 3, and 4 with IC50 values of 0.47, 0.60, 0.74, and 3.5 nmol/L.
Targets(IC50)	FGFR
In vivo	sorafenib administration for 14 days caused 40% tumor growth inhibition in the Hep3B2.1-7 xenograft model. Even after continuous sorafenib treatment, the Hep3B2.1-7 tumor gradually enlarged, and 47% tumor growth inhibition was observed by day 31. In contrast, the switch from sorafenib to ASP5878 on day 14 induced 83% tumor regression on day 52 relative to the tumor size observed on day 14. This indicates the therapeutic potential of ASP5878 for FGF19-overexpressing HCC patients who previously received sorafenib treatment.
Kinase Assay	Inhibitory activities of 128 serine/threonine kinases were measured using the Mobility Shift Assay Kit.?IC50 values were determined for kinases that were inhibited by more than 50% by 200 nmol/L of ASP5878.
Cell Research	The human HCC cell lines,?The experiments were conducted using low-passage cultures of these stocks.?The cells were seeded in 96-well plates and incubated overnight.?The cells were treated with ASP5878 for 5 days.?Cell viability was measured using CellTiter-Glo.
Animal Research	HuH-7-Luc cells were inoculated into hepatic parenchyma at 3×10^5 cells/0.01 mL (Matrigel 100%)/mouse.?One week after inoculation, the mice were divided into three groups (n = 5 per group) on day 0 on the basis of bioluminescent imaging.?Vehicle (Cremophor EL/ethanol or 0.5% MC), sorafenib (30 mg/kg), or ASP5878 (3 mg/kg) was administered as a once-daily oral dose for 91 days.?Tumor growth was monitored by in vivo bioluminescent imaging of the abdomen after intraperitoneally injecting luciferin using IVIS-Lumina2.?During the study period (181 days), the survival of mice bearing hepatic tumors was recorded.?The condition of the mice was monitored daily.?The mice were scored as dead if any of the following signs of suffering were observed: cachexia, weakening, and difficulty in moving or eating.?Mice that were scored as dead were euthanized.

Solubility Information

Solubility	DMSO: 250 mg/mL (613.69 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (12.27 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4548 mL	12.2739 mL	24.5477 mL
5 mM	0.491 mL	2.4548 mL	4.9095 mL
10 mM	0.2455 mL	1.2274 mL	2.4548 mL
50 mM	0.0491 mL	0.2455 mL	0.491 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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.