bio-techne
TOCRIS

Print Date: May 28th 2024

Certificate of Analysis

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Product Name: **Calcein AM** **Catalog No.: 5119** **Batch No.: 3**

CAS Number: 890090-35-4

IUPAC Name: *N*,*N*'-[[3',6'-Bis(acetyloxy)-oxospiro[isobenzofuran-1-(3*H*),9'-(9*H*)xanthene]-4',5'-diyl]bis(methylene)]bis[*N*-[2-(acetyloxy)methoxy]-2-oxoethyl]glycine 1,1'-bis[(acetyloxy)methyl] ester

1. PHYSICAL AND CHEMICAL PROPERTIES

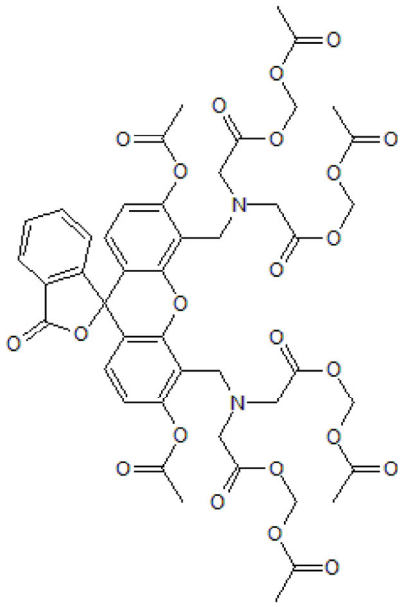
Batch Molecular Formula: $C_{46}H_{46}N_2O_{23}$

Batch Molecular Weight: 994.86

Physical Appearance: Colourless film

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 94% purity at 254 nm

UV Spectrum: Consistent with structure

λ_{max}: 283 nm (MeOH)

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Description:

Key information: Calcein AM is a cell permeable non-fluorescent compound, that becomes green fluorescent once hydrolyzed in live cells. Used for: cell tracing, monitoring cell viability, chemotaxis, cell adhesion and multidrug resistance. Application: fluorescent microscopy and flow cytometry. Properties and Photophysical Data: in live cells, non-fluorescent Calcein AM is hydrolyzed by intracellular esterases into green-fluorescent calcein, which is retained in the cytoplasm. Excitation and emission maxima (λ) are 495 nm and 515 nm, respectively. It is recommended to prepare stock solutions of Calcein AM in DMSO.

Physical and Chemical Properties:

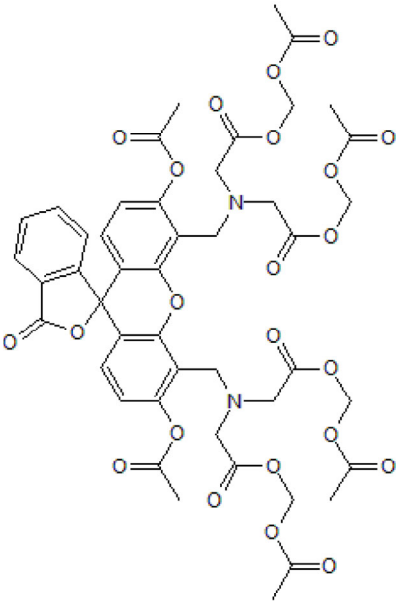
Batch Molecular Formula: $C_{46}H_{46}N_2O_{23}$

Batch Molecular Weight: 994.86

Physical Appearance: Colourless film

Minimum Purity: ≥90%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Kuehn *et al* (2011) Prostaglandin E2 activates and utilizes mTORC2 as a central signaling locus for the regulation of mast cell chemotaxis and mediator release. J.Biol.Chem. ***286*** 391. PMID: 20980255.

Lazarowski *et al* (1997) Direct demonstration of mechanically induced release of cellular UTP and its implication for uridine nucleotide receptor activation. J.Biol.Chem. ***272*** 24328. PMID: 9305892.

Bakos *et al* (1996) Membrane topology and glycosylation of the human multidrug resistance-associated protein. J.Biol.Chem. ***271*** 12322. PMID: 8647833.

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