Product Datasheet

Technical Data

Formula	$C_{26}H_{28}F_3N_7O_2$					
Molecular Weight	527.54	**CAS No.**	2222635-15-4			
Solubility (25°C)*	In vitro	DMSO	95 mg/mL (180.08 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.	1.180mg/ml (2.24mM)	Taking the 1 mL working solution as an example, add 50 μL of 23.6 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.	1.180mg/ml (2.24mM)	Taking the 1 mL working solution as an example, add 50 μL of 23.6 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

Biological Activity

Description	DCLK1-IN-1 is a selective, in vivo-compatible chemical probe of the **doublecortin like kinase 1 (DCLK1) domain** that binds to DCLK1 and DCLK2 with IC50 of 9.5 nM and 31 nM, respectively. This compound inhibits DCLK1 and DCLK2 kinases with IC50 of 57.2 nM and 103 nM in kinase assay, respectively.
Targets	

DCLK1 [1] (Cell-free assay)	DCLK2 [1] (Cell-free assay)	DCLK1 [1] (kinase assay)	DCLK2 [1] (kinase assay)
9.5 nM	31 nM	57.2 nM	103 nM

In vitro	DCLK1-IN-1 displays pronounced on-target DCLK1 activity in vitro. This compound potently binds DCLK1 in HCT116 cells (IC50 = 279 nM). It significantly inhibits DCLK1, and weakly inhibits ERK5, in PATU-8988T cell lysates and live cells.[1]
In vivo	DCLK1-IN-1 has a favorable pharmacokinetic profile in mice, with a half-life of 2.09 h, an area under the curve of 5,506 h ng^{-1} ml^{-1} and 81% oral bioavailability. This compound is well-tolerated at doses up to 100 mg kg^{-1} with no adverse effects and no loss of body weight observed in mice. It is a selective inhibitor of DCLK1, suitable for use as a chemical probe when used together with control compound DCLK1-NEG.[1]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  PATU-8988T, PATU-8902, MIA PaCa-2, Panc03.27, CFPAC-1, BxPC-3, 293FT, HEK-293, HCT116 cells
- **Concentrations**
  1 μM, 2.5 μM
- **Incubation Time**
  4 h, 24 h
- **Method**
  For RNA-sequencing studies, PATU-8988T cells are plated at 200,000 cells per well in six-well plates. After adhering overnight, cells are treated with DMSO or 2.5 μM DCLK1-IN-1, washed twice with PBS, lysed and homogenized using Qiashredder columns.

Animal Study:[1]

- **Animal Models**
  8–12-week-old male swiss albino mice
- **Dosages**
  2 mg/kg, 10 mg/kg
- **Administration**
  IV, Oral gavage

References

https://pubmed.ncbi.nlm.nih.gov/32251410/

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.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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