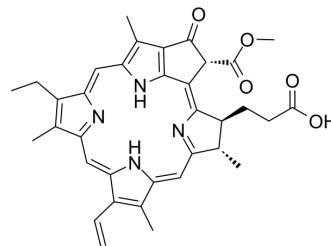


## Pheophorbide A

<b>Cat. No.:</b>	HY-125665		
<b>CAS No.:</b>	15664-29-6		
<b>Molecular Formula:</b>	C <sub>35</sub> H <sub>36</sub> N <sub>4</sub> O <sub>5</sub>		
<b>Molecular Weight:</b>	592.68		
<b>Target:</b>	Apoptosis		
<b>Pathway:</b>	Apoptosis		
<b>Storage:</b>	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 2 mg/mL (3.37 mM; ultrasonic and warming and heat to 60°C)  
 Methanol : < 1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

Solvent	Mass	Concentration		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.6873 mL	8.4363 mL	16.8725 mL
	5 mM	---	---	---
	10 mM	---	---	---

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

Pheophorbide A is an intermediate product in the chlorophyll degradation pathway. Pheophorbide A can be used as a photosensitizer. Pheophorbide A is a lymphatic vascular activator. Pheophorbide A has antitumor activity. Pheophorbide A can be used for human lymphatic vascular insufficiencies research<sup>[1][2][3]</sup>.

#### In Vitro

Pheophorbide A (10 μM) increases lymphatic endothelial cells (LECs) sprouting, proliferation and tube formation<sup>[1]</sup>. Pheophorbide A-mediated photodynamic therapy (Pa-PDT) inhibits cellular growth on Hep3B, in a dose-dependent manner with an IC<sub>50</sub> of 1.5 μM<sup>[2]</sup>. Pheophorbide A (2 μM, 24 h) induces apoptosis in Hep3B cells after photo-activation<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

Pheophorbide A-mediated photodynamic therapy (Pa-PDT) (10 mg/kg (i.v.) or 30 mg/kg (i.p.)) significantly inhibits tumor growth in C3H mouse model with subcutaneous injection of AT-84 cells<sup>[3]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male immunocompetent C3H mouse (six-week-old, inoculated subcutaneously with AT-84 cells) <sup>[3]</sup>
Dosage:	10 mg/kg intravenous (i.v.) or a 30 mg/kg intraperitoneal (i.p.) injection
Administration:	IV or IP; after 24 h, PDT was performed
Result:	Pa-PDT, especially i.v. Pa-PDT, significantly inhibited tumor growth up to 70%, while the i.p. Pa-PDT-induced inhibition was up to 43.4% relative to the control group at the end of period.

## REFERENCES

- [1]. Jihye Kim, et al. Pheophorbide a identified in an Eupatorium perfoliatum extract is a novel lymphatic vascular activator. *Biomed Pharmacother.* 2022 Mar;147:112664.
- [2]. Tang PM, et al. Pheophorbide a, an active compound isolated from *Scutellaria barbata*, possesses photodynamic activities by inducing apoptosis in human hepatocellular carcinoma. *Cancer Biol Ther.* 2006 Sep;5(9):1111-6.
- [3]. Ahn MY, et al. Pheophorbide a-mediated photodynamic therapy induces apoptotic cell death in murine oral squamous cell carcinoma in vitro and in vivo. *Oncol Rep.* 2012 Jun;27(6):1772-8.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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