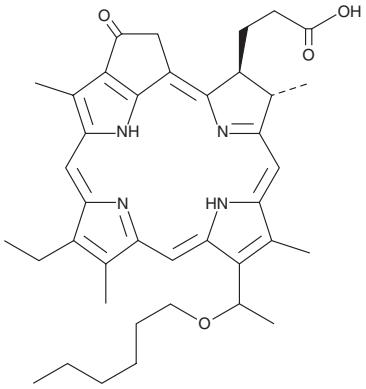
PRODUCT INFORMATION

HPPH

Item No. 20611



CAS Registry No.:	149402-51-7
Formal Name:	(3S,4S)-14-ethyl-9-[1-(hexyloxy)ethyl]-4,8,13,18-tetramethyl-20-oxo-3-phorbinepropanoic acid
Synonyms:	Photochlor, Pyropheophorbide-α-hexyl-ether, 2-[1-hexyloxyethyl]-2-devinyl Pyropheophorbide a
MF:	$C_{39}H_{48}N_4O_4$
FW:	636.8
Purity:	≥98% (mixture of epimers)
UV/Vis.:	λ_{max}: 229, 266, 318, 407, 660 nm
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

HPPH is supplied as a crystalline solid. A stock solution may be made by dissolving the HPPH in the solvent of choice, which should be purged with an inert gas. HPPH is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of HPPH in these solvents is approximately 0.33, 3, and 10 mg/ml, respectively.

HPPH is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, HPPH should first be dissolved in DMF and then diluted with the aqueous buffer of choice. HPPH has a solubility of approximately 0.12 mg/ml in a 1:7 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

HPPH is a chlorin that acts as a photosensitizer in photodynamic therapy (PDT) when stimulated with light at 655 nm.[1] When administered systemically, HPPH accumulates in tumor cells and, when stimulated with light in the presence of oxygen, reactive oxygen species (ROS) are generated, leading to necrosis within the tumor. HPPH, at a dose of 0.5 mg/kg, increases survival in a nude rat model of glioma.[2] It works synergistically with gemcitabine (Item No. 11690) in several pancreatic cancer cell lines to induce cell death.[3]

References

1. Dennis, E.J., Dolman, G.J., Fukumura, D., *et al.* Photodynamic therapy for cancer. *Nature* **3**, 1-8 (2003).
2. Lobel, J., MacDonald, I.J., Ciesielski, M.J., *et al.* 2-[1-hexyloxyethyl]-2-devinyl pyropheophorbide-a (HPPH) in a nude rat glioma model: Implications for photodynamic therapy. *Lasers Surg. Med.* **29(5)**, 397-405 (2001).
3. Sun, G., Anderson, M.A., Gorospe, E.C., *et al.* Synergistic effects of photodynamic therapy with HPPH and gemcitabine in pancreatic cancer cell lines. *Lasers Surg. Med.* **44(9)**, 755-761 (2012).

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