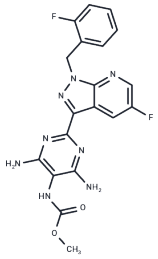
Data Sheet (Cat.No.T17226)

TargetMol

Vericiguat

Chemical Properties



CAS No. : 1350653-20-1

Formula: C19H16F2N8O2

Molecular Weight: 426.38

Storage: Keep away from moisture
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	Vericiguat (BAY1021189) is a potent and orally available guanylate cyclase stimulator.
Targets(IC50)	Guanylate cyclase
In vitro	Vericiguat inhibits the U46619-induced contractions of porcine coronary artery rings concentration-dependently (IC50: 956 nM). Vericiguat inhibits phenylephrine-induced contractions of rabbit saphenous artery rings, rabbit aortic rings, and canine femoral vein rings concentration-dependently (IC50: 798, 692, and 3072 nM, respectively). Vericiguat (0.01 μM to 100 μM) stimulates recombinant sGC concentration-dependently, by 1.7-fold to 57.6-fold. When combined with the NO donor diethylamine/nitric oxide complex, Vericiguat and DEA/NO have a synergistic effect on the enzyme activity over a wide range of concentrations. At the highest concentrations of Vericiguat (100 μM) and DEA/NO (100 nM), the specific activity of sGC is 341.6-fold above baseline. Vericiguat stimulates the sGC reporter cell line concentration-dependently (EC50: 1005±145 nM) [1].
In vivo	Vericiguat causes a significant and dose-dependent increase in survival rates. Chronic oral treatment with Vericiguat (3 or 10 mg/kg, q.d.) results in a significant attenuation of blood pressure increase during the course of the study. Vericiguat (3 or 10 mg/kg) treatment leads to a significant reduction in kidney injury molecule Kim-1 and osteopontin expression which are used as biomarkers for renal injury and dysfunction. In the 3 and 10 mg/kg q.d. treatment groups, the rat survival rate is 70% and 90%, respectively, at the study end [1].

Solubility Information

Solubility	DMSO: 50 mg/mL (117.27 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: 2 mg/mL (4.69 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	2.3453 mL	11.7266 mL	23.4533 mL
5 mM	0.4691 mL	2.3453 mL	4.6907 mL
10 mM	0.2345 mL	1.1727 mL	2.3453 mL
50 mM	0.0469 mL	0.2345 mL	0.4691 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

Follmann M, et al. Discovery of the Soluble Guanylate Cyclase Stimulator Vericiguat (BAY 1021189) for the Treatment of Chronic Heart Failure. J Med Chem. 2017 Jun 22;60(12):5146-5161.