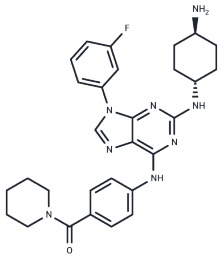
Data Sheet (Cat.No.T38269)

TargetMol

Purfalcamine

Chemical Properties



CAS No. : 1038620-68-6

Formula: C29H33FN8O

Molecular Weight: 528.62

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	Purfalcamine is an orally active, selective Plasmodium falciparum calcium-dependent protein kinase 1 (PfCDPK1) inhibitor with an IC50 of 17 nM and an EC50 of 230 nM, exhibiting antimalarial activity by inducing developmental arrest of malaria parasites at the schizont stage[1][2].
Targets(IC50)	Others,Parasite
In vitro	Purfalcamine exhibits limited activity against Toxoplasma gondii calcium-dependent protein kinase 3 (TgCDPK3)[1] and does not impact parasitemia levels within the initial 32 hours. However, parasite levels stabilize and subsequently decrease post 40-hour exposure[1]. It effectively inhibits P. falciparum strains (3D7, Dd2, FCB, HB3, and W2) proliferation, with EC50 values ranging from 171 to 259 nM, suggesting its efficacy against drug-resistant parasites. Notably, with an EC50 of 230 nM for the P. falciparum 3D7 strain, Purfalcamine demonstrates a significant therapeutic margin of 23 to 36 times against various human cell lines (CHO, HEp2, HeLa, and Huh7), with EC50s between 5.476 μM and 12.33 μM[1].
In vivo	Purfalcamine (10 mg/kg; oral gavage; BID; for 6 days) delays the onset of parasitemia in treated mice[1]. Purfalcamine (20 mg/kg; orally gavage) exhibits a Cmax of 2.6 μM with a half-life of 3.1 hours[1]. Animal Model: Male BALB/c mice, 7 weeks of age, with the malaria parasite[1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8917 mL	9.4586 mL	18.9172 mL
5 mM	0.3783 mL	1.8917 mL	3.7834 mL
10 mM	0.1892 mL	0.9459 mL	1.8917 mL
50 mM	0.0378 mL	0.1892 mL	0.3783 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

Nobutaka Kato, et al. Gene expression signatures and small-molecule compounds link a protein kinase to Plasmodium falciparum motility. Nat Chem Biol. 2008 Jun;4(6):347-56.
Rajshekhar Y Gaji, et al. Expression of the essential Kinase PfCDPK1 from Plasmodium falciparum in Toxoplasma gondii facilitates the discovery of novel antimalarial drugs. Antimicrob Agents Chemother. 2014 May;58(5):2598-607.