

## FluoriCa-8 AM, green fluorescent calcium indicator

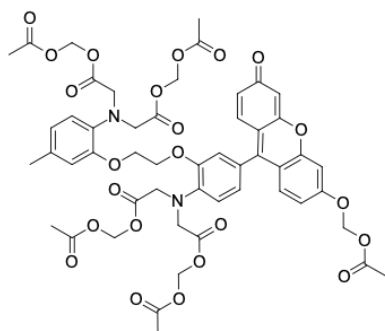
<http://www.lumiprobe.com/p/fluo-8-am>

FluoriCa-8 AM is a cell-permeable  $\text{Ca}^{2+}$ -indicator that is metabolized by intracellular esterase, leading to a bright green fluorescent signal upon  $\text{Ca}^{2+}$ -binding (excitation/emission  $\lambda$  at 490/514 nm). FluoriCa-8 AM is used for visualization and quantifying intracellular  $\text{Ca}^{2+}$ . It is well suited for fluorometric and imaging applications such as microscopy, flow cytometry, spectrofluorometry, and fluorometric high-throughput microplate screening assays.

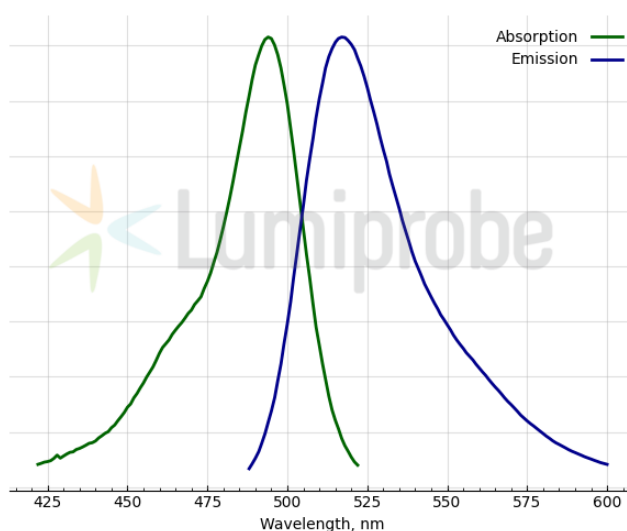
FluoriCa-8 AM is similar in structure and spectral properties to the  $\text{Ca}^{2+}$  indicators Fluo-3 AM and Fluo-4 AM but has the brightest fluorescence compared to them (two times brighter than Fluo-4 and four times brighter than Fluo-3). The  $K_d$  of FluoriCa-8 AM for  $\text{Ca}^{2+}$  is about 389 nM. With its highest fluorescence intensity, FluoriCa-8 AM is ideal for applications where the concentration of dye loaded into cells is required to be minimized. Unlike Fluo-3 AM and Fluo-4 AM, which require cells to be incubated at 37 °C, FluoriCa-8 AM can be loaded into cells at room temperature.

As FluoriCa-8 AM does not covalently bind to cellular components, it may be actively effluxed from the cell by organic anion transporters. *In vivo* cell imaging with FluoriCa-8 AM is usually performed within one or two hours after loading, but the dye can be re-loaded to cells if it is needed. FluoriCa-8 AM can also be fixed *in situ* by [EDC/EDAC](#) for downstream immunofluorescence studies.

FluoriCa-8 AM has low solubility in the water. It is recommended to prepare 1 mM stock solution in [labeling grade DMSO](#) prior to cell loading. Use the final concentration of 1-5  $\mu\text{M}$  and incubation at RT for 15-60 min as a start point of your protocol.



**Structure of FluoriCa-8 AM**



**Absorption and emission spectra of the Calcium ion-FluoriCa-8 AM**

### General properties

Appearance:	yellow-orange powder
Molecular weight:	1060.97
CAS number:	1345980-40-6
Molecular formula:	$\text{C}_{51}\text{H}_{52}\text{N}_2\text{O}_{23}$
Solubility:	good in DMSO
Quality control:	NMR $^1\text{H}$ 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.

### Spectral properties

Excitation/absorption maximum, nm: 494

Emission maximum, nm: 517