

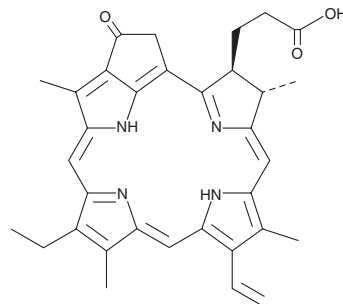
# PRODUCT INFORMATION



## Pyropheophorbide *a*

Item No. 21371

CAS Registry No.: 24533-72-0  
Formal Name: 9-ethenyl-14-ethyl-4S,8,13,18-tetramethyl-20-oxo-3S-phorbinepropanoic acid  
MF:  $C_{33}H_{34}N_4O_3$   
FW: 534.7  
Purity:  $\geq 95\%$   
UV/Vis.:  $\lambda_{max}$ : 209, 226, 273, 324, 409, 507, 539, 609, 666 nm  
Supplied as: A crystalline solid  
Storage:  $-20^\circ\text{C}$   
Stability:  $\geq 4$  years  
Item Origin: Natural/Source unknown



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

### Laboratory Procedures

Pyropheophorbide *a* is supplied as a crystalline solid. A stock solution may be made by dissolving the pyropheophorbide *a* in the solvent of choice, which should be purged with an inert gas. Pyropheophorbide *a* is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of pyropheophorbide *a* in these solvents is approximately 1 mg/ml.

Pyropheophorbide *a* is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pyropheophorbide *a* should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Pyropheophorbide *a* has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Pyropheophorbide *a* is a photosensitizer and degradant of chlorophyll *a* (Item No. 33399) that has been found in *O. ficus indica* and has anticancer and antiviral activities.<sup>1-3</sup> It induces cytotoxicity in SKOV3 ovarian cancer and KB papilloma cells when combined with photodynamic therapy (PDT;  $IC_{50}s = 14.5$  and  $1.2 \mu\text{M}$ , respectively).<sup>1</sup> Pyropheophorbide *a* also inhibits the replication of herpes simplex virus 2 (HSV-2) and influenza A virus in Vero and MDCK cells, respectively ( $IC_{50}s = 0.016$  and  $0.33 \mu\text{g/ml}$ , respectively).<sup>2</sup>

### Reference

1. Stamati, I., Kuimova, M.K., Lion, M., *et al.* Novel photosensitisers derived from pyropheophorbide-*a*: Uptake by cells and photodynamic efficiency *in vitro*. *Photochem. Photobiol. Sci.* **9**(7), 1033-1041 (2010).
2. Bouslama, L., Hayashi, K., Lee, J.-B., *et al.* Potent virucidal effect of pheophorbide *a* and pyropheophorbide *a* on enveloped viruses. *J. Nat. Med.* **65**(1), 229-233 (2011).
3. Doi, M., Inage, T., and Shioi, Y. Chlorophyll degradation in a *Chlamydomonas reinhardtii* mutant: An accumulation of pyropheophorbide *a* by anaerobiosis. *Plant Cell Physiol.* **42**(5), 469-474 (2001).

#### 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.

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