

DAF-FM diacetate (4-amino-5-methylamino-2',7'-difluorofluorescein diacetate)

<http://www.lumiprobe.com/p/diaminofluorescein-daf-fm-diacetate>

DAF-FM diacetate (DAF-FM DA) is a cell-permeant, fluorescent probe for detecting and quantifying low concentrations of nitric oxide (NO). DAF-FM DA passively diffuses across cellular membranes and, once inside cells, is deacetylated by intracellular esterases and converted to cell-impermeant form — DAF-FM.

The fluorescence quantum yield of DAF-FM is ~0.005, but it increases about 160-fold to ~0.81 after reacting with NO and forming a fluorescent benzotriazole (excitation/emission maxima at 495/515 nm) .

The NO detection limit of DAF-FM (~3 nM) is more sensitive than that of DAF-2 (~5 nM). The fluorescence of the NO adduct of DAF-FM is independent of pH above pH 5.5. Moreover, the NO adduct of DAF-FM demonstrates a significantly enhanced photostability compared to that of DAF-2, ensuring reliable results and additional time for imaging.

DAF-FM DA should be dissolved in DMSO and then used to prepare a working solution. Buffers containing bovine serum albumin (BSA) or phenol red can affect the fluorescence and should be used cautiously.

General properties

Appearance: beige solid

Molecular weight: 496.42

CAS number: 254109-22-3

Molecular formula: $C_{25}H_{18}F_2N_2O_7$

Solubility: DMSO

Quality control: NMR 1H and HPLC-MS (95+%)

Storage conditions: 24 months after receipt at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.

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