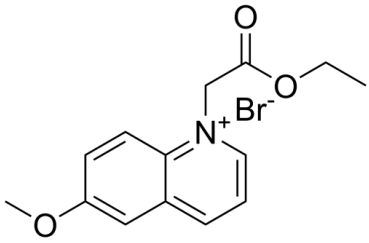
Data Sheet

Product Name:	MQAE
Cat. No.:	CS-6018
CAS No.:	162558-52-3
Molecular Formula:	$C_{14}H_{16}BrNO_3$
Molecular Weight:	326.19
Target:	Fluorescent Dye
Pathway:	Others
Solubility:	DMSO : ≥ 35 mg/mL;H_2O : 100 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

MQAE is a fluorescently-labeled deoxyglucose analog that is used primarily to directly monitor glucose uptake by living cells and tissues. It is also used as a topical contrast reagent for the detection of neoplasia. MQAE can be used in real-time confocal, high-resolution, or wide-field fluorescence microscopy as well as in flow cytometry. The probe can be excited by the Argon laser at 488 nm to give the environment-sensitive fluorescence. It has lower photostability than the rhodamine-based fluorescent probes. ***In Vitro:*** General Protocol

1 Preparation of MQAE working solution
1.1 Preparation of the stock solution
Dissolve 1 mg MQAE in 0.3066 mL DMSO to obtain 10 mM of MQAE.
Note: It is recommended to store the stock solution at -20°C -80°C away from light and avoid repetitive freeze-thaw cycles.
1.2 Preparation of MQAE working solution
Dilute the stock solution in Krebs-hepes buffer (20 mM HEPES, 128 mM NaCl, 2.5 mM KCl, 2.7 mM $CaCl_2$, 1 mM $MgCl_2$, 16 mM glucose, pH 7.4) to obtain 5-10 mM of MQAE working solution.
Note: Please adjust the concentration of MQAE working solution according to the actual situation.

2 Cell staining
2.1 For suspension cells: Centrifuge at 1000 g at 4°C for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time.
For adherent cells: Discard the cell culture medium, and add trypsin to dissociate cells to make a single-cell suspension. Centrifuge at 1000 g at 4°C for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time.
2.2 Add 1 mL of MQAE working solution, and then incubate at room temperature for 30 minutes.
2.3 Centrifuge at 400 g at 4°C for 3-4 minutes and then discard the supernatant.
2.4 Wash twice with PBS, 5 minutes each time.
2.5 Resuspend cells with serum-free cell culture medium or PBS.

3 Storage
-20°C, 1 year. Protect from light.
4 Precautions
4.1 It is recommended to store the stock solution at -20°C or -80°Caway from light and avoid repetitive freeze-thaw cycles.
4.2 Please adjust the concentration of MQAE working solution according to the actual situation.

4.3 This product is for R&D use only, not for drug, household, or other uses.

4.4 For your safety and health, please wear a lab coat and disposable gloves to operate.

References:

[1]. Andersson C, et al. Determination of chloride efflux by X-ray microanalysis versus MQAE-fluorescence. Microsc Res Tech. 2

[2]. Koncz C, et al. Use of MQAE for measurement of intracellular [Cl-] in cultured aortic smooth muscle cells. Am J Physiol. 1994 Dec;267(6 Pt 2):H2114-23.

[3]. Kovalchuk Y, et al. Two-photon chloride imaging using MQAE in vitro and in vivo. Cold Spring Harb Protoc. 2012 Jul 1;2012(7):778-85.

CAIndexNames:

Quinolinium, 1-(2-ethoxy-2-oxoethyl)-6-methoxy-, bromide (1:1)

SMILES:

COC1=CC2=CC=C[N+](CC(OCC)=O)=C2C=C1.[Br-]

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