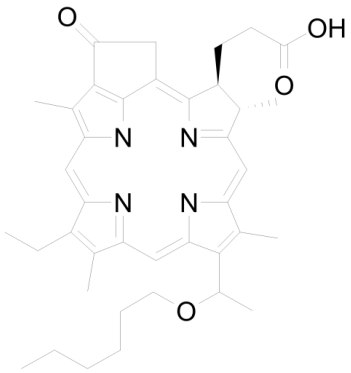
Data Sheet

Product Name:	HPPH
Cat. No.:	CS-0007752
CAS No.:	149402-51-7
Molecular Formula:	C39H48N4O4
Molecular Weight:	636.82
Target:	Others
Pathway:	Others
Solubility:	H2O : < 0.1 mg/mL (insoluble); DMSO : 50 mg/mL (78.52 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

HPPH (Photochlor) is a second generation photosensitizer, which acts as a photodynamic therapy (PDT) agent. **In Vitro:** Fluorescence image of 4T1 cells incubated with 0.49 μg/mL GO-PEG, 1 μM HPPH (free HPPH) or equivalent amount of GO-PEG-HPPH (1 μM HPPH and 0.49 μg/mL GO-PEG) after 24 h. The cellular uptake of GO-PEG-HPPH and HPPH is investigated with 4T1 murine mammary cancer cells. The cells are incubated with GO-PEG-HPPH and free HPPH at equivalent HPPH concentration (1 μM) for 24 h and then observed with a confocal microscope. Cells treated with GO-PEG-HHPH shows stronger fluorescence signal than those treated with free HPPH. In fact, the fluorescence of HPPH is rather weak[1]. **In Vivo:** Tumors are treated with an immune-enhancing PDT regimen followed by a tumor-controlling PDT regimen can leads to enhancement of anti-tumor immunity, while retaining effective control of primary tumor growth. To test this hypothesis, a combination treatment regimen is devised in which Colo26-HA tumor-bearing BALB/c mice are treated with a HPPH-PDT regimen known to lead to enhanced anti-tumor immunity (0.4 μmoles/kg HPPH followed 18 h later by illumination with 665 nm light for a total dose of 48 J/cm^2). Following illumination, mice are rested for 9 days; on the ninth day, mice are injected with HPPH. On day 10 following the first treatment, tumors are treated with a tumor control treatment regimen (illumination with 665 nm light for a total dose of 132 J/cm^2 given)[2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: [1]**4T1 cells** are cultured in 96-well cell culture plates at 1×10^4/well for 24 h and then treated with GO-PEG-HPPH, **HPPH**, or GO-PEG at a series of concentrations (**0.078125, 0.15625, 0.3125, 0.625, 1.25, 2.5, 5, 10, and 20 μM**). Then, 20 μL of MTT solution (5.0 mg/mL) is added to each well. After the 4 h incubation with the MTT, the media are removed and 100 μL of DMSO is added to solubilize the formazan crystals. The cell toxicity efficacy is measured with a microplate reader at an absorbance of 570 nm[1].

Animal Administration: [2]Mice[2]

Tumor-bearing mice are injected in the **tail vein with 0.4 μmol/kg HPPH** or 5 mg/kg Porfimer sodium (PII), followed 18-24 h later by illumination to a total light dose of 48 J/cm^2 or 132 J/cm^2 delivered at a light dose-rate of 14 mW/cm^2. Control mice are treated with photosensitizer or light alone. Mice receiving a combination PDT regimen are treated initially with 0.4 μmol/kg HPPH or 5 mg/kg PII followed 18-24 h later by light dose of 48 J/cm^2 given at 14 mW/cm^2; 9 days later, mice are again injected with photosensitizer and tumors are illuminated with light at a dose of 132 J/cm^2 given at 14 mW/cm^2[2].

References:

[1]. Rong P, et al. Photosensitizer loaded nano-graphene for multimodality imaging guided tumor photodynamic therapy. Theranostics. 2014 Jan 15;4(3):229-39.

[2]. Shams M, et al. Development of photodynamic therapy regimens that control primary tumor growth and inhibit secondary disease. Cancer Immunol Immunother. 2015 Mar;64(3):287-97.

CAIndexNames:

3-Phorbinepropanoic acid, 14-ethyl-9-[1-(hexyloxy)ethyl]-4,8,13,18-tetramethyl-20-oxo-, (3S,4S)-

SMILES:

OC(CC[C@@H]([C@@H]1C)/C2=C(C3)/C4=C(C(C)=C(/C=C5C(CC)=C(C)C(/C=C6N/C(C(C)=C\6C(C)OCCCCCC)=C\C1=N2)=N/5)N4)C3=O)=O

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA