

# Product Information

## NucSpot® Live 650 Nuclear Stain

**Catalog Number:** 40082-T, 40082

### Kit Contents

Component	40082-T	40082
NucSpot® Live 650 Nuclear Stain, 1000X in DMSO	1 x 10 uL 40082-10uL	1 x 50 uL 40082-50uL
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: 650/675 nm

### Product Description

NucSpot® Live 650 Nuclear Stain is a cell-membrane permeable 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. The dye has far-red fluorescence for imaging in the Cy®5 channel, and is compatible with super-resolution microscopy by SIM or STED.

NucSpot® Live 650 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 650 also shows blue fluorescence in the DAPI channel, and may not be suitable for multicolor imaging with blue probes.

Biotium also offers NucSpot® Live 488 Nuclear Stain with green fluorescence for detection in the FITC channel (see related products).

### Product Protocols

#### Live cell staining

1. Dilute NucSpot® Live 650, 1000X in DMSO to a final concentration of 1X in cell culture medium. For example, add 1 uL of NucSpot® Live 650 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 650. Incubate at 37°C for 10 minutes or longer.
3. Image cells in the Cy®5 channel.

Note: Washing is not necessary before imaging, but cells can be washed if desired. 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. Staining can withstand formaldehyde fixation and permeabilization with 0.1% Triton X-100 with slight decrease in brightness.

#### Fixed cell staining

1. Dilute NucSpot® Live 650, 1000X in DMSO to a final concentration of 1X in PBS or other buffer. For example, add 1 uL of NucSpot® Live 650 to 1 mL of buffer. Optimal staining concentration may vary for different cell types.
2. Incubate sample with diluted NucSpot® Live 650 for 10 minutes or longer at room temperature.
3. Image cells in the Cy®5 channel.

Note: Washing is not necessary before imaging, but cells can be washed if desired.

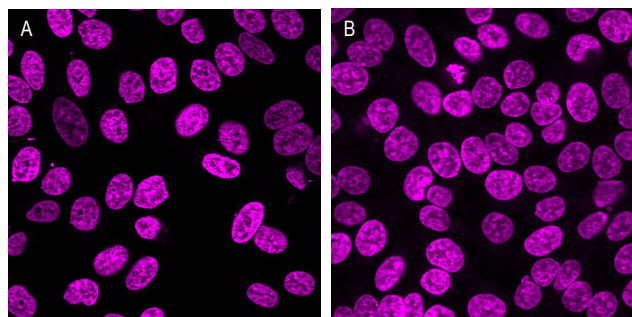


Figure 1. A. Live HeLa cells stained with 1X NucSpot® Live 650 overnight at 37°C. B. Methanol-fixed HeLa cells stained with 0.5X NucSpot® Live 650 for 10 minutes at room temperature.

### Related Products

Catalog number	Product
40081	NucSpot® Live 488 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](http://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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