

PRODUCT INFORMATION



ICR-1 AM

Item No. 34985

Synonyms: ION Calcium Red-1, ION Calcium Red-1 Acetoxymethyl ester

Purity: ≥90%

UV/Vis.: λ_{max} : 254 nm

Ex./Em. Max: 580/660 nm

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

Special Conditions: Protect from light and moisture

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

ICR-1 AM is a cell-permeable fluorescent calcium indicator that can be used to label cells and tissue in single- or double-labeling protocols. It binds to calcium ($K_d = 480$ nM) and does not accumulate in the mitochondria. It displays excitation/emission maxima of 580/660 nm, respectively. ICR-1 is also available in a cell-impermeable form (Item No. 34986).

Assay Protocol

NOTE: Allow all reagents to warm to room temperature before proceeding

1. Add 10 ml of assay buffer to a 15 or 50 ml conical tube.

NOTE 1: HEPES-buffered Hank's balanced salt solution (HBSS), pH 7.2-7.4, is recommended, although other buffers can be used.

2. Add 100 μ l of a 100X Pluronic™ F-127 solution (1-50% w/v) to the conical tube*. Pluronic™ F-127 is a biocompatible surfactant used to ensure equitable dye distribution and cellular loading.
 - a. Optional: add 100 μ l of 2 mM probenecid stock solution to the conical tube. Probenecid (Item No. 14981) is an anion transport inhibitor used to improve intracellular dye retention. Use of probenecid is recommended, but not required, for all cell types and dyes.

**Final working concentration of Pluronic™ F-127 should be between 0.01 and 0.5% w/v. User should optimize the concentration of Pluronic™ F-127 to suit experimental requirements.*

NOTE 2: Probenecid is an inhibitor or agonist of multiple ion channels and may have undesirable cellular effects that could affect dye performance.

3. Vortex conical tube briefly to mix.
4. Dissolve ICR-1 in 25 μ l of DMSO and vortex dye tube briefly to mix.
5. Centrifuge dye tube briefly to collect all contents at the tube bottom.
6. Add entire contents of dye tube to the conical tube containing the assay buffer solution to make the dye loading solution.
7. Vortex conical tube briefly to mix.

NOTE 3: The dye loading solution should be used within two hours for best results.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM

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8. Remove cell culture medium and add dye loading solution. Recommended volumes are:
 - a. 35 mm dish or 6-well plate: 1.5 ml/dish or well
 - b. 96-well plate: 100 μ l/well
 - c. 384-well plate: 20 μ l/well

NOTE 4: To prevent cell detachment or if using suspension cells, the dye loading solution can be added directly to the media-containing wells. User must double the component concentrations to achieve the same final concentration of all reagents.

9. Incubate cells with the dye loading solution at 37°C for 60-120 minutes.
10. Read fluorescence using a plate reader at excitation and emission wavelengths of 580 and 660 nm, respectively.

Or

Image using a fluorescence microscope with filters for Texas Red™.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
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PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM