

Email: support@lifesct.com  
Tel: 240-715-2985 Fax: 240-252-7376  
14323 Woodcrest Dr., Rockville, MD 20853

## Introduction

Rhod-2, AM is a long wavelength cell-permeant  $\text{Ca}^{2+}$  indicator. It can be loaded into cells via incubation and used for quantifying intracellular  $\text{Ca}^{2+}$  concentration.

## Package Information

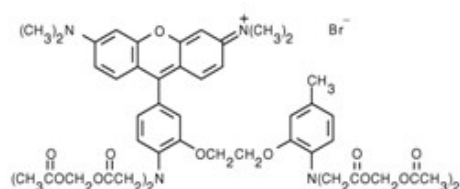
Components	C0083
Rhod-2, AM	1 mg

## Storage

Store at  $-20^{\circ}\text{C}$  and protect from light.

## Specifications

Ex/Em	550/578 nm
Detection Method	Fluorescent
Molecular Formula	$\text{C}_{52}\text{H}_{59}\text{BrN}_4\text{O}_{19}$
Molecular Weight	1123.96
CAS Number	129787-64-0
Shipping Condition	Room Temperature



## Protocol

### Cell Loading Guideline

**Note:** The following protocol is provided as an introductory guide only. The detailed procedures can be found from literatures.

1. Prepare a Rhod-2 AM stock solution in anhydrous DMSO at 1-5 mM.
2. Dilute an aliquot of Rhod-2 AM stock solution (1-5 mM) to a final concentration of 1-5  $\mu\text{M}$  in the buffered physiological medium of choice. Addition of the non-ionic detergent Pluronic R F-127 can assist in dispersion of the nonpolar Rhod-2 AM ester in aqueous media. This can be conveniently accomplished by mixing the aliquot of Rhod-2 AM ester stock solution in DMSO with an equal volume of 20% (w/v) Pluronic in DMSO before dilution into the loading medium, making the final Pluronic concentration about 0.02%.

## Rhod-2, AM

Cat. #: C0083 Size: 1 mg

The organic anion-transport inhibitors probenecid (1-2.5 mM) may be added to the cell medium to reduce leakage of the de-esterified indicator.

4. Cells are normally incubated with the Rhod-2 AM ester for 15–60 minutes at  $20\text{--}37^{\circ}\text{C}$ . Exact loading concentration, time, and temperature will need to be determined empirically; in general it is desirable to use the minimum dye concentration required to yield fluorescence signals with adequate signal to noise. Subcellular compartmentalization, an inherent problem with the AM ester loading technique, is usually lessened by lowering the incubation temperature.

5. Before fluorescence measurements are commenced, cells should be washed in indicator-free medium (containing an anion transport inhibitor, if applicable) to remove any dye that is nonspecifically associated with the cell surface, and then incubated for a further 30 minutes to allow complete de-esterification of intracellular Rhod-2 AM ester.

### High-Throughput Screening

Intracellular  $\text{Ca}^{2+}$  measurements in 96-well and 384-well microplates are an essential tool for highthroughput pharmacological screening. Cell samples in microplate wells are loaded with the AM ester form of the indicator using protocol basically similar to those described in Cell Loading Guideline.

## References

1. Methods Cell Biol 40, 155 (1994);
2. Cell Biology: A Laboratory Handbook, 2nd Edition, J.E. Celis, Ed., Volume 3, pp 363–374, Academic Press (1998);