Vericiguat

Catalog No.C14418 Batch:C1441803

Product Datasheet

Technical Data

Formula	$C_{19}H_{16}F_2N_8O_2$					
Molecular Weight	426.38	**CAS No.**	1350653-20-1			
Solubility (25°C)*	In vitro	DMSO	85 mg/mL (199.35 mM)			
		Water	Insoluble			
		Ethanol	Insoluble			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.
		Injection	Clear solution	5%DMSO [1] → 40%PEG300 [2] → 5%Tween80 [3] → 50%ddH2O Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing.	2.125mg/ml (4.98mM)	Taking the 1 mL working solution as an example, add 50 μL of 42.5 mg/ml clarified DMSO stock solution to 400 μL of PEG300, mix evenly to clarify it; add 50 μL of Tween80 to the above system, mix evenly to clarify; then continue to add 500 μL of ddH2O to adjust the volume to 1 mL. The mixed solution should be used immediately for optimal results.
			Clear solution	5% DMSO [1] → 95% Corn oil Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing.	0.425mg/ml (1.00mM)	Taking the 1 mL working solution as an example, add 50 μL of 8.5 mg/ml clear DMSO stock solution to 950 μL of corn oil and mix evenly. The mixed solution should be used immediately for optimal results.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Concentration \ Volume / Mass	1 mg	5 mg	10 mg
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

Biological Activity

Description	Vericiguat (BAY1021189) is a potent, orally available and soluble **guanylate cyclase (sGC)** stimulator.
Targets	sGC [1]
In vitro	The stimulation of sGC by Vericiguat is examined with a recombinant CHO cell line overexpressing rat sGC. This compound stimulates the sGC reporter cell line concentration dependently with an EC50 of 1005 ± 145 nM. In the presence of the NO donor S-nitroso-N-acetyl-D,L-penicillamine (SNAP) (30 and 100 nM), the EC50 value shifts to 39.0 ± 5.1 and 10.6 ± 1.7 nM, respectively. In the presence of ODQ, pretreatment of the sGC reporter cell line with 10 μM ODQ for 3 h results in a significantly reduced efficacy of this chemical, with an EC50 of 256 ± 40 nM being observed.[1]
In vivo	This compound can maintain heart and kidney function in a model of hypertension-induced end-organ damage with substantially reduced overall mortality.[1]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  CHO cells
- **Concentrations**
  0.01 μM to 100 μM
- **Incubation Time**
  6 min
- **Method**
  Cells are plated in a volume of 25 μL on white 384-well Greiner Bio-One microplates and are cultured for 1 or 2 d in medium. Medium is removed, and cells are loaded for 3 h with calcium-free Tyrode-containing coelenterazine. Serial dilutions of the test compounds (including Vericiguat) in a volume of 10 μL in calcium-free Tyrode are applied to the cells for 6 min. Thereafter, 35 μL of Tyrode-containing calcium (final concentration: 3 mM) is added to the cells and the emitted light is measured for 40 s using a CCD camera in a light-tight box. The minimal effective concentration (MEC) is determined as the concentration where a ≥3-fold increase in the basal luminescence value is observed.

Animal Study:[1]

- **Animal Models**
  renin transgenic rats (RenTG)
- **Dosages**
  3 mg/kg, 10 mg/kg
- **Administration**

	Oral gavage

References

https://pubmed.ncbi.nlm.nih.gov/28557445/

RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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