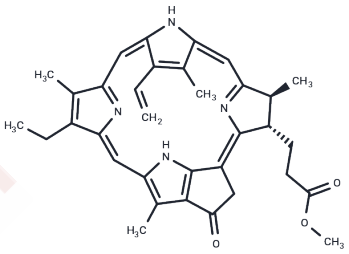
Data Sheet (Cat.No.T33492)

TargetMol

Methyl pyropheophorbide-a

Chemical Properties



CAS No. : 6453-67-4

Formula: C34H36N4O3

Molecular Weight: 548.67

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Methyl pyropheophorbide-a (MPPa) is a chlorine photosensitizer and a derivative of chlorophyll a. It is photodynamically active, induces apoptosis and inhibits tumor growth, and can be used in photodynamic therapy (PDT) of cancer.
Targets(IC50)	Apoptosis,Photosensitizer
In vitro	In PC-3M cells, after treatment with Methyl pyropheophorbide-a (2 μM; 12 h) under LC75 conditions (2 μM + 55.6 kJ/m^2), the apoptosis rates were approximately 0.27%, 6.15%, 20.49%, 50.76%, 65.39%, 64.92%, and 64.37% at 1, 3, 6, 12, 18, and 24 hours post-treatment, respectively[1].
In vivo	In male BALB/c nude mice (6-8 weeks old, 16-20 g) bearing PC-3M tumors, Methyl pyropheophorbide-a (15 mg/kg; tail vein injection and topical injection) resulted in tumor volume and weight inhibition rates of 46.78% and 41.84% in the tail vein injection group, respectively, and 78.66% and 72.07% in the topical injection group, respectively [2].

Solubility Information

Solubility	DMSO: 1 mg/mL (1.82 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8226 mL	9.1129 mL	18.2259 mL
5 mM	0.3645 mL	1.8226 mL	3.6452 mL
10 mM	0.1823 mL	0.9113 mL	1.8226 mL
50 mM	0.0365 mL	0.1823 mL	0.3645 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Sun X, et al. Photodynamic therapy with pyropheophorbide-a methyl ester in human lung carcinoma cancer cell: efficacy, localization and apoptosis. Photochem Photobiol. 2002 Jun;75(6):644-51.
Wang X, Hu W, Qu L, et al.Tricin promoted ATG-7 dependent autophagic degradation of α-synuclein and dopamine release for improving cognitive and motor deficits in Parkinson's disease.Pharmacological Research. 2023: 106874.
Tian Y, et al. Cell death induced by MPPa-PDT in prostate carcinoma in vitro and in vivo. Biochem Biophys Res Commun. 2006 Sep 22;348(2):413-20.
Yeo, S., et al. Improved anticancer efficacy of methyl pyropheophorbide-a–incorporated solid lipid nanoparticles in photodynamic therapy. Sci Rep 13, 7391 (2023).
Ying Zhang,et al.Photodynamic antitumor activity of tetrahydroxyl-methyl pyropheophorbide-a with improved water-solubility and depth of treatment.Process Biochemistry,Volume 122, Part 1,2022,Pages 363-373,ISSN 1359-5113.