

Product Data Sheet

(4) 1000g 5 PBS 2-3

(5) 30min AM

3.

(1)

(2)

(3) 100μL

(4) 20min-2h

(5) PBS 2~3

(6) 30min

4. Fluo-4 AM 494/506 nm

1 20% Pluronic F-127 Pluronic F-127 Fluo-4 AM

2 (GC16825 Probenecid 1-2.5mM) (GC11049 Sulfinpyrazone 0.1-0.25mM) Fluo-4 AM pH

3 Fluo-4 AM

4 Fluo-4 AM 5 μ/ ≤-20°C

5

6

7

Background

Fluo-4 AM is a commonly used probe for detecting intracellular Ca^{2+} concentration at a wavelength of 494/506 nm.

Fluo-4 is a calcium fluorescent probe that replaces Cl with F in the Fluo-3 structure. Due to the replacement of Cl with the more electronically attractive F, its excitation wavelength deviates by about 10 nm toward the short wavelength. This wavelength is closer to that of an argon laser, so the fluorescence intensity of Fluo-4 is twice as strong as that of Fluo-3 when excited with an argon laser.

Fluo-4 AM is a cell-permeable fluorescent Ca^{2+} indicator ($K_d Ca^{2+} = 345$ nM). Fluo-4 AM penetrates the cell membrane and enters the cell, then is sheared by intracellular esterase to form Fluo-4, which is retained in the cell. Fluo-4 is almost non-fluorescent when it exists in the form of free ligand, but when it combines with intracellular calcium ions, it can produce strong fluorescence, and the intensity of fluorescence is increased by nearly 100 times.

When heavy metals are present in solution (e.g. Mn^{2+} , Zn^{2+} , Pb^{2+}), the heavy metal-selective chelator TPEN (Catalog No. GC12918) can be used to control perturbations in calcium measurements caused by these ions. Fluo-4 AM is suitable for fluorescence and confocal microscopy, flow cytometric analysis, and microplate screening applications.

Caution: Product has not been fully validated for medical applications. For research use only.

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