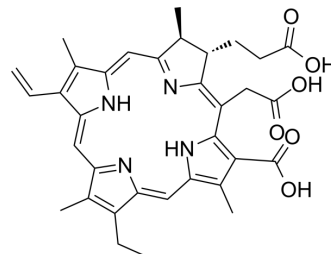


Chlorin e6

Cat. No.:	HY-13594
CAS No.:	19660-77-6
Molecular Formula:	C ₃₄ H ₃₆ N ₄ O ₆
Molecular Weight:	596.67
Target:	Bcl-2 Family; Caspase; PARP; Apoptosis; Fluorescent Dye
Pathway:	Apoptosis; Cell Cycle/DNA Damage; Epigenetics; Others
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 20.83 mg/mL (34.91 mM); Need ultrasonic					
	Preparing Stock Solutions	Solvent Concentration	Mass			
			1 mg	5 mg	10 mg	
			1 mM	1.6760 mL	8.3798 mL	16.7597 mL
			5 mM	0.3352 mL	1.6760 mL	3.3519 mL
10 mM	0.1676 mL	0.8380 mL	1.6760 mL			
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.08 mg/mL (3.49 mM); Suspended solution; Need ultrasonic					

BIOLOGICAL ACTIVITY

Description	Chlorin e6 is a photosensitizer and has strong absorption peaks at wavelength of 402 and 662 nm, as well as exhibiting intense fluorescence at 668 nm. Chlorin e6 has antimicrobial efficacy and anticancer activity. Chlorin e6 induces cell apoptosis via caspase-3 activation and can be used for the research of cancer ^{[1][2][3]} .			
IC ₅₀ & Target	Leishmania	Bax	Bcl-2	Caspase 3
	PARP-1			
In Vitro	Chlorin e6 (100 µg/mL, 24 h) with laser light (635 nm) exhibits no toxicity viability in HT-29 cells ^[2] . Chlorin e6 (5-10 µM, 3 h) with near-infrared laser light (660 nm) induces pancreatic cancer cell apoptosis via caspase-3 activation, resulting in tumor growth suppression in AsPC-1 and MIA PaCa-2 cells ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. Western Blot Analysis ^[3]			

Cell Line:	AsPC-1 and MIA PaCa-2 Cells
Concentration:	5 μ M, 10 μ M
Incubation Time:	3 h
Result:	Significantly reduced Bcl-2 protein expression while increasing apoptotic molecule expression of Bax. Activated caspase-3 through its cleavage and upregulated the expression of cleaved PARP-1 in a dose-dependent manner.

In Vivo

Chlorin e6 (2.5 mg/kg, Intravenous injection, single dose) with a red light at a rate of 100 J/cm² for 8 min 20 s has anti-tumor activity in B16F10 melanoma cells and PANC02 Pancreatic Cells xenograft mouse model^[3].
Chlorin e6 (2.5 mg/kg, Intravenous injection, single dose) with near-infrared laser light (660 nm) suppresses the tumor growth in canine tumors^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	B16F10 melanoma cells xenograft mouse, PANC02 pancreatic cells xenograft mouse ^[3]
Dosage:	2.5 mg/kg
Administration:	Intravenous injection (i.v.)
Result:	Significantly reduced tumor volume.

CUSTOMER VALIDATION

- J Control Release. 2023 Apr 19;357:460-471.
- Acta Biomater. 2023 Apr 21;S1742-7061(23)00220-9.
- Eur J Med Chem. 2023 Nov 24, 115975.
- ACS Appl Bio Mater. 2023 Jun 16.

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REFERENCES

- [1]. Nie M, et al. Photodynamic inactivation mediated by methylene blue or chlorin e6 against Streptococcus mutans biofilm [J]. Photodiagnosis and photodynamic therapy, 2020, 31: 101817.
- [2]. Karuppusamy S, et al. Nanoengineered chlorin e6 conjugated with hydrogel for photodynamic therapy on cancer [J]. Colloids and Surfaces B: Biointerfaces, 2019, 181: 778-788.
- [3]. Shrestha R, et al. Effect of Photodynamic Therapy with Chlorin e6 on Canine Tumors [J]. Life, 2022, 12(12): 2102.

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

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