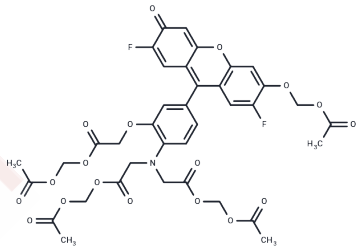
Data Sheet (Cat.No.T86849)

TargetMol

Mag-Fluo-4 AM

Chemical Properties



CAS No. : 1097709-31-3

Formula: C37H33F2NO18

Molecular Weight: 817.65

Storage: Keep away from direct sunlight
Store at -20°C
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Mag-Fluo-4 AM is a Mg 2+ (magnesium ion) dye and a low-affinity Ca 2+ (calcium ion) dye and fluorescent indicator with Kd of 4.7 mM and 22 μM, respectively, that localizes Ca 2+ in the lumen of endoplasmic reticulum-like tubules in many cell types, and is commonly used in live cell assays.
Targets(IC50)	Others
In vitro	1. Solution Preparation: Stock Solution: Prepare a 2 to 5 mM Mag-Fluo-4 AM stock solution in high-quality anhydrous DMSO. Working Solution: On the day of the experiment, dissolve Mag-Fluo-4 AM in DMSO, or thaw the stock solution to room temperature, and then prepare a 2 to 20 μM working solution of Mag-Fluo-4 AM in the chosen buffer (e.g., Hanks or Hepes buffer) with 0.04% Pluronic (8F-127). For most cell lines, the recommended final concentration of Mag-Fluo-4 AM is 4 to 5 μM. 2. Cell Preparation: Cultivate cells overnight in growth medium. 3. Dye Loading: The next day, add 1X Mag-Fluo-4 AM working solution to the cell culture plate. If the compound may interfere with serum, replace the growth medium with fresh HHBS buffer prior to dye loading. 4. Incubation: Incubate the dye-loaded culture plates in a 37°C cell culture incubator for 30 to 60 minutes. 5. Removal of Excess Probe: Replace the dye working solution with HHBS or the chosen buffer (optionally including an anion transporter inhibitor such as 1 mM probenecid) to remove excess probe. 6. Stimulation and Fluorescence Measurement**: Add stimuli as needed and measure fluorescence using a fluorescence microscope equipped with a FITC filter set or a fluorescence plate reader with a programmable liquid handling system, at Ex/Em = 490/525 nm with a 515 nm cutoff. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.223 mL	6.1151 mL	12.2302 mL
5 mM	0.2446 mL	1.223 mL	2.446 mL
10 mM	0.1223 mL	0.6115 mL	1.223 mL
50 mM	0.0245 mL	0.1223 mL	0.2446 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Rossi AM, Taylor CW. Reliable measurement of free Ca2+ concentrations in the ER lumen using Mag-Fluo-4. Cell Calcium. 2020 May;87:102188.