

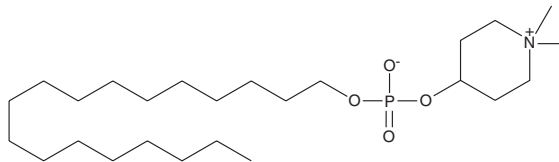
# PRODUCT INFORMATION



## Perifosine

Item No. 10008112

**CAS Registry No.:** 157716-52-4  
**Formal Name:** 4-[[hydroxy(octadecyloxy)-phosphinyl]oxy]-1,1-dimethyl-piperidinium, inner salt  
**MF:** C<sub>25</sub>H<sub>52</sub>NO<sub>4</sub>P  
**FW:** 461.7  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Perifosine is supplied as a crystalline solid. A stock solution may be made by dissolving the perifosine in the solvent of choice, which should be purged with an inert gas. Perifosine is soluble in organic solvents such as ethanol. The solubility of perifosine in ethanol is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of perifosine can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of perifosine in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Alkylphospholipids are a class of antineoplastic compounds that display potent antiproliferative activity in several *in vitro* and *in vivo* human tumor models. Perifosine is an alkylphospholipid that induces apoptotic cell death in a variety of tumor cell lines.<sup>1</sup> Apoptosis is induced in a time- and dose-dependent manner in U937 and Jurkat T human leukemia cell lines but not in normal vascular endothelial cells. Perifosine causes inhibition of PC-3 prostate carcinoma cell growth (growth inhibition (GI<sub>50</sub>) = 5μM at 24h) and is associated with rapidly decreased Akt activation.<sup>2</sup> In addition, perifosine induces p21<sup>WAF1</sup> expression in squamous carcinoma cells through a p53-independent pathway, leading to loss in cyclin-dependent kinase activity and cell cycle arrest.<sup>3</sup>

### References

1. Ruiters, G.A., Zerp, S.F., Bartelink, H., *et al.* Alkyl-lysophospholipids activate the SAPK/JNK pathway and enhance radiation-induced apoptosis. *Cancer Res.* **59(10)**, 2457-2463 (1999).
2. Kondapakka, S.B., Singh, S.S., Dasmahapatra, G.P., *et al.* Perifosine, a novel alkylphospholipid, inhibits protein kinase B activation. *Molecular Cancer Therapeutics* **2(11)**, 1093-1103 (2003).
3. Patel, V., Lahusen, T., Sy, T., *et al.* Perifosine, a novel alkylphospholipid, induces p21<sup>WAF1</sup> expression in squamous carcinoma cells through a p53-independent pathway, leading to loss in cyclin-dependent kinase activity and cell cycle arrest. *Cancer Res.* **62(5)**, 1401-1409 (2002).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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