

BioTracker™ 488 Green Microtubule Cytoskeleton Dye

Live Cell Dye

Cat. # SCT142

FOR RESEARCH USE ONLY.
NOT FOR USE IN DIAGNOSTIC PROCEDURES.
NOT FOR HUMAN OR ANIMAL CONSUMPTION.

pack size: Kit

Store at 2-8°C



Data Sheet

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Background

Cytoskeleton proteins such as actin and tubulin play an important role in cell structure and motility. Dysregulation of cytoskeletal proteins are also involved in cancer metastasis and disease. Taxol binds to polymerized tubulin and stabilizes microtubules, resulting in inhibition of mitosis. However, fluorescent taxol compounds like the BioTracker™ Microtubule Cytoskeleton dyes are less disruptive of microtubule dynamics and cell division, presumably due to lower binding affinity of the fluorescent probe compared to taxol itself.

The BioTracker™ Cytoskeleton Microtubule Dye is a green fluorescent cell-permeable taxol probe for imaging the microtubule cytoskeleton in live cells. It is a simple, rapid and sensitive stain that can be detected using the FITC channel. The dye is supplied with a vial of 100mM verapamil, an efflux pump inhibitor that may improve probe retention and staining in certain cell types.

Kit Components

- 1) 1 vial of 50µL BioTracker™ 488 Green Microtubule Cytoskeleton Dye (1000X in DMSO) (CS224593)
- 2) 1 vial of 100µL Verapamil HCL (100mM in DMSO) (CS224592)

Storage

Store BioTracker™ 488 Green Microtubule Cytoskeleton Dye at 2-8°C.
Protect From Light.

Note: Centrifuge vial briefly to collect contents at bottom of vial before opening.

Spectral Properties

Absorbance: 500nm
Emission: 515nm

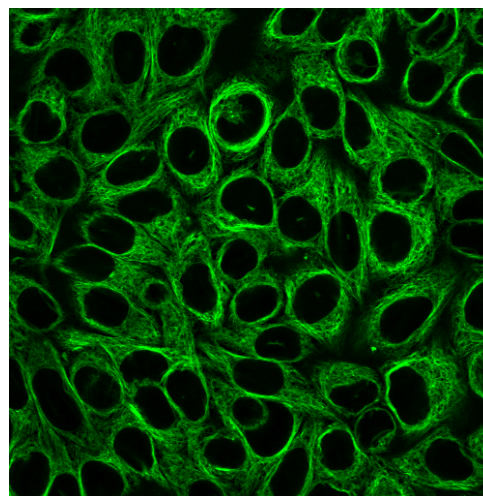


Figure 1. HeLa cells stained with BioTracker™ 488 Green Microtubule Cytoskeleton Dye.

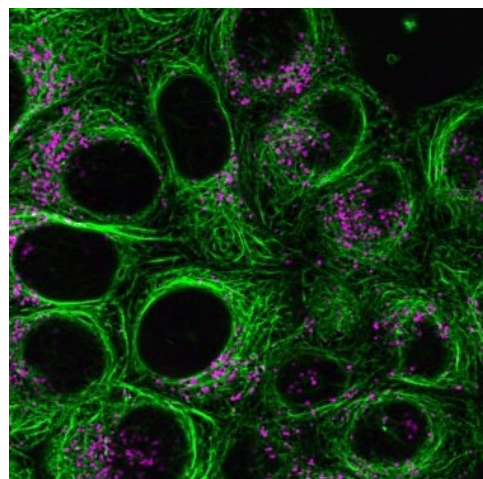


Figure 2. HeLa cells stained with BioTracker™ 488 Green Microtubule Cytoskeleton Dye and BioTracker™ NIR650 Lysosome Dye.

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Assay Protocol

Live Cell Staining Protocol

1. Prepare staining solution by diluting BioTracker™ Cytoskeleton Microtubule Dye to a final concentration of 1X in complete cell culture medium. For example, add 1uL of probe to 1mL 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.

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 10-100uM.

2. 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.

3. Optional: Remove staining solution and replace with fresh medium. Image cells in the FITC channel.

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: The BioTracker Cytoskeleton Microtubule dye cannot be fixed after staining, and cannot be used to stain fixed cells or tissues.

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■ antibodies ■ Multiplex products ■ biotools ■ cell culture ■ enzymes ■ kits ■ proteins/peptides ■ siRNA/cDNA products

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