eBioscience™ Fura-2 AM Dye

Catalog Number: 65-0858

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

Product Information

Contents: Fura-2 AM Dye

REF **Catalog Number:** 65-0858

Formulation: Lyophilized yellow solid. Purity ≥95% as determined by HPLC.

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

LOT **Batch Code:** Refer to vial

Use By: Refer to vial

Description

Fura-2 is a calcium imaging dye that binds to free Ca^{2+}. Fura-2 AM is the cell-permeable acetoxymethyl (AM) ester form of Fura-2. Fura-2 is the preferred dye for ratiometric imaging microscopy with digital image analysis, especially when the alteration of excitation wavelengths is more practical than the detection of multiple emission wavelengths. Upon binding Ca^{2+}, the excitation spectrum of Fura-2 shifts to shorter wavelengths between 300 and 400 nm, while the peak emission remains steady around 510 nm. The K_d of Fura-2 is highly dependent on pH, temperature, ionic strength and viscosity of the cytosol, thus great care should be taken when non-standard conditions are used.

Molecular weight: 1001.86
Peak excitation: variable depending on the concentration of free Ca^{2+}, between 300 and 400 nm
Peak emission: 510 nm

Fura-2 AM should be reconstituted in high-quality, freshly opened DMSO. Once reconstituted, it should be protected from light and stored at -20°C. Avoid freeze-thawing.

Applications Reported

Fura-2 AM has been reported for use in fluorescence microscopy. It is recommended that the concentration used be carefully determined by each investigator for optimal performance in the asasy of interest.

References

Barreto-Chang OL, Dolmetsch RE. Calcium imaging of cortical neurons using Fura-2 AM. J Vis Exp. 2009 Jan 19;(23).

Kang JJ, Toma I, Sipos A, Peti-Peterdi J. From in vitro to in vivo: imaging from the single cell to the whole organism. Curr Protoc Cytom. 2008 Apr;Chapter 12:Unit 12.12.

Malgaroli A, Milani D, Meldolesi J, Pozzan T. Fura-2 measurement of cytosolic free Ca2+ in monolayers and suspensions of various types of animal cells. J Cell Biol. 1987 Nov;105(5):2145-55.

G Grynkiewicz, M Poenie, RY Tsien. A new generation of Ca2+ indicators with greatly improved fluorescence properties. J. Biol. Chem. Mar 25, 1985; 260: 3440-3450.

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