Mag-Fluo-4 AM

Cat. No.: M648123 | Pack size: 50 µg | Storage: Protected from light; -20°C

Overview

Mag-Fluo-4 AM is a fluorescent Ca^{2+} chelator, with high affinity for calcium. Mag-Fluo-4 AM can specifically identify intracellular calcium ions, with high sensitivity and low cytotoxicity; the AM acetylmethyl ester can enter the cell well, after being sheared by the intracellular esterase stay in the cell to bind to calcium ions and produce strong fluorescence.

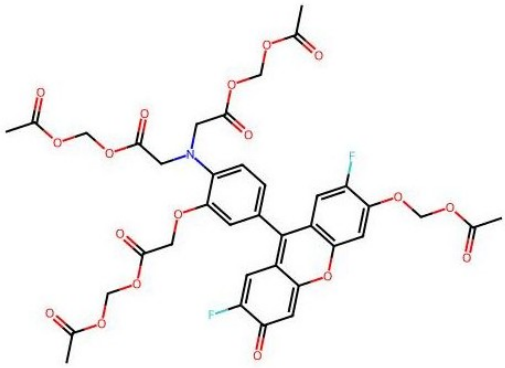

Figure 1. Chemical structure of Mag-Fluo-4 AM.

Specifications

Attribute	Value
Specifications & Purity	≥96%
CAS Number	1097709-31-3
Biochemical and Physiological Mechanisms	Mag-Fluo-4 AM is a fluorescent Ca^{2+} chelator, with high affinity for calcium. Mag-Fluo-4 AM can specifically identify intracellular calcium ions, with high sensitivity and low cytotoxicity; the AM acetylmethyl ester can enter cells well.
Form	Oil
Purity	≥96%

In Vitro Procedure

1. Preparation of Mag-Fluo-4 AM working solution

1.1 Preparation of the stock solution: Dissolve 1 mg Mag-Fluo-4 AM in 135 µL DMSO to obtain 10 mM of stock solution.

Note: *It is recommended to store the stock solution at -20°C or -80°C away from light and avoid repetitive freeze-thaw cycles.*

1.2 Preparation of Mag-Fluo-4 AM working solution: Dilute the stock solution in HBSS to obtain 1-10 µM of working solution.

Note: *Please adjust the concentration of Mag-Fluo-4 AM working solution according to the actual situation.*

2. Cell staining

2.1 Suspension cells (6-well plate)

a. Centrifuge at 1000 g at 4°C for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time. The cell density is 1×10^6/mL.
b. Add 1 mL of working solution, and then incubate at room temperature for 5-30 minutes.
c. Centrifuge at 400 g at 4°C for 3-4 minutes and then discard the supernatant.
d. Wash twice with PBS, 5 minutes each time.
e. Resuspend cells with serum-free cell culture medium or PBS. Observe by fluorescence microscopy or flow cytometry.

2.2 Adherent cells

a. Culture adherent cells on sterile coverslips.
b. Remove the coverslip from the medium and aspirate excess medium.
c. Add 100 µL of working solution, gently shake it to completely cover the cells, and then incubate at room temperature for 5-30 minutes.
d. Wash twice with medium, 5 minutes each time. Observe by fluorescence microscopy.

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

Handling Notes

1. Store at -20°C and protect from light.
2. Avoid repetitive freeze-thaw cycles for the stock solution.

3. Adjust the concentration of Mag-Fluo-4 AM working solution according to the actual experimental situation.

Storage and Shipping

Item	Description
Storage Conditions	Protected from light; store at -20°C
Shipped In	Ice chest + ice pads
Cold-chain note	This product requires cold chain shipping. Ground and other economy services are not available.

Recommended Applications

Fluorescent dye/probe applications for intracellular calcium ion identification; observation by fluorescence microscopy or flow cytometry.

Contact / Global Offices

For ordering, technical support, certificates, SDS, and documentation requests, please contact the appropriate Aladdin office below.

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- For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, or household use.

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- Where any kit component is classified as hazardous under CLP (EC) 1272/2008 or OSHA HCS (29 CFR 1910.1200), the product Safety Data Sheet (SDS) takes precedence over this document for handling, storage, and disposal information.
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