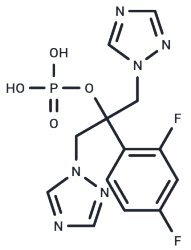
Data Sheet (Cat.No.T5328)

TargetMol

Fosfluconazole

Chemical Properties



CAS No. : 194798-83-9

Formula: C13H13F2N6O4P

Molecular Weight: 386.25

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	Fosfluconazole is water-soluble phosphate prodrug of fluconazole. Fluconazole is an antifungal drug.
Targets(IC50)	Antifungal
In vitro	In Caco-2 monolayer, 10 μM Fosfluconazole is dosed either in the apical or basal compartment in Transwell plates. Both prodrugs are efficiently cleaved in the apical compartment after a 2 h incubation. The rate of ALP-mediated conversion was prodrug concentration-dependent with Michaelis-Menten constants of 351 μM for fosfluconazole, determined in Caco-2 cells [1].
In vivo	Fosfluconazole was administered intravenously and intraperitoneally. After the i.p. administration of F-FLCZ, FLCZ was detected in circulating blood and the dialyzing fluid in peritoneal dialysis rats. The concentration of plasma FLCZ after the i.p. F-FLCZ administration was lower than that after the intravenous (i.v.) F-FLCZ administration [2].
Kinase Assay	An aliquot of 200 μl of mucosa scrap lysate solution was mixed with 100 mM phosphate buffer, pH 7.4, to a final volume at 1 ml. The concentration of the test compounds (fosphenytoin and fosfluconazole) was 10 μM. The incubation medium was prewarmed at 37°C before the reaction was initiated by addition of the tested compounds. An aliquot of 100 μl was collected from the incubation vial at the time points 0, 5, 10, 20, 30, 45, and 60 min and transferred to a 96-well plate, in which 100 μl of acetonitrile was prefilled to terminate the reaction. The samples were diluted 5-fold with acetonitrile containing 1 μM tolbutamide as an analytical internal standard. The samples were centrifuged at 4000 rpm for 5 min to precipitate protein. The supernatant was transferred to a new 96-well plate for concentration analysis by liquid chromatography/tandem mass spectrometry (LC/MS/MS) [1].
Animal Research	Twelve-week-old male Wistar rats (200–300 g) were used. They were housed in a temperature-controlled room and were given food and water ad libitum. All rats were anesthetized by an i.p. administration of pentobarbital (50 mg/kg body weight). A catheter was placed in the peritoneal cavity and used as an inflow drain for the dialyzing fluid. sampling. In rats receiving i.v. administration, a catheter was inserted into the left jugular vein for drug administration, and another into the right femoral artery for blood sampling. Blood samples after the i.p. administration were obtained from the heart. The rats were then allowed to recover from the anesthesia and surgery for at least 24 hr. After the 40-mL dialyzing fluid was administered intraperitoneally,

Animal Research	FLCZ 16 mg/kg body weight) and F-FLCZ (16 mg FLCZ eq/kg body weight) were administered intravenously. The volume of the drug solution administered intravenously was 8 mL/kg. FLCZ (16 mg/kg body weight) and F-FLCZ (16 mg FLCZ eq/kg body weight) dissolved in the 40 mL of dialyzing fluid were administered intraperitoneally. The dialyzing fluid FLCZ concentration was 100 mg/L. F-FLCZ (16 mg FLCZ eq/kg body weight) was administered to ARF rats intravenously and intraperitoneally. Blood (0.5 mL) and dialyzing ‰uid (1.5 mL) samples were collected at appropriate time intervals [2].

Solubility Information

Solubility	DMSO: 6 mg/mL (15.53 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: 1 mg/mL (2.59 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	2.589 mL	12.945 mL	25.890 mL
5 mM	0.5178 mL	2.589 mL	5.178 mL
10 mM	0.2589 mL	1.2945 mL	2.589 mL
50 mM	0.0518 mL	0.2589 mL	0.5178 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

Aoyama T, et al. Pharmacokinetics of fluconazole and Fosfluconazole after intraperitoneal administration to peritoneal dialysis rats. Drug Metab Pharmacokinet. 2005 Dec;20(6):485-90.
Yuan H, et al. Evaluation of in vitro models for screening alkaline phosphatase-mediated bioconversion of phosphate ester prodrugs. Drug Metab Dispos. 2009 Jul;37(7):1443-7.