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## eBioscience™ Calcium Sensor Dye eFluor™ 514

Catalog Number: 65-0859

For Research Use Only. Not for use in diagnostic procedures.

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### Product Information

**Contents:** eBioscience™ Calcium Sensor  
Dye eFluor™ 514



**Catalog Number:** 65-0859



**Formulation:** lyophilized

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



**Batch Code:** Refer to vial



**Use By:** Refer to vial

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### 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:  $K_d = 232$  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 desiccated 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  $\mu$ M 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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