IS22002-1

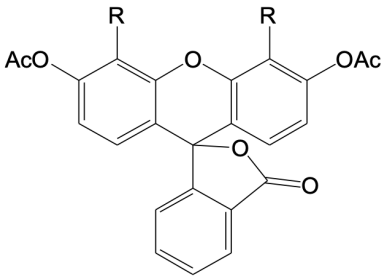
Calcein, AM
cell-permeant dye

Size: 1 mg

Chemical Name:3',6'-Di(O-acetyl)-4',5'-bis[N,N-bis(carboxymethyl)aminomethyl]fluorescein tetraacetoxymethyl ester
CAS: 148504-34-1

Product Description

Calcein AM readily passes through the cell membrane of viable cells because of its enhanced hydrophobicity as compared to Calcein. After Calcein-AM permeates into the cytoplasm, it is hydrolyzed by esterases to Calcein, which remains inside the cell (Fig. 1). Among other reagents, including BCECF-AM and Carboxy-fluorescein diacetate, Calcein-AM is the most suitable fluorescent probe for staining viable cells because of its low cytotoxicity. Calcein does not inhibit any cellular functions such as proliferation or chemotaxis of lymphocyte. In addition, viability assays using Calcein are reliable and correlate well with the standard 51Cr-release assay. The excitation and emission wavelengths of calcein are 490 nm and 515 nm, respectively.

Appearance: white or slightly yellow crystals **Purity**: >90.0% (HPLC) **MW**: 994.86 **Molecular** : $C_{48}H_{46}N_2O_{23}$	

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Staining Procedure

1. Prepare 1 mM Calcein-AM solution with DMSO and dilute to prepare 1-50 μM Calcein-AM solution with PBS
2. Add Calcein-AM solution with 1/10 of the volume of cell culture medium to the cell culture.
3. Incubate the cell at 37°C for 15-30 min.
4. Wash cells twice with PBS or an appropriate buffer.
5. Observe the cells under a fluorescence microscope with 490 nm excitation and 515 nm emission filters.

a) If the Calcein-AM has difficulty loading into cells, use a detergent such as Pluronic F127.
b) Or you may replace the culture medium with 1/10 concentration of Calcein-AM buffer solution.

Storage Conditions : Short term 4°C- for long term storage at -20°C
Shipping Conditions : blue ice

For Research use only

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References

S. A. Weston, et al., J. Immunol. Methods, 133, 87 (1990);
X. M. Wang, et al., Hum. Immunol., 37, 264 (1993);
R. Lichtenfels, et al., J. Immunol. Methods, 172, 227 (1994);
P. Rat, et al., Cell. Biol. Toxicol., 10, 329 (1994);
F. Braut-Boucher, et al., J. Immunol. Methods, 178, 41 (1995);