Rhod-2 AM

Cat. IR1880

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

Introduction

Rhod-2 AM, an acetyl methyl ester derivative of Rhod-2, is a highly permeable Ca^{2+} fluorescence probe with high affinity to visible excitation wavelengths and can be used for calcium flux determination. Easily enters cells with a simple culture. Once inside the cell, it is sheared by its lactase enzyme to produce non-membrane permeable Rhod-2, which remains inside the cell.

Product Parameter

Ex/Em: 549/578 nm

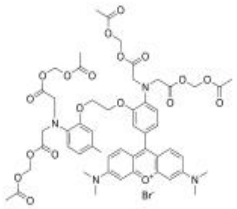
CAS No: 145037-81-6

Molecular Formula: $C_{52}H_{59}BrN_4O_{19}$

Molecular Weight: 1123.94

Appearance: Solid

Solubility: Soluble in DMSO



Instrument Parameter

Fluorescence microscope

Ex: TRITC Filter Sets

Em: TRITC Filter Sets

Recommended hole plate: black transparent bottom plate

Fluorescence Enzyme Labeler

Ex: 540 nm

Em: 590 nm

Cutoff: 570 nm

Recommended plate: black transparent bottom plate

Reading Mode: Bottom reading mode/dispensable for liquid handling

Protocols (*only for reference*)

Preparation of storage solution

Prepare a 2-5 mM stock solution in DMSO. For example, 1 mg of Rhod-2 AM powder was dissolved in 0.1779 mL of DMSO to obtain 5 mM of Rhod-2 AM stock solution.

Note:

a. Unused storage solution is recommended to be stored in portions at -20℃ to avoid repeated freezing and thawing.

b. Moisture-absorbing DMSO has a significant effect on the solubility of the product, please use freshly opened DMSO.

Preparation of working fluid

Dilute the reservoir solution with a suitable buffer (e.g. Hanks and Hepes buffer, etc.) to formulate a 1-20 μM Rhod-2 AM working fluid.

Note:

a. For most cell lines, we recommend a final concentration of 4-5 μM for the calcium indicator. final concentration of the working solution is recommended to be optimized for different cell lines and experimental systems.

b. If it is found to be difficult to dissolve, you can sonicate it to promote dissolution, or add appropriate amount of Pluronic F-127 solution (the final concentration is recommended to be around 0.02%-0.04%), but it is not recommended to store Rhod-2 AM solution in Pluronic F127 for a long period of time.

c. Please adjust the concentration of the working solution according to the actual situation, and use immediately after dissolution.

Rhod-2 AM loaded cells

1) Incubate cells with Rhod-2 AM Working Solution for 20min to 1h at 37°C.
   Note: Incubating the dye for more than 1h can increase signal intensity in some cell lines.
2) Wash cells 1-2 times with buffer to remove excess probe.
3) Perform the experiment at the desired Ex / Em wavelength.

Note

1. Fluorescent dyes are subject to quenching, so please take care to avoid light as much as possible to slow down fluorescence quenching.
2. The exact concentration of indicator required for cell loading must be determined empirically. To avoid any artifacts caused by overloading and potential dye toxicity, it is recommended that a small probe concentration that produces sufficient signal intensity be used.
3. If your cells contain organic anion transporter proteins, you can add 1-2.5 mM probenecid or 0.1-0.25 mM sulfinpyrazone to the cell culture medium to minimize leakage of deesterification indicators.
4. For your safety and health, please wear lab coat and disposable gloves.
5. 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.

Related Products

IQ0200 Quin-2 AM
IF1500 Fluo-4AM
IF1510 Fura-2 AM