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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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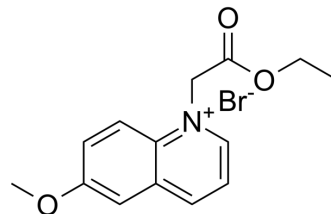
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MQAE

Cat. No.:	HY-D0090
CAS No.:	162558-52-3
Molecular Formula:	C ₁₄ H ₁₆ BrNO ₃
Molecular Weight:	326.19
Target:	Fluorescent Dye
Pathway:	Others
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 2 years; -20°C, 1 year (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H₂O : 100 mg/mL (306.57 mM; Need ultrasonic)
 DMSO : ≥ 35 mg/mL (107.30 mM)
 * "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.0657 mL	15.3285 mL	30.6570 mL
	5 mM	0.6131 mL	3.0657 mL	6.1314 mL
	10 mM	0.3066 mL	1.5328 mL	3.0657 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: PBS
Solubility: 100 mg/mL (306.57 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: 2.08 mg/mL (6.38 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (6.38 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

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 CaCl₂, 1 mM MgCl₂, 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°C away 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.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Neurosci. 2023 Mar 27.
- Cells. 2020 Apr 22;9(4):1045.
- Biochem Pharmacol. 2022 Oct 29;206:115326.
- Diabetes Res Clin Pract. 2 July 2022, 109970.
- Front Nutr. 2021 Mar 29;8:638390.

See more customer validations on www.MedChemExpress.com

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.

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

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