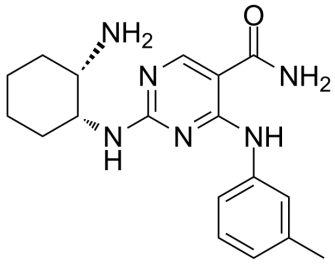
PRT-060318

Cat. No.:	HY-12974
CAS No.:	1194961-19-7
Molecular Formula:	$C_{18}H_{24}N_6O$
Molecular Weight:	340.42
Target:	Syk
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

H_2O : 25 mg/mL (73.44 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9375 mL	14.6877 mL	29.3755 mL
5 mM	0.5875 mL	2.9375 mL	5.8751 mL
10 mM	0.2938 mL	1.4688 mL	2.9375 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 25 mg/mL (73.44 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

PRT-060318 (PRT318) is a novel selective inhibitor of the tyrosine kinase Syk with an IC_{50} of 4 nM.

IC_{50} & Target

IC50: 4 nM (Syk)[1]

In Vitro

PRT318 is a potent inhibitor of purified Syk kinase with an IC_{50} of 4 nM. Syk kinase is inhibited by 92%, whereas all other kinases retains more than 70% at a concentration of 50 nM of PRT318[1]. PRT318 and P505-15 effectively antagonize CLL cell survival after B-cell receptor (BCR) triggering and in nurse-like cell-co-cultures. They inhibit BCR-dependent secretion of the chemokines CCL3 and CCL4 by CLL cells, and leukemia cell migration toward the tissue homing chemokines CXCL12, CXCL13, and beneath stromal cells. PRT318 and P505-15 inhibit Syk and extracellular signal-regulated kinase phosphorylation after BCR triggering[2].

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

In Vivo	PRT318 completely inhibits HIT immune complex-induced aggregation of both human and transgenic HIT mouse platelets. Pretreatment of mice with PRT318 markedly reduces HIT IC-induced thrombosis in the lungs. The Thrombosis Score is significantly lower for PRT318-treated mice compared with control[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [2]	PRT318 is dissolved in DMSO. Cells are incubated for 14 days in 24-well plates. CLL cells are cultured under standardized conditions on NLC or in suspension, in the presence or absence of PRT318 and P505-15. At 24, 48, 72 h, CLL cells are collected and assayed for cell viability[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Mice: Heparin-induced thrombocytopenia (HIT) model mice are treated with KKO (20 mg/kg body weight, intraperitoneally) on day 0. The mice are divided into sex- and weight-matched experimental and control groups. On days 1 to 7, experimental mice (n=6) receives PRT318 (30 mg/kg body weight) orally via gavage twice a day, whereas control mice (n=6) receives vehicle only (sterile water). Both groups receives heparin (1600 U/kg body weight, subcutaneously) once daily. Mice are anesthetized by isoflurane inhalation for injections and blood collections[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- bioRxiv. 2019 Jan.

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REFERENCES

[1]. Reilly MP, et al. PRT-060318, a novel Syk inhibitor, prevents heparin-induced thrombocytopenia and thrombosis in a transgenic mouse model. Blood. 2011 Feb 17;117(7):2241-6.

[2]. Hoellenriegel J, et al. Selective, novel spleen tyrosine kinase (Syk) inhibitors suppress chronic lymphocytic leukemia B-cell activation and migration. Leukemia. 2012 Jul;26(7):1576-83.

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