MMAE (Monomethyl auristatin E)

Catalog No.C12897 Batch:C1289703

Product Datasheet

Technical Data

Formula	$C_{39}H_{67}N_5O_7$					
Molecular Weight	717.98	**CAS No.**	474645-27-7			
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (139.27 mM)			
		Ethanol	100 mg/mL (139.27 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 (6.96mM)	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 make it clear; 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.

* <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	1.3928 mL	6.9640 mL	13.9280 mL
5 mM	0.2786 mL	1.3928 mL	2.7856 mL
10 mM	0.1393 mL	0.6964 mL	1.3928 mL
50 mM	0.0279 mL	0.1393 mL	0.2786 mL

Biological Activity

Description	MMAE (Monomethyl auristatin E) is a synthetic antineoplastic agent. It is also a microtubule-disrupting agent .
In vitro	When coupled to cAC10, MMAE shows selective cytotoxicity in $CD30^+$ cells, and induces G2/M-phase growth arrest and cell death through the induction of apoptosis. [1] When coupled to anti-CD79b antibody, anti–CD79b-vcMMAE has very potent and broad activity across a large panel of NHL cell lines in vitro. [2] When coupled to anti-HER2 antibody, hertuzumab-vc-MMAE can also be effectively internalized and potently kill HER2 over-expressing tumor cells. [3]
In vivo	In the Karpas 299 ALCL model, cAC10-vcMMAE (1 mg/kg, i.v.) induces complete, durable tumor regression, while free MMAE (0.36 mg/kg) doesn't produce detectable antitumor activity. [1] In mouse xenograft models of NHL, anti–CD79b-vcMMAE (7 mg/kg, p.o.) strikingly results in sustained complete tumor remission. [2]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  $CD30^+$ Karpas 299 cells
- **Concentrations**
  ~1000 ng/mL
- **Incubation Time**
  96 h
- **Method**
  Cytotoxicity is measured using Alamar Blue dye reduction assay according to the manufacturer's directions. Briefly, a 40% solution (wt/vol) of Alamar Blue is freshly prepared in complete media just before cultures are added. Ninety-two hours after drug exposure, Alamar Blue solution is added to cells to constitute 10% culture volume. Cells are incubated for 4 hours, and dye reduction is measured on a Fusion HT fluorescent plate reader (Packard Instruments, Meriden, CT).

References

https://pubmed.ncbi.nlm.nih.gov/12714494/ https://pubmed.ncbi.nlm.nih.gov/19633198/ https://pubmed.ncbi.nlm.nih.gov/26253944/

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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.

EU Headquarters
Gajeva ulica 28, HR-10000 Zagreb, Croatia

US Headquarters
12222 Merit Dr STE 130 Dallas, Texas, 75251

UK Headquarters
121 ABILITY HOUSE, BROOKER ROAD, EN9 1JH, ESSEX

Orders: Sales@capsidbio.com
Enquiries: info@capsidbio.com
www.capsidbio.com