

Product Name: DAF FM diacetate

Catalog No.: 7756

Batch No.: 2

CAS Number: 254109-22-3

IUPAC Name: 4-Amino-5-methylamino-2',7'-difluorofluorescein diacetate

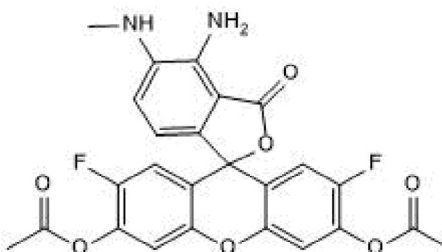
1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₅H₁₈F₂N₂O₇

Batch Molecular Weight: 496.42

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.0% purity at 254 nm

UV Spectrum: Consistent with structure

λ_{max}: 366 nm (Methanol)

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

DAF-FM DA is a cell-permeable fluorescent probe for the detection of intracellular nitric oxide (NO). Once inside the cell, it is hydrolyzed by cytosolic esterases to cell-impermeant DAF-FM. DAF-FM reacts with NO⁺ equivalents, such as nitric anhydride (N₂O₃), which are formed by autoxidation of NO. Under aerobic conditions, DAF-FM can rapidly and irreversibly trap NO to yield highly fluorescent triazolofluoresceins (DAF-Ts). DAF-FM DA is photostable and stable in pH 5.5 to 12. It can be used to quantitatively monitor agonist-evoked NO synthesis in cultured HUVECs. DAF-FM DA may also be used to quantify NO levels in induced pluripotent stem ce... Please see product specific page on www.tocris.com for full description.

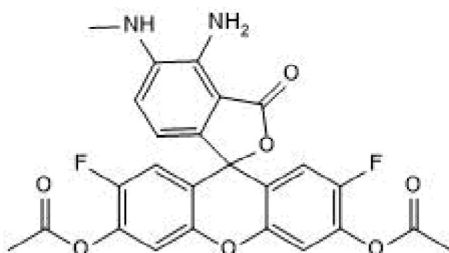
Physical and Chemical Properties:

Batch Molecular Formula: C₂₅H₁₈F₂N₂O₇

Batch Molecular Weight: 496.42

Minimum Purity: ≥80%

Batch Molecular Structure:



References:

Xu et al (2022) Uncompensated mitochondrial oxidative stress underlies heart failure in an iPSC-derived model of congenital heart disease. *Cell Stem Cell* **29** 840. PMID: 35395180.

Almeida et al (2021) Sensing nitric oxide in cells: historical technologies and future outlook. *ACS.Sens.* **6** 1695. PMID: 33871990.

Sheng et al (2005) DAF-FM (4-amino-5-methylamino-2',7'-difluorofluorescein) diacetate detects impairment of agonist-stimulated nitric oxide synthesis by elevated glucose in human vascular endothelial cells: reversal by vitamin C and L-sepiapterin. *J.Pharmacol.Exp.Ther.* **315** 931. PMID: 16093274.

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 as a lyophilized film and may 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.

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