

Mag-Fura-2 AM

Cat: IM5090

Storage: Powder: -20°C, 2 years; Insolvent (mother liquid): -20°C, 6 months; -80°C, 1 year (protect from light)

Introduction

Mag-Fura-2 AM is an intracellular magnesium ion indicator that can also be used to detect calcium ion concentrations and is a UV-excited ratiometric probe. Similar to Fura-2, the excitation wavelength of Mag-Fura-2 undergoes a blue migration from 369 nm to 330 nm. Mag-Fura-2 AM is cell membrane permeable and can be loaded into cells by simple incubation.

Parameter

Ex = 334-360 nm

Em = 510 nm

CAS No: 130100-20-8

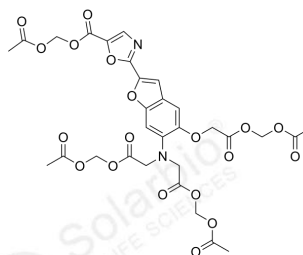
Molecular Formula: C₃₀H₃₀N₂O₁₉

Molecular Weight: 722.56

Purity: ≥95%

Appearance: Solid

Solubility: Soluble in DMSO



Protocols (only for reference)

Instrument Parameter

Fluorescence microscopy

Ex: Fura 2 filter set

Em: Fura 2 filter set

Recommended hole plate: black transparent bottom plate

Fluorescent Enzyme Labeler

Ex: 340,380 nm

Em: 510 nm

Cutoff: 475 nm

Recommended hole plate: black transparent bottom plate

Reading Mode: Bottom Reading Mode / Separable Liquid Handling

Preparation of storage solution

Prepare a 2-5 mM stock solution in DMSO. For example, 50 µg of Mag-Fura-2 AM powder was dissolved in 13.84 µL DMSO to obtain 5 mM Mag-Fura-2 AM stock solution.

Note:

- Unused storage solution is recommended to be stored in portions at -20°C to avoid repeated freezing and thawing.
- Moisture-absorbing DMSO has a significant effect on the solubility of the product, use freshly opened DMSO.

Preparation of working fluid

Dilute the reservoir solution with a suitable buffer (e.g., serum-free medium or PBS, etc.) to make a 2-20 µM Mag-Fura-2 AM working solution.

Note:

- a. For most cell lines, a final concentration of 4-5 μM Mag-Fura-2 AM is recommended. final concentration of the working solution is recommended to be optimized for different cell lines and experimental systems.
- b. When found to be more difficult to dissolve it can be appropriately sonicated to promote dissolution. Pluronic F-127, a non-ionic detergent, is used to improve the solubility of Mag-Fura-2 AM, and an appropriate amount of Pluronic F-127 can be added to promote dissolution.
- c. Adjust the concentration of the working fluid according to the actual situation and use immediately after dissolution

Loading to living cells

1. Culture the cells overnight.
2. The next day, add Mag-Fura-2 AM Working Solution to the well plate.
3. Note: Fresh HHBS buffer may be used in place of medium prior to staining to exclude serum interference.
4. Incubate the dye-added well plates in a cell culture incubator at 37°C for 30 to 60 min.
5. Note: Incubating the dye for more than 1 h can increase the signal intensity in some cell lines.
6. Wash cells with HHBS or buffer of your choice to remove excess probe.
7. Assay on the machine.

Note

1. All fluorescent dyes have quenching problems, please try to avoid light to slow down the fluorescence quenching.
2. For your safety and health, please wear lab coat and disposable gloves.
3. This product is for scientific research use only. Do not use in medicine, clinical diagnosis or treatment, food and cosmetics. Please do not store in ordinary residential areas.

Relevant Products*IB6510 BTC AM**IQ0200 Quin-2 AM**II2360 Indo-1 AM**IE3370 EGTA AM**IR1880 Rhod-2 AM**ICA10130 Coelenterazine F**ICA10140 Coelenterazine H**ICA10150 Coelenterazine hcp**IF2790 Fluo-5N AM**IF2800 Fura Red AM**IF2810 Fura-FF**IF2820 Fura-FF pentapotassium salt*