Cucurbitacin B

Catalog No.C13231 Batch:C1323103

Product Datasheet

Technical Data

Formula	$C_{32}H_{46}O_8$					
Molecular Weight	558.70	**CAS No.**	6199-67-3			
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (178.98 mM)			
		Ethanol	50 mg/mL (89.49 mM)			
		Water	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 (8.95mM)	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.	0.710mg/ml (1.27mM)	Taking the 1 mL working solution as an example, add 50 μL of 14.2 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

Volume / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.7899 mL	8.9493 mL	17.8987 mL
5 mM	0.3580 mL	1.7899 mL	3.5797 mL
10 mM	0.1790 mL	0.8949 mL	1.7899 mL
50 mM	0.0358 mL	0.1790 mL	0.3580 mL

Biological Activity

Description	Cucurbitacin B, an oxygenated tetracyclic triterpenoid compound extracted from Cucurbitaceae plant species, is a long-term anticancer agent by disruption of microtubule polymerization.
Targets	Microtubule [1]
In vitro	Cucurbitacin B inhibits the growth of 5 GBM cell lines: U87, U118, U343, U373 and T98G by affecting the cytoskeleton and the JNK pathway, with ED50 ranged from 5 nM to 100 nM. This compound also causes cell cycle arrest at the G2/M phase, decreases cell migration and induces apoptosis of GBM cells. [1] In human breast cancer cell lines, it also inhibits cell growth with ED50 varied from 30.3 nM to 418 nM, and rapidly induces cytoskeletal disruption. [2] In addition, this chemical possesses immunomodulatory and anti-inflammatory effects, depending on the induction of heme oxygenase-1 expression via Nrf2 activation. [3]
In vivo	In nude mice bearing MDA-MB-231 tumors, Cucurbitacin B (1 mg/kg, i.p.) inhibits tumor growth by 55 %, and causes lower serum glucose levels. [2]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  U87, T98G, U118, U343, and U373 cells
- **Concentrations**
  ~1 μM
- **Incubation Time**
  48 h
- **Method**
  For proliferation measurements, the cells are placed into 96 well plates, and cell growth is measured at various times by MTT assay according to the protocol.

References

https://pubmed.ncbi.nlm.nih.gov/18561312/ https://pubmed.ncbi.nlm.nih.gov/18627377/ https://pubmed.ncbi.nlm.nih.gov/26466646/

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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