

Cell Explorer™ Live Cell Tracking Kit *Red Fluorescence*

Catalog number: 22623
Unit size: 200 Tests

Component	Storage	Amount
Component A: Track It™ Red	Freeze (<-15 °C), Minimize light exposure	1 vial (50 µL - 500X DMSO stock solution)
Component B: Assay Buffer	Freeze (<-15 °C)	1 bottle (20 mL)

OVERVIEW

Our Cell Explorer™ fluorescence imaging kits are a set of tools for labeling cells for fluorescence microscopic investigations of cellular functions. The effective labeling of cells provides a powerful method for studying cellular events in a spatial and temporal context. This particular kit is designed to uniformly label live cells in red fluorescence for the studies that require the fluorescent tag molecules retained inside cells for relatively longer time. The kit uses a weakly fluorescent dye that carries a cell-retaining moiety. The dye becomes strongly fluorescent upon entering into live cells, and trapped inside live cells to give a stable fluorescence signal for relatively long time. The dye is a hydrophobic compound that easily permeates intact live cells. The labeling process is robust, requiring minimal hands-on time. It can be readily adapted for a wide variety of fluorescence platforms such as microplate assays, immunocytochemistry and flow cytometry. It is useful for a variety of studies, including cell adhesion, chemotaxis, multidrug resistance, cell viability, apoptosis and cytotoxicity. The kit provides all the essential components with an optimized cell-labeling protocol.

AT A GLANCE

Protocol summary

1. Prepare samples
2. Add 10X Track It™ Red working solution (10 µL/well)
3. Incubate the cells at 37°C for 15 to 60 minutes
4. Wash the cells
5. Examine the specimen under fluorescence microscope with Texas Red filter or flow cytometer with 610/20 nm filter (PE-Texas Red channel)

Important Thaw all the components at room temperature. Centrifuge the Component A briefly before opening.

KEY PARAMETERS

Instrument: Fluorescence microscope
Excitation: 570 nm
Emission: 600 nm
Recommended plate: Black wall/clear bottom
Instrument specification(s): Texas Red filter set

Instrument: Flow cytometer
Excitation: 488 nm or 561 nm laser
Emission: 610/20 nm filter
Instrument specification(s): PE-Texas Red channel

PREPARATION OF WORKING SOLUTION

Dilute 500X Track It™ Red DMSO stock solution (Component A) into Assay Buffer (Component B) to make a 10 to 25X Track It™ Red working solution. The working solution should be prepared enough for all the wells at 10 µL/well with the appropriate concentration. For example, to get a 10X final concentration of Track It™ Red for one 96-well microplate, dilute 20 µL of 500X Track It™ Red DMSO stock solution into 1 mL of Assay Buffer (Component B) to make 1 mL of 10X Track It™ Red working solution.

Note The final concentration of the Track It™ Red working solution should be empirically determined for different cell types and/or experimental conditions. It

is recommended to test at the concentrations that are at least over a ten fold range.

PREPARATION OF CELL SAMPLES

For guidelines on cell sample preparation, please visit <https://www.aatbio.com/resources/guides/cell-sample-preparation.html>

SAMPLE EXPERIMENTAL PROTOCOL

1. Add 10X Track It™ Red working solution to the cell wells which should be equal to 1/10 of the volume of cell culture medium. For example, for a 96-well plate, add 10 µL/well of 10X Track It™ Blue working solution into the cells.
2. Incubate the cells in a 37°C, 5% CO₂ incubator for 15 to 60 minutes.
3. Wash cells with Hanks and 20 mM Hepes buffer (HHBS) or an appropriate buffer.
4. Fill the cell wells with growth medium.
5. Analyze the cells using a fluorescence microscope with Texas Red filter or flow cytometer with 610/20 nm filter (PE-Texas Red channel).

EXAMPLE DATA ANALYSIS AND FIGURES

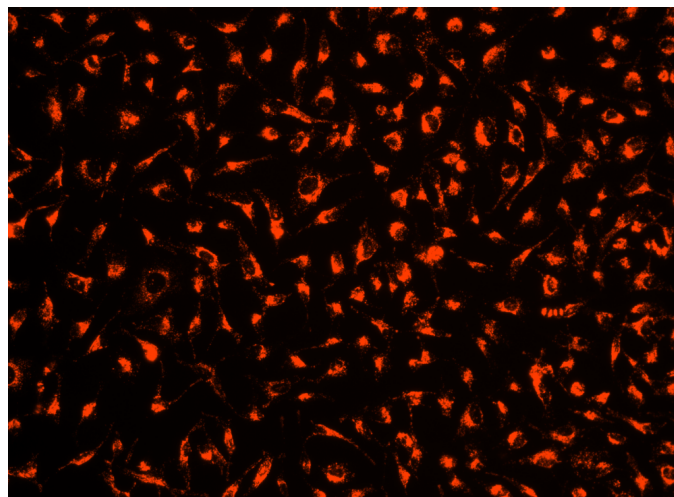


Figure 1. Image of HeLa cells stained with Cell Explorer™ Live Cell Tracking Kit *Red Fluorescence* (Cat#22623) in a Costar black wall/clear bottom 96-well plate. Cells were stained with Track™ It Red solution and image was acquired using fluorescence microscope.

DISCLAIMER

AAT Bioquest provides high-quality reagents and materials for research use only. For proper handling of potentially hazardous chemicals, please consult the Safety Data Sheet (SDS) provided for the product. Chemical analysis and/or reverse engineering of any kit or its components is strictly prohibited

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