Berberine (Umbellatine)

Catalog No.C13896 Batch:C1389603

Product Datasheet

Technical Data

Formula	$C_{20}H_{18}NO_4$					
Molecular Weight	336.36	**CAS No.**	2086-83-1			
Solubility (25°C)*	In vitro	DMSO	7 mg/mL (20.81 mM)			
		Ethanol	6 mg/mL (17.83 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]→ Corn oil Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing.	0.370mg/ml (1.10mM)	Taking the 1 mL working solution as an example, add 50 μL of 7.4 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	2.9730 mL	14.8650 mL	29.7301 mL
5 mM	0.5946 mL	2.9730 mL	5.9460 mL
10 mM	0.2973 mL	1.4865 mL	2.9730 mL
50 mM	-	-	-

Biological Activity

Description	Berberine (Umbellatine), an alkaloid isolated from Rhizoma coptidis, has broad applications, particularly as an antibacterial agent in the clinic.
In vitro	In 3T3-L1 adipocytes, the treatment of 12 μM or 20 μM berberine combined with 25 μM resveratrol shows more significant inhibition of lipid accumulation compared with individual compounds. The combination of this compound with resveratrol significantly increases the low-density-lipoprotein receptor expression in HepG2 cells to a level about one-fold higher in comparison to individual compounds.[1]
In vivo	The combination of Berberine and resveratrol exerts a significant enhanced effect on lipid-lowering in hyperlipidemic mice and intracellular lipid accumulation-decreasing in adipocytes as compared to individual agent alone, which is closely associated with SIRT1 and LDLR.[1]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  3T3-L1 adipocytes, HepG2 cells, hepatic L02 cells
- **Concentrations**
  12 μM, 20 μM, 50 μM
- **Incubation Time**
  3 days, 24 h
- **Method**
  At day 10 of differentiation, 3T3-L1 adipocytes are treated with Berberine, resveratrol, and their combination for 3 days. The intracellular lipid accumulation of differentiated cells is detected by oil red O staining. HepG2 cells are cultured in 6-well plate for 24 h with a $3 \times 10_5$ cell density, and then the culture medium is replaced by fresh medium containing this compound, resveratrol, and their combination for another 24 h. Subsequently, the total proteins from the cells are extracted for assaying the low-density-lipoprotein receptor (LDLR) expression by Western Blot.

References

https://pubmed.ncbi.nlm.nih.gov/30563192/

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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