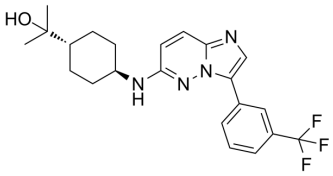
TP-3654

Cat. No.:	HY-101126
CAS No.:	1361951-15-6
Molecular Formula:	$C_{22}H_{25}F_3N_4O$
Molecular Weight:	418.46
Target:	Pim
Pathway:	JAK/STAT Signaling
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 : 50 mg/mL (119.49 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3897 mL	11.9486 mL	23.8971 mL
5 mM	0.4779 mL	2.3897 mL	4.7794 mL
10 mM	0.2390 mL	1.1949 mL	2.3897 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (5.97 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.97 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.97 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

TP-3654 is a second-generation Pim kinase inhibitor with K_i values of 5 and 42 nM for Pim-1 and Pim-3, respectively.

IC_{50} & Target

Ki: 5 nm(Pim-1), 239 nM (Pim-2), 42 nM (Pim-3)[1]

In Vitro

TP-3654 demonstrates potent PIM-1 specific cellular activity in the PIM-1/BAD overexpression system with an average EC_{50} of 67 nM. TP-3654 treatment reduces levels of phospho-BAD in vitro using the bladder cancer cell line UM-UC-3. TP-3654 reduces colony growth of T24 and UM-UC3 cells, confirming the PIM-1–dependent growth for both cell lines[1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Oral dosing of 200 mg/kg TP-3654 significantly reduces both UM-UC-3 and PC-3 tumor growth measured by volume (caliper) and by final tumor weight, with no significant changes in body weight or gross adverse toxicity[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	1 μM TP-3654 is tested against 336 kinases at a concentration of 10 μM ATP. IC_{50} determinations of phosphoinositide 3-kinase (PI3K) (α, β, δ, and γ) and all kinases inhibited by >50% from the initial screen are performed using 10-dose, three-fold serial dilutions of TP-3654 starting with 10 μM at K_m ATP concentrations for each kinase[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	When tumors of mice reaches 100 to 200 mm^3 by caliper measurement, mice are randomized, and oral dosing of TP-3654 or vehicle control began and continued every day for 5 days with 2 days off for 18 to 21 days. Tumor volumes and body weights were determined twice a week[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Arterioscler Thromb Vasc Biol. 2020 Mar;40(3):783-801.
- Biochem Biophys Res Commun. 2020 Apr 2;524(2):280-287.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Foulks JM, et al. A small-molecule inhibitor of PIM kinases as a potential treatment for urothelial carcinomas. Neoplasia. 2014 May;16(5):403-12.

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