MZ-1

Catalog No.C13753 Batch:C1375303

Product Datasheet

Technical Data

Formula	$C_{49}H_{60}ClN_9O_8S_2$					
Molecular Weight	1002.64	**CAS No.**	1797406-69-9			
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (99.73 mM)			
		Ethanol	100 mg/mL (99.73 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.
				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 (4.99mM)	
		Injection		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.	2.500mg/ml (2.49mM)	

* <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	0.9974 mL	4.9868 mL	9.9737 mL
5 mM	0.1995 mL	0.9974 mL	1.9947 mL
10 mM	0.0997 mL	0.4987 mL	0.9974 mL
50 mM	0.0199 mL	0.0997 mL	0.1995 mL

Biological Activity

Description	MZ-1 is a PROTAC degrader of **bromodomain-containing protein 4 (BRD4)**. This compound binds to the Brd bromodomain with Kd of 62 nM, 60 nM, 21 nM, 13 nM, 39 nM and 15 nM for $Brd2^{BD1}$, $Brd2^{BD2}$, $Brd3^{BD1}$, $Brd3^{BD2}$, $Brd4^{BD1}$ and $Brd4^{BD2}$.
Targets	Brd3(BD2) [1] (Cell-free assay): 13 nM(Kd); Brd4(BD2) [1] (Cell-free assay): 15 nM(Kd); Brd3(BD1) [1] (Cell-free assay): 21 nM(Kd); Brd4(BD1) [1] (Cell-free assay): 39 nM(Kd); Brd2(BD2) [1] (Cell-free assay): 60 nM(Kd); View More →
In vitro	MZ-1 induces apoptosis of ovarian cancer cells and inhibits periostin-mediated ovarian cancer cell migration and invasion in vitro. This compound specifically and efficiently inhibits the colony formation of periostin cells in soft agar, which clearly indicates a proproliferation role of periostin.[2]
In vivo	Our *in vivo* studies shows significant growth inhibition by MZ-1 on both subcutaneous and intraperitoneal (i.p.) tumors derived from the periostin-expressing ovarian cancer cell line A2780. In addition, this compound treatment leads to a reduction of the metastatic potential of these A2780 i.p. tumors. The *in vivo* antitumor effects of this chemical are linked to its specific inhibition of anchorage-independent growth and survival of periostin-expressing cells, as well as its neutralizing effects on periostin-induced cancer cell migration and invasion.[2]

Protocol (from reference)

Cell Assay:[2]

- **Cell lines**
  A2780, OAW-42, SKOV-3, TOV-112D, ES2, SP2/0 cell line
- **Concentrations**
  20 μM
- **Incubation Time**
  2 and 4 days
- **Method**
  In vitro apoptosis assay: Cells are grown in 24-well plates in serum-free medium (SFM) plus 1% BSA overnight to reach 50% to 60% confluency. A portion of 20 mg/mL of MZ-1 or control antibody is added into the wells. Cell apoptosis is analyzed 2 and 4 days later by using Annexin V-FITC Apoptosis Detection Kit. The cell flow cytometry is carried on Cell LabQuanta SC.

Animal Study:[2]

- **Animal Models**
  Female SCID beige mice (6-8 weeks old) with A2780/TOV-112D xenografts
- **Dosages**

20 mg/kg

- **Administration**
  IH/SC, IP

References

https://pubmed.ncbi.nlm.nih.gov/28288108/ https://pubmed.ncbi.nlm.nih.gov/21670235/

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