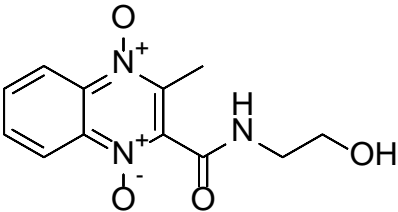


Product data sheet



MedKoo Cat#: 525776 Name: Olaquinox CAS: 23696-28-8 Chemical Formula: C ₁₂ H ₁₃ N ₃ O ₄ Exact Mass: 263.0906 Molecular Weight: 263.2493	
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:

Olaquinox is used in prevention of swine dysentery. It is also a growth promoting additive in pig feed.

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.80 mL	18.99 mL	37.99 mL
5 mM	0.76 mL	3.80 mL	7.60 mL
10 mM	0.38 mL	1.90 mL	3.80 mL
50 mM	0.08 mL	0.38 mL	0.76 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

Li D, Pei X, Qin X, Liu X, Li C, Li L, Dai C, Xiao X, Tang S. Olaquinox-Induced Liver Damage Involved the Crosstalk of Oxidative Stress and p53 In Vivo and In Vitro. *Oxid Med Cell Longev*. 2020 Dec 18;2020:8835207. doi: 10.1155/2020/8835207. PMID: 33381272; PMCID: PMC7762677.

2. Wu D, Huang CJ, Jiao XF, Ding ZM, Zhang JY, Chen F, Wang YS, Li X, Huo LJ. Olaquinox disrupts tight junction integrity and cytoskeleton architecture in mouse Sertoli cells. *Oncotarget*. 2017 Aug 16;8(51):88630-88644. doi: 10.18632/oncotarget.20289. PMID: 29179463; PMCID: PMC5687633.

In vivo study

1. Ge L, Gao YQ, Han Z, Liu SJ, Wang XY, Zhang XJ, Tang RH, Zhang RF, Sun D, Feng B, Zhang DJ, Liang CG. Administration of olaquinox impairs spermatogenesis and sperm quality by increasing oxidative stress and early apoptosis in mice. *Ecotoxicol Environ Saf*. 2022 Mar 9;234:113396. doi: 10.1016/j.ecoenv.2022.113396. Epub ahead of print. PMID: 35278996.

2. Guo SY, Zhang Y, Zhu XY, Zhou JL, Li J, Li CQ, Wu LR. Developmental neurotoxicity and toxic mechanisms induced by olaquinox in zebrafish. *J Appl Toxicol*. 2021 Apr;41(4):549-560. doi: 10.1002/jat.4062. Epub 2020 Oct 27. PMID: 33111391.

7. Bioactivity

Biological target:

Olaquinox is used in prevention of swine dysentery.

Product data sheet



In vitro activity

The cell model in vitro further demonstrated that p53 knockout or knockdown in the HCT116 cell and L02 cell significantly inhibited cell apoptosis and increased cell viability, presented by suppressing ROS production, oxidative stress, and the Nrf2/HO-1 pathway. Moreover, loss of p53 decreased OLA (olaquinox)-induced mitochondrial dysfunction and caspase activations, with the evidence of inhibited activation of phosphorylation- (p-) p38 and p-JNK and upregulated cell autophagy via activation of the LC3 and Beclin1 pathway in HCT116 and L02 cells.

Reference: Oxid Med Cell Longev. 2020 Dec 18;2020:8835207. <https://pubmed.ncbi.nlm.nih.gov/33381272/>

In vivo activity

After continuous 45 days of OLA (olaquinox) gavage, the dosage of 60 mg/kg/day (high dose) significantly affected body weight, organ weights and coefficients, and the morphology of the testis seminiferous tubule in male mice. Dosage of 60 mg/kg/day also reduced sperm count, motility, and viability. OLA at both low-dose (5 mg/kg/day) and high-dose induced peroxidation, early apoptosis, and abnormal mitochondrial membrane potential in sperm. Significantly, high-dose OLA impaired in vitro fertilized embryo development, indicated by the decreased percentages of 2-cell and blastocyst formation.

Reference: Ecotoxicol Environ Saf. 2022 Mar 9;234:113396. <https://pubmed.ncbi.nlm.nih.gov/35278996/>

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.