

## **DAF-FM (4-Amino-5-Methylamino-2',7'-Difluorofluorescein)**

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

DAF-FM (4-Amino-5-Methylamino-2',7'-Difluorofluorescein) is a cell-impermeant, fluorescent probe for detecting and quantifying low concentrations of nitric oxide (NO). DAF-FM does not need to be activated by cytosolic enzymes and is suitable to detect NO in extracellular matrix.

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 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.

The cell-permeant version of DAF FM — [DAF-FM DA](#) is also available.

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### **General properties**

Appearance: yellow to brown solid

Molecular weight: 412.35

CAS number: 254109-20-1

Molecular formula:  $C_{21}H_{14}F_2N_2O_5$

Solubility: good in methanol, DMSO, DMF and water; limited in water; poor in acetonitrile and methylene chloride

Quality control: NMR  $^1H$  and HPLC-MS (90+%)

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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