Omaveloxolone (RTA-408)

Catalog No.C12860 Batch:C1286003

Product Datasheet

Technical Data

Formula	$C_{33}H_{44}F_2N_2O_3$					
Molecular Weight	554.71	**CAS No.**	1474034-05-3			
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (180.27 mM)			
		Ethanol	50 mg/mL (90.13 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.
		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.	1.25mg/ml (2.25mM)	Taking the 1 mL working solution as an example, add 50 μL of 25 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.	0.7mg/ml (1.26mM)	Taking the 1 mL working solution as an example, add 50 μL of 14 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

Concentration \ Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.8027 mL	9.0137 mL	18.0274 mL
5 mM	0.3605 mL	1.8027 mL	3.6055 mL
10 mM	0.1803 mL	0.9014 mL	1.8027 mL
50 mM	0.0361 mL	0.1803 mL	0.3605 mL

Biological Activity

Description	Omaveloxolone (RTA-408) is a synthetic triterpenoid that activates the cytoprotective transcription factor **Nrf2** and inhibits NF-κB signaling. Phase 2.
Targets	Nrf2 [1] | NF-κB [1]
In vitro	RTA 408 potently increases expression of Nrf2 target genes and reverses IFNγ-mediated suppression of Gclc expression in RAW 264.7 cells. In a panel of eight human tumor cell lines, RTA 408 inhibits growth with an average GI50 value of 260 nM and induces apoptosis. RTA 408 also inhibits NF-κB and activates JNK in tumor cells. [1]
In vivo	In mice with radiation-induced dermatitis, 1.0% RTA 408 markedly reduces epidermal and collagen thickening, prevents dermal necrosis and completely alleviates skin ulcers. [2] In rat skin, RTA 408 activates Nrf2 and induces cytoprotective genes. [3] RTA 408 also mitigates hematopoietic acute radiation syndrome in mice. [4]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  A375, NCI-H460, A2058, MDA-Mb-231, HCT116, 786-0, A549, and PANC-1 cells
- **Concentrations**
  ~1 μM
- **Incubation Time**
  72 hours
- **Method**
  For growth inhibition assays, cells are plated in duplicate 96-well culture dishes at 3 x 10^3 cells per well. The following day, one plate is treated with RTA 408 and the other is immediately processed for the sulforhodamine B (SRB) assay (time 0). Cells in the RTA 408-treated plate are processed for the SRB assay 72 hours after the start of treatment. Percentage of growth relative to vehicle-treated cells is calculated using: [(Ti-Tz)/(C-Tz)] x 100 where (Tz) is the absorbance value at time zero, (C) is absorbance value from vehicle treated wells after 72 hours, and (Ti) is the absorbance value from wells treated with the drug. Dose-response curves are plotted in GraphPad Prism and GI50 values are calculated

Animal Study:[2]

- **Animal Models**
  Mice with radiation-induced dermatitis
- **Dosages**
  1% in 100 μL vehicle (w/v)
- **Administration**

	Topical application

References

https://pubmed.ncbi.nlm.nih.gov/25897966/ https://pubmed.ncbi.nlm.nih.gov/24720753/ https://pubmed.ncbi.nlm.nih.gov/24362512/

+ Expand

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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