Product Datasheet

Technical Data

Formula	$C_9H_8N_4O_5$					
Molecular Weight	252.18	**CAS No.**	21919-05-1			
Solubility (25°C)*	In vitro	DMSO	50 mg/mL (198.27 mM)			
		Water	Insoluble			
		Ethanol	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.	2.500mg/ml (9.91mM)	Taking the 1 mL working solution as an example, add 50 μL of 50 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.	0.410mg/ml (1.63mM)	Taking the 1 mL working solution as an example, add 50 μL of 8.2 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

Biological Activity

Description	Tretazicar (CB1954) is an anticancer prodrug that is converted in the presence of the enzyme NQO2 and co-substrate caricotamide (EP-0152R) (EP) into a **potent cytotoxic bifunctional alkylating agent**. It can be activated by **NAD(P)H quinone oxidoreductase 2**.
In vitro	The overexpression of nitroreductase oxidored nitro domain containing protein 1 (NOR1) is capable of converting the monofunctional alkylating agent Tretazicar (CB1954) into a toxic form by reducing its 4 nitro group, which is a potent cytotoxin. This compound enhances cell killing in the NPC cell line CNE1. The NOR1 gene enhances CB1954-mediated cell cytotoxicity through the upregulation of Grb2 expression and the activation of MAPK signal transduction in the HepG2 cell line[1].
In vivo	The Tretazicar (CB1954) system is used for specific ablation of cells in vivo. The effect of this inducible ablation system is dose-dependent[3]. NTR-mediated cell killing by this compound does not require cell proliferation. The activated form cross-links DNA which presumably triggers the apoptosis cascade, resulting in rapid cell death. Specific and effective cell killing by NTR-CB1954 does not require a functional p53[2].

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  HepG2 Cells
- **Concentrations**
  4-10 μmol/L
- **Incubation Time**
  48 h
- **Method**
  HepG2 human hepatocellular carcinoma cells are maintained in RPMI 1640 supplemented with 10% fetal calf serum (FCS) in a humidified culture incubator at 37˚C with 5% CO_2 and 95% air. Cell cyto-toxicity assays are conducted as previously described. HepG2 cells grown to ~80% confluence are washed with PBS and treated with a signal transduction inhibitor and/or Tretazicar (CB1954). Measurements are collected from 10-12 individual microscopic fields in each experiment and data are summarized from 3-5 experiments.

Animal Study:[2]

- **Animal Models**
  RED 40 female mice expressing high levels of BLG-NTR transgene in the mammary gland and nontransgenic control mice on lactation day 6
- **Dosages**
  50 mg/kg
- **Administration**
  i.p.

References

https://pubmed.ncbi.nlm.nih.gov/23741254/ https://pubmed.ncbi.nlm.nih.gov/10505099/ https://pubmed.ncbi.nlm.nih.gov/12429046/

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