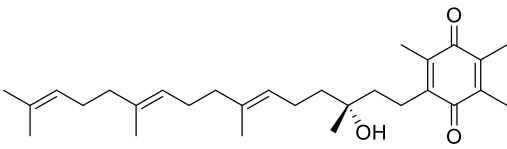


Product data sheet



MedKoo Cat#: 319685 Name: Vatiquinone CAS#: 1213269-98-7 Chemical Formula: C ₂₉ H ₄₄ O ₃ Exact Mass: 440.329 Molecular Weight: 440.67		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

Vatiquinone, also known as EPI 743, is an orally bioavailable para-benzoquinone being developed for inherited mitochondrial diseases. The mechanism of action of EPI-743 involves augmenting the synthesis of glutathione, optimizing metabolic control, enhancing the expression of genetic elements critical for cellular management of oxidative stress, and acting at the mitochondria to regulate electron transport.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	20	45.39
Ethanol	10	22.69

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.27 mL	11.35 mL	22.69 mL
5 mM	0.45 mL	2.27 mL	4.54 mL
10 mM	0.23 mL	1.13 mL	2.27 mL
50 mM	0.05 mL	0.23 mL	0.45 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

Kahn-Kirby AH, Amagata A, Maeder CI, Mei JJ, Sideris S, Kosaka Y, Hinman A, Malone SA, Bruegger JJ, Wang L, Kim V, Shrader WD, Hoff KG, Latham JC, Ashley EA, Wheeler MT, Bertini E, Carrozzo R, Martinelli D, Dionisi-Vici C, Chapman KA, Enns GM, Gahl W, Wolfe L, Saneto RP, Johnson SC, Trimmer JK, Klein MB, Holst CR. Targeting ferroptosis: A novel therapeutic strategy for the treatment of mitochondrial disease-related epilepsy. PLoS One. 2019 Mar 28;14(3):e0214250. doi: 10.1371/journal.pone.0214250. PMID: 30921410; PMCID: PMC6438538.

In vivo study

TBD

7. Bioactivity

Biological target:

Mitochondria

Product data sheet



In vitro activity

Primary fibroblasts and B-lymphocytes derived from patients with mitochondrial disease-associated epilepsy were cultured under standardized conditions. Ferroptosis was induced by treatment with the irreversible GPX4 inhibitor RSL3 or a combination of pharmacological glutathione depletion and excess iron. EPI-743 was co-administered and endpoints, including cell viability and 15-LO-dependent lipid oxidation, were measured. EPI-743 potently prevented ferroptosis in patient cells representing five distinct pediatric disease syndromes with associated epilepsy. Cytoprotection was preceded by a dose-dependent decrease in general lipid oxidation and the specific 15-LO product 15-hydroxyeicosatetraenoic acid (15-HETE). These findings support the continued clinical evaluation of EPI-743 as a therapeutic agent for PCH6 and other mitochondrial diseases with associated epilepsy.

Reference: Kahn-Kirby AH, Amagata A, Maeder CI, Mei JJ, Sideris S, Kosaka Y, Hinman A, Malone SA, Bruegger JJ, Wang L, Kim V, Shrader WD, Hoff KG, Latham JC, Ashley EA, Wheeler MT, Bertini E, Carrozzo R, Martinelli D, Dionisi-Vici C, Chapman KA, Enns GM, Gahl W, Wolfe L, Saneto RP, Johnson SC, Trimmer JK, Klein MB, Holst CR. Targeting ferroptosis: A novel therapeutic strategy for the treatment of mitochondrial disease-related epilepsy. PLoS One. 2019 Mar 28;14(3):e0214250. doi: 10.1371/journal.pone.0214250. PMID: 30921410; PMCID: PMC6438538.

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.