

Product Information

NucSpot® Live 488 Nuclear Stain

Catalog Number: 40081-T, 40081

Kit Contents

Component	40081-T	40081
NucSpot® Live 488 Nuclear Stain, 1000X in DMSO	1 x 10 uL 40081-10uL	1 x 50 uL 40081-50uL
Verapamil HCl, 100 mM in DMSO	1 x 20 uL 99836-20 uL	1 x 100 uL 99836-100 uL

Storage and Handling

Store at 4°C, protected from light. Product is stable for at least 12 months from date of receipt when stored as recommended. Caution: verapamil is toxic and may cause reproductive harm or harmful effects via lactation. Handle using universal laboratory safety precautions and see the product SDS for more information.

Spectral Properties

Ex/Em: 500/515 nm

Product Description

NucSpot® Live 488 Nuclear Stain is a cell-membrane permeable green fluorescent DNA dye that specifically stains nuclei in live or fixed cells. It has excellent specificity for DNA without the need for a wash step, and it has low toxicity for live cell imaging.

NucSpot® Live 488 is supplied with a vial of verapamil, an efflux pump inhibitor that may improve probe retention and live cell staining in certain cell types.

Note: NucSpot® Live 488 also shows blue fluorescence in the DAPI channel, and may not be suitable for multicolor imaging with blue probes.

Biotium also offers NucSpot® Live 650 Nuclear Stain with far-red fluorescence for detection in the Cy5 channel (see related products).

Product Protocols

Live cell staining

1. Dilute NucSpot® Live 488, 1000X in DMSO to a final concentration of 1X in cell culture medium. For example, add 1 uL of NucSpot® Live 488 to 1 mL of culture medium. The optimal probe concentration may vary by cell type.

Optional: include verapamil in the staining solution to improve probe retention by live cells. The optimal concentration of verapamil may vary by cell type. We recommend testing concentrations between 10-100 uM.

2. Remove medium from cells and replace with diluted NucSpot® Live 488. Incubate at 37°C for 10 minutes or longer.

Note: NucSpot® Live 488 does not show obvious toxicity after overnight incubation, but with longer incubation times it may stain structures other than the nucleus.

3. Image cells in the FITC channel.

Note: Washing is not necessary before imaging. Staining may decrease over time if medium is removed and replaced with fresh medium. If verapamil was added during staining, we recommend including it in the fresh medium at the same concentration if you choose to wash the cells. Cells can be fixed with formaldehyde and permeabilized with 0.1% Triton X-100 after staining, but signal may decrease.

Fixed cell staining

1. Dilute NucSpot® Live 488, 1000X in DMSO to a final concentration of 1X in PBS or other buffer. For example, add 1 uL of NucSpot® Live 488 to 1 mL of buffer. Optimal staining concentration may vary for different cell types.
2. Incubate sample with diluted NucSpot® Live 488 for 10 minutes or longer at room temperature.
3. Image cells in the FITC channel.

Note: Washing is not necessary before imaging. Signal may decrease over time after washing.

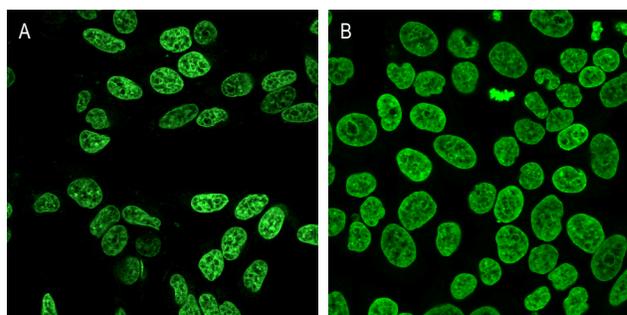


Figure 1. A. Live HeLa cells stained with 1X NucSpot® Live 488 for 30 minutes at 37°C. B. Fixed and permeabilized cells stained with 1X NucSpot® Live 488.

Related Products

Catalog number	Product
40082	NucSpot® Live 650 Nuclear Stain
40060	RedDot™ 1 far-red nuclear stain for live cells
40061	RedDot™ 2 far-red nuclear stain for dead or fixed cells
70061	LysoView™ 540
70058	LysoView™ 633
70059	LysoView™ 650
70060	Light-On LysoView™ 555
70052	MitoView™ Blue
70054	MitoView™ Green
70055	MitoView™ 633
70062	ViaFluor® 488 Live Cell Microtubule Stain
70063	ViaFluor® 647 Live Cell Microtubule Stain

Please visit our website at www.biotium.com for information on our life science research products, including fluorescent CF™ dye conjugates of transferrin, cholera toxin subunit B, dextrans, lectins, and Annexin V for cellular imaging, plus many more fluorescent probes and kits for cellular and molecular biology research.

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