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RedDot™2 Far-Red Nuclear Stain, 200X in DMSO



A far-red cell membrane-impermeant nuclear dye with greater nuclear specificity than Draq7™. Ideal for fixed cell nuclear counterstaining with minimal cytoplasmic RNA staining.

Product attributes

Probe cellular localization	Nucleus
For live or fixed cells	For fixed cells
Assay type/options	No-wash staining
Cell permeability	Membrane impermeant
Apoptosis/viability marker	Dead cell stain
Fixation options	Fix before staining (formaldehyde), Fix before staining (methanol), Permeabilize before staining
Colors	Far-red
Excitation/Emission	665 (broad)/695 nm (with DNA)
Concentration	200X in DMSO
Storage Conditions	Store at 2 to 8 °C, Protect from light

Product Description

RedDot™2 is a far-red cell membrane-impermeant nuclear dye suitable for fixed cells or tissues, or selective dead cell staining. Unlike other far-red nuclear stains such as Draq7™, which can show significant cytoplasmic staining in permeabilized cells, RedDot™2 is nuclear-specific and offers highly selective nuclear counterstaining in fixed and permeabilized cells (Fig. 1).

- Ideal for specifically nuclear counterstaining of fixed cells or tissue sections
- Greater nuclear specificity than Draq7™, with minimal cytoplasmic RNA staining
- Cell membrane-impermeant, for selective staining dead cells in culture
- Highly thermostable and photostable, compatible with tissue clearing protocols
- $\lambda_{Ex}/\lambda_{Em}$ (DNA-bound) = 665/695 nm, for detection in the Cy®5 channel

RedDot™2 provides excellent nuclear counterstaining in fixed and permeabilized cells and tissue sections without the need for RNase treatment to remove cytoplasmic RNA. The dye is highly thermostable and photostable, providing convenient handling and ideal for demanding applications such as confocal microscopy. RedDot™2 has also been validated for tissue clearing protocols such as CUBIC. RedDot™2 can be efficiently excited by wavelengths from 488 to 647 nm, and therefore can be used with the 488 nm flow cytometry laser line. Please note: far-red dyes like RedDot™2 are not visible to the human eye, but must be imaged with a CCD camera or by confocal microscopy.

In unfixed cultures, RedDot™2 is dead cell-selective in all cell types tested, including mammalian cells, bacteria and yeast. See our Cellular Stains Table for more information on how our dyes stain various organisms. Please also see RedDot™1 (catalog no. 40060), a spectrally similar dye designed for specific nuclear staining of live cells.

RedDot™1 and RedDot™2 Far-Red Nuclear Stains

Product	Catalog No.	Cell Permeability	Live/Fixed	Color (Ex/Em)	Applications
RedDot™1 Far-Red Nuclear Stain, 200X in Water	40060	Permeant	Live cells only	(Far-red) 662/694 nm	• Live cell nuclear stain comparable to Draq5™ • For microscopy, cell cycle analysis by flow cytometry • Can be used for In-Cell Western normalization
RedDot™2 Far-Red Nuclear Stain, 200X in DMSO	40061	Impermeant	Fixed/permeabilized cells or tissues	(Far-red) 665/695 nm	• Fixed cell nuclear stain • Greater nuclear specificity than Draq7™ • Selectively stains dead cells in unfixed cultures

In Cell Western is a trademark of LI-COR® Biosciences. Cy Dye is a registered trademark of Cytiva. Draq7 is a trademark of BioStatus Ltd.

References

Download a list of curated RedDot,Ñ¢2 references.