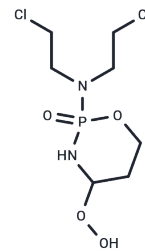


## 4-hydroperoxy cyclophosphamide

## Chemical Properties

CAS No. :	39800-16-3
Formula:	C7H15Cl2N2O4P
Molecular Weight:	293.09
Storage:	Store at low temperature, Store under nitrogen, Keep away from moisture Pure form: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



## Biological Description

Description	4-hydroperoxy cyclophosphamide (4-OOH-CY) is an active metabolite of Cyclophosphamide that induces hepatotoxicity. 4-Hydroperoxy cyclophosphamide increases levels of glutaminase and aspartate aminotransferase, enhances inflammatory factors and oxidative markers, and Inhibits oxidoreductase activity. 4-Hydroperoxy cyclophosphamide is used in the study of cancer and autoimmune diseases.
Targets(IC50)	Apoptosis, Reactive Oxygen Species, DNA Alkylator/Crosslinker, Drug Metabolite, ROS
In vitro	4-hydroperoxy cyclophosphamide mediates caspase-independent T cell apoptosis through oxidative stress-induced nuclear relocalization of mitochondrial apoptotic factors AIF and EndoG. [1] The combination of 1 µg/mL 4-hydroperoxy cyclophosphamide and methotrexate inhibited IL-6/sil-6r-induced RANKL expression in fibroblast-like synoviocytes through inhibition of JAK2/STAT3 and p38MAPK signaling pathways. [2]
In vivo	Intraperitoneal injection of 200 mg/kg 4-hydroperoxy cyclophosphamide resulted in caspase-independent T and B cell death in mice. [1]

## Solubility Information

Solubility	Dichloromethane: <1 mg/mL (insoluble or slightly soluble) DMSO: 30 mg/mL (102.36 mM), Sonication is recommended. Chloroform: <1 mg/mL (insoluble or slightly soluble) (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2 mg/mL (6.82 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	3.4119 mL	17.0596 mL	34.1192 mL
5 mM	0.6824 mL	3.4119 mL	6.8238 mL
10 mM	0.3412 mL	1.706 mL	3.4119 mL
50 mM	0.0682 mL	0.3412 mL	0.6824 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Strauss G, et al. 4-hydroperoxy-cyclophosphamide mediates caspase-independent T-cell apoptosis involving oxidative stress-induced nuclear relocation of mitochondrial apoptogenic factors AIF and EndoG. *Cell Death Differ.* 2008 Feb;15(2):332-43.

Niu HQ, et al. Combination of 4-hydroperoxy cyclophosphamide and methotrexate inhibits IL-6/SIL-6R-induced RANKL expression in fibroblast-like synoviocytes via suppression of the JAK2/STAT3 and p38MAPK signaling pathway. *Int Immunopharmacol.* 2018 Aug;61:45-53.

Appel, G.B. New and future therapies for lupus nephritis. *Cleve. Clin. J. Med.* 79(2), 134-140 (2012).

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