Product Datasheet

Technical Data

Formula	$C_{40}H_{67}NaO_{11}$					
Molecular Weight	746.94	**CAS No.**	28643-80-3			
Solubility (25°C)*	In vitro	Ethanol (warmed with 50°C water bath)	100 mg/mL (133.87 mM)			
		DMSO	Insoluble			
		Water	Insoluble			
	In vivo (Add solvents to the product individually and in order)	Injection	Clear solution	5%absolute ethyl alcohol [1]→ 40% PEG 300 [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.	0.200mg/ml (0.27mM)	Taking the 1 mL working solution as an example, add 50 μL of 4mg/ml absolute ethyl alcohol 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%absolute ethyl alcohol [1]→ 95% saline Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing.	0.200mg/ml (0.27mM)	Taking the 1 mL working solution as an example, add 50 μL of 4 mg/ml clear absolute ethyl alcohol stock solution to 950 μL of saline 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	1.3388 mL	6.6940 mL	13.3880 mL
5 mM	0.2678 mL	1.3388 mL	2.6776 mL
10 mM	0.1339 mL	0.6694 mL	1.3388 mL
50 mM	0.0268 mL	0.1339 mL	0.2678 mL

Biological Activity

Description	Nigericin sodium salt is an antibiotic derived from *Streptomyces hygroscopicus* that works by acting as an **H^+, K^+, and Pb^{2+} ionophore**.Nigericin can activate **NLRP3** inflammasome to induce pro-inflammatory and immunostimulatory processes.
Targets	Potassium channel [1] | Hydrogen channel [1] | Pb 2+ [1] | NLRP3 [2]
In vitro	In vitro model of tumor heterogeneity the antitumor effects of Nigericin (NIG) that works by acting as an H^+, K^+, and Pb^{2+} ionophore. NIG decreased the viability and clonogenicity of H460 cells, as well as their ability to migrate and invade[1] . Using a combination of live-cell imaging and biochemical approaches, we demonstrate that prototypical NLRP3 stimuli, the potassium ionophore nigericin, or millimolar concentrations of ATP exert both NLRP3-independent and -dependent effects on macrophages that result in cytokine release and cell death. [2]
In vivo	Nigericin is a NOD-like receptor protein 3 (NLRP3) activator.

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  H460 cells
- **Concentrations**
  1 μM
- **Incubation Time**
  24 h
- **Method**
  H460 cells are seeded in 8-μm pore size Transwell® Inserts in RPMI 1640 (without FBS) with or without drugs (DMSO as control) or NIG (1μM). Inserts are placed in 24-well plates with RPMI 1640 containing 10% FBS in the presence of DMSO (control) or NIG (1 μM).

Animal Study:[3]

- **Animal Models**
  Male C57BL/6 mice
- **Dosages**
  4 mg/kg

- **Administration**
  i.p.

References

https://pubmed.ncbi.nlm.nih.gov/28351327-nigericin-decreases-… https://pubmed.ncbi.nlm.nih.gov/24089192-mitochondrial-reacti… https://pubmed.ncbi.nlm.nih.gov/35462332/

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