Revised: January 4, 2022

Product Information

ViaFluor® Live Cell Microtubule Stains

Kit Contents

Component	Trial size (10 uL)	50 uL
ViaFluor® Live Cell Microtubule Stain, 1000X in DMSO	1 x 10 uL	1 x 50 uL
Verapamil HCl, 100 mM in DMSO	1 x 20 uL 99836-20uL	1 x 100 uL 99836-100uL

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. Briefly centrifuge vials to collect contents at the bottom of the tubes before opening.

Product Description

ViaFluor® Live Cell Microtubule Stains are simple, rapid, and sensitive fluorescent cell-permeant probes for imaging the microtubule cytoskeleton in live cells.

ViaFluor® Live Cell Microtubule Stains have a structure analogous to Taxol® (paclitaxel) and similarly bind to polymerized tubulin and stabilize microtubules. However, ViaFluor® stains are less disruptive of microtubule dynamics and cell division, presumably due to the lower binding affinity of the fluorescent probe compared to Taxol® itself. The stains do not show cytotoxicity with up to 24 hours of exposure in immortalized cell types. However, if performing longer incubation times with the probe, the lowest concentration that gives acceptable signal should be used to minimize effects on the cells.

ViaFluor® Live Cell Microtubule Stains are supplied with a vial of 100 mM verapamil, an efflux pump inhibitor that may improve probe retention and staining in certain cell types. Note that this is a higher concentration than was previously supplied with the stains, to allow for the use of higher verapamil concentrations. The optimal concentration of verapamil may vary between cell types.

Visit www.biotium.com to view our selection of other live cell stains for mitochondria, lysosomes and cell nucleus.

Table 1. Spectral properties of ViaFluor® Live Cell Microtubule Stains

Catalog No.	Product	Laser line (nm)	Detection channel	Ex/Em (nm)
70064, 70064-T	ViaFluor® 405	405	DAPI	408/452
70062, 70062-T	ViaFluor® 488	488	FITC	503/518
70063, 70063-T	ViaFluor® 647	633 or 640	Cy®5	655/681

Live Cell Staining Protocol

1. Prepare staining solution by diluting the ViaFluor® dye to a final concentration of 1X in complete cell culture medium. For example, add 1 uL of probe to 1 mL medium.

   Note: We recommend testing different probe concentrations to find the lowest concentration that gives good signal for your cell type and desired incubation time. Optimal concentration may range from 2X to 0.5X or lower.

2. Optional: Including verapamil in the staining solution may improve probe retention and staining. The optimal concentration may vary by cell type. We recommend testing concentrations between 10-100 uM.

3. Remove the cell culture medium and replace with medium containing probe. Incubate at 37°C for 30 minutes or longer. Staining intensity will increase over time.

4. Optional: Remove staining solution and replace with fresh medium. Image cells with the recommended laser line and channel (see Table 1).

   Note: We recommend including verapamil in the fresh medium if you used it in the staining solution. Image cells as soon as possible after medium change. Staining may decrease over time after removing the staining solution, depending on the rate of probe efflux in different cell types. Medium change may not be required when imaging by confocal microscopy. While extracellular fluorescence may be present, confocal microscopy usually allows clear imaging of microtubules without washing.

   Note: ViaFluor® Live Cell Microtubule Stains cannot be fixed after staining, and cannot be used to stain fixed cells or tissues.

Related Products

Catalog number	Product
70061... 70086	LysoView™ Lysosomal Dyes
70065, 70069	LipidSpot™ Lipid Droplet Stains
70054... 70075	MitoView™ Mitochondrial Dyes
70082	MitoView™ Fix 640
40081, 40082	NucSpot® Live Cell Nuclear Stains
40060	RedDot™1 far-red nuclear stain for live cells
40046	Hoechst 33342, 10 mg/mL in water
30021... 30024	CellBrite® Cytoplasmic Membrane Dyes
30070... 30079	CellBrite® NIR Cytoplasmic Membrane Dyes
30105... 30109	CellBrite® Steady Membrane Staining Kits

Please visit our website at www.biotium.com for information on our life science research products including fluorescent CF® Dye labeled lectins, toxins, Annexin V conjugates, NucView® caspase substrates, and other probes and kits for live cell imaging and real-time apoptosis detection.