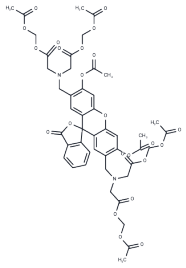
Data Sheet (Cat.No.T18931)

TargetMol

Calcein-AM

Chemical Properties



CAS No. : 148504-34-1

Formula: C46H46N2O23

Molecular Weight: 994.86

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Calcein-AM (Calcein acetoxymethyl ester) is a cell-permeable green fluorescent probe commonly used for assessing eukaryotic cell viability or mitochondrial permeability transition pore, with no fluorescence itself. After hydrolysis, it emits green fluorescence with excitation/emission wavelengths: 494/515 nm.
Targets(IC50)	Others
In vitro	The calcein-AM dye used to stain the living cells have a low spontaneous leakage rate of less than 15% in 4 hours at 37°C. Dilutions of targets stained by calcein-AM have a linear relationship with measured fluorescence values. NK cells, LAKs, and CTLs are readily detectable by this micro-test. Quantitation of killing and kinetic analysis is readily performed with the test system [1]. Calcein-AM is pH-independent, better retained, and more photostable. In addition, the high level of intracellular retention of calcein-AM and its low-level release after incorporation exclude possible cell-monolayer labeling and allow its use in a cell-cell interaction assay. Moreover, the bright fluorescence can easily be detected and measured by a microplate fluorescence reader [2]. Calcein-AM is a highly lipophilic vital dye that rapidly enters viable cells, is converted by intracellular esterases to calcein that produces an intense green (530-nm) signal, and is retained by cells with the intact plasma membrane. The calcein-AM assay has been used to assess cell viability, cytotoxicity, and tp quantitate apoptosis [3].

Solubility Information

Solubility	DMSO: 80 mg/mL (80.41 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.0052 mL	5.0258 mL	10.0517 mL
5 mM	0.201 mL	1.0052 mL	2.0103 mL
10 mM	0.1005 mL	0.5026 mL	1.0052 mL
50 mM	0.0201 mL	0.1005 mL	0.201 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

Wang XM, et al. A new microcellular cytotoxicity test based on calcein-AM release. Hum Immunol. 1993 Aug;37(4):264-70.

Braut-Boucher F, et al. A non-isotopic, highly sensitive, fluorimetric, cell-cell adhesion microplate assay using calceinAM-labeled lymphocytes. J Immunol Methods. 1995 Jan 13;178(1):41-51.

Bratosin D, et al. Novel fluorescence assay using calcein-AM for the determination of human erythrocyte viabilityand aging. Cytometry A. 2005 Jul;66(1):78-84.