Data Sheet (Cat.No.T64957)

TargetMol

ABMDMA

Chemical Properties

CAS No. :	307554-62-7
Formula:	C22H18O8
Molecular Weight:	410.373
Storage:	Keep away from direct sunlight 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	ABMDMA (9,10-Anthracenediyl-bis(methylene)dimalonic acid) is a chemical probe and indicator with photobleaching properties that can be photobleached by mono-linear oxygen to the corresponding peroxylactone, and can be used to determine photo-induced mono-linear oxygen generation (SOG).
Targets(IC50)	Others
In vitro	I. Singlet oxygen generation (SOG) measurement 1. Solution preparation: Dissolve ABMDMA in a suitable solvent (such as DMSO or aqueous buffer) at a working concentration of 1-10uM. Make sure the concentration of the probe is suitable for the specific experimental needs. 2. Singlet oxygen generation: Expose the sample to light (usually UV or visible light) to induce the generation of singlet oxygen. 3. Monitoring: After irradiation, measure the fluorescence or absorbance changes of ABMDMA to monitor singlet oxygen generation. The photobleaching changes of ABMDMA due to the reaction with singlet oxygen can directly reflect the generation of singlet oxygen. II. Photochemical and photophysical studies 1. Excitation: Excite ABMDMA in the sample with an appropriate light source to excite the anthracene group. 2. Detection of photobleaching: Monitor the fluorescence quenching or absorbance changes caused by the reaction of singlet oxygen with ABMDMA. 3. Analysis: Calculate the photobleaching rate and the extent of singlet oxygen generation from the data. III. Photosensitizer study 1. Introduce ABMDMA into the photosensitizer system and illuminate the system. 2. Measure the photobleaching rate of ABMDMA to quantitatively evaluate the generation of singlet oxygen. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 83.33 mg/mL (203.06 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 8.33 mg/mL (20.30 mM),Solution. 10% DMSO+90% Saline: < 8.33 mg/mL (20.3 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4368 mL	12.1841 mL	24.3683 mL
5 mM	0.4874 mL	2.4368 mL	4.8737 mL
10 mM	0.2437 mL	1.2184 mL	2.4368 mL
50 mM	0.0487 mL	0.2437 mL	0.4874 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

Kulbacka J,et al. Investigating the photodynamic efficacy of chlorin e6 by millisecond pulses in metastatic melanoma cells. Bioelectrochemistry. 2021 Apr;138:107728.
Mir IA, et al. Bandgap Tunable AgInS based Quantum Dots for High Contrast Cell Imaging with Enhanced Photodynamic and Antifungal Applications. Sci Rep. 2018 Jun 19;8(1):9322.
Bazylińska U,et al. The effect of anionic dicephalic surfactants on fabrication of varied-core nanocarriers for sustained release of porphyrin photosensitizers. J Photochem Photobiol B. 2017 Jan;166:169-179.