Product Datasheet

Technical Data

Formula	$C_{46}H_{56}N_4O_{10}$					
Molecular Weight	824.96	**CAS No.**	57-22-7			
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (121.21 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.	5.000mg/ml (6.06mM)	Taking the 1 mL working solution as an example, add 50 μL of 100 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.	0.800mg/ml (0.97mM)	Taking the 1 mL working solution as an example, add 50 μL of 16 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	1.2122 mL	6.0609 mL	12.1218 mL
5 mM	0.2424 mL	1.2122 mL	2.4244 mL
10 mM	0.1212 mL	0.6061 mL	1.2122 mL
50 mM	0.0242 mL	0.1212 mL	0.2424 mL

Biological Activity

Description	Vincristine (Leurocristine, NSC-67574, 22-Oxovincaleukoblastine) is a natural alkaloid isolated from the plant Vinca rosea Linn. with anti-tumor activity. Vincristine inhibits **microtubule** formation in mitotic spindle and binds to microtubule with Ki of 85 nM.
In vitro	This compound, a microtubule-destabilizing agent (MDA), inhibits the formation of microtubules and mitosis of the cancer cell, which is a victim of intratumoural metabolic resistance that has no important relevance with neither CYP3A4 nor CYP3A5.[2]
In vivo	This compound shows the regression of the tumor in zebrafish xenografts.[3]

Protocol (from reference)

Cell Assay:[2]

- **Cell lines**
  HepG2_EV, HepG2_CYP3A4, HepG_CYP3A5, HepG2_CYP2C8 cells
- **Concentrations**
  1 μM
- **Incubation Time**
  24, 48 and 72 h
- **Method**
  HepG2 sublines (100×10^4 cells/well) are seeded in 12-well plates and cultured until full confluence. Then, the media is removed, and the cells are exposed to 1 μM drug (docetaxel, paclitaxel or vincristine) or 0.01% DMSO (vehicle control). Samples are collected at 24, 48 and 72 h intervals using TRI Reagent, which is followed by RNA isolation. The RNA yield is assessed via a NanoDrop ND-1000 spectrophotometer, while its quality and integrity are verified by agarose gel electrophoresis.

Animal Study:[3]

- **Animal Models**
  Zebrafish of glioma model
- **Dosages**
  10-20 nM
- **Administration**
  p.o.

References

https://pubmed.ncbi.nlm.nih.gov/3986806/ https://pubmed.ncbi.nlm.nih.gov/33775687/ https://pubmed.ncbi.nlm.nih.gov/35199829/

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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