MitoQ (Mitoquinone) Mesylate

Catalog No.C13834 Batch:C1383403

Product Datasheet

Technical Data

Formula	$C_{38}H_{47}O_7PS$					
Molecular Weight	678.81	**CAS No.**	845959-50-4			
Solubility (25°C)*	In vitro	DMSO	50 mg/mL (73.65 mM)			
		Water	9 mg/mL (13.25 mM)			
		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.	2.000mg/ml (2.95mM)	Taking the 1 mL working solution as an example, add 50 μL of 40 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

Biological Activity

Description	MitoQ (Mitoquinone) mesylate is a TPP-based, **mitochondria**-targeted antioxidant that blocks H_2O_2-induced intracellular **ROS** responses and protects against oxidative damage. This product is a waxy solid.
Targets	mitochondria [1] ROS [1]
In vitro	Mitoquinone blocks H2O2-induced intracellular ROS responses inmurine pancreatic acinar cells. Mitoquinone does not reduce mitochondrial depolarisation induced by either cholecystokinin (CCK) or bile acid TLCS. Mitoquinone increases basal and CCK-induced cell death in a plate-reader assay.[1]
In vivo	In a TLCS-induced AP model Mitoquinone treatment is not protective. In AP induced by caerulein hyperstimulation (CER-AP), Mitoquinone exerts mixed effects. Thus, partial amelioration of histopathology scores is observed but without reduction of the biochemical markers pancreatic trypsin or serumamylase. Lungmyeloperoxidase and interleukin-6 are concurrently increased by Mitoquinone in CER-AP. Mitoquinone causes biphasic effects on ROS production in isolated polymorphonuclear leukocytes, inhibiting an acute increase but elevating later levels.[1]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  Pancreatic Acinar Cells
- **Concentrations**
  1 μM, 10 μM
- **Incubation Time**
  200 s, 400 s, 600 s, 800 s, 1000 s
- **Method**
  The cells are loaded with 40 nM TMRM for 30 minutes prior incubation with either 1 μM or 10 μM of MitoQ or dTPP. Cholecystokinin-8 (CCK-8, 10 nM) or bile acid taurolithocholic acid 3-sulphate (TLCS, 500 μM) is used to induce ΔΨm depolarisation. At the end of the perfusion, the protonophore carbonyl cyanide 3-chlorophenylhydrazone (CCCP, 10 μM) is added to induce complete depolarisation of ΔΨm. The fluorescence of TMRM is excited at 543 nm and the emission is collected at 560–650 nm.

Animal Study:[1]

- **Animal Models**
  C57BL/6J mice
- **Dosages**
  10 mg/kg, 25 mg/kg
- **Administration**
  IP

References

https://pubmed.ncbi.nlm.nih.gov/25878403/

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.

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