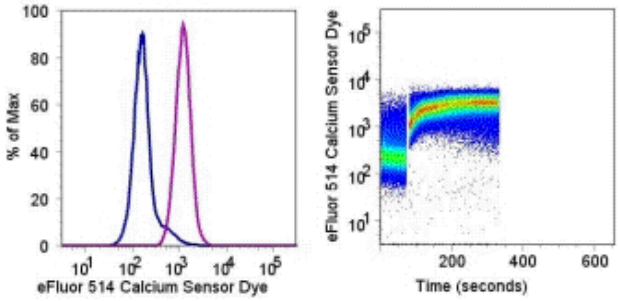
Calcium Sensor Dye eFluor® 514

Catalog Number: 65-0859

GPR: General Purpose Reagents. For Laboratory Use.



Jurkat cells were harvested, washed and loaded with Calcium Sensor Dye eFluor® 514 for 30 minutes at 37°C. The left panel shows cells that were washed and analyzed by flow cytometry as unstimulated (blue histogram) or stimulated with 1 µg/ml ionomycin (purple histogram). The right panel shows Jurkat cells loaded with Calcium Sensor Dye eFluor® 514 that were acquired on a flow cytometer for 1 minute and then removed for the addition of 1 µg/ml ionomycin and immediately placed back on the flow cytometer for continued acquisition.

Product Information

Contents: Calcium Sensor Dye eFluor® 514

REF **Catalog Number:** 65-0859

Formulation: lyophilized

Temperature Limitation: Store at -20°C. Protect from light and moisture.

LOT **Batch Code:** Refer to Vial

Use By: Refer to Vial

Description

eFluor™ 514 Calcium Sensor Dye is a membrane-permeable dye used for monitoring changes in intracellular free calcium concentrations in the cell using fluorescence microscopy, flow cytometry, fluorescence spectroscopy and fluorescence microplate readers. Once eFluor™ 514 Calcium Sensor Dye enters the cell, cellular esterases cleave the AM group yielding a membrane-impermeable dye fluorescing at ~520 nm . eFluor™ 514 Calcium Sensor Dye, like Fluo-3 and Fluo-4, is a commonly used dye among the visible light-excitable calcium indicators but with increased cellular uptake (even at room temperature) and brightness.

calcium binding affinity: Kd = 232 nM

Molecular Weight: approximately 1100 Daltons
Peak Excitation: 490 nm
Peak Emission: 514 nm

eFluor™ 514 Calcium Sensor Dye should be reconstituted in high-quality, freshly opened DMSO. Recommended concentration: 2-5 mM. Once reconstituted, it should be protected from light and stored dessicated at -20°C; avoid freeze-thawing.

Applications Reported

eFluor® 514 Calcium Sensor has been reported for use in flow cytometric analysis and microscopy.

Applications Tested

eFluor™ 514 Calcium Sensor Dye has been tested by flow cytometric analysis of the Jurkat cell line. For most cell lines, starting with a concentration of 4-5 µM of the eFluor™ 514 Calcium Sensor Dye is recommended. The optimal concentration for cell loading will need to be determined empirically for the cell type of interest.

The nonionic detergent Pluronic® F-127 can be used to increase the aqueous solubility of the eFluor™ 514 Calcium Sensor Dye (0.04% final concentration).

Cell lines that contain organic anion-transporters will benefit from the addition of probenecid (1 - 2.5 mM) to the cell medium to reduce loss of the dye.

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