Product Datasheet

Technical Data

Formula	$C_{14}H_{15}N_5S$					
Molecular Weight	285.37	**CAS No.**	152095-12-0			
Solubility (25°C)*	In vitro	DMSO	57 mg/mL (199.74 mM)			
		Ethanol	47 mg/mL (164.69 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.

* <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	3.5042 mL	17.5211 mL	35.0422 mL
5 mM	0.7008 mL	3.5042 mL	7.0084 mL
10 mM	0.3504 mL	1.7521 mL	3.5042 mL
50 mM	0.0701 mL	0.3504 mL	0.7008 mL

Biological Activity

Description	Dp44mT is a potent iron chelator, which shows selective antitumor activity.
Targets	iron [1]
In vitro	Dp44mT shows pronounced antiproliferative effects in SK-N-MC, SK-Mel-28, and MCF-7 cells with IC50 of 30 nM, 60 nM, and 60 nM, respectively, while no effects on normal MRC-5 fibroblasts. This compound inhibits cellular Fe uptake from Fe-Tf in SK-N-MC neuroepithelioma and M109 cells, and induces cell apoptosis. [1] In MDA-MB-231 cells, it specifically targets topoisomerase topo2α, and thus causes DNA damage. [2] This chemical, as a Pgp substrate, also overcomes multidrug resistance by the hijacking of lysosomal P-glycoprotein (Pgp). [3]
In vivo	In CD2F1 mice bearing M109 tumors, Dp44mT (0.4 mg/kg, i.v.) inhibits tumor growth in a dose-dependent manner. [1]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  SK-N-MC, SK-Mel-28, MCF-7 and MRC-5 cells
- **Concentrations**
  ~25 μM
- **Incubation Time**
  72 h
- **Method**
  Cells are incubated in the presence and absence of DFO, 311, 3-aminopyridine-2-carboxaldehyde thiosemicarbazone, doxorubicin, and the DpT series of chelators (0-25 μM) for 72 hours at 37°C。 The effect of the chelators on proliferation is examined using the MTT assay.

Animal Study:[1]

- **Animal Models**
  CD2F1 mice bearing M109 tumors
- **Dosages**
  04 mg/kg, twice daily
- **Administration**
  i.v.

References

https://pubmed.ncbi.nlm.nih.gov/15150082/ https://pubmed.ncbi.nlm.nih.gov/19176392/ https://pubmed.ncbi.nlm.nih.gov/25720491/

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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