

Cell Explorer™ Fixable Live Cell Tracking Kit

Red Fluorescence

Catalog number: 22625
Unit size: 200 Tests

Component	Storage	Amount
Component A: Track It™ Red	Freeze (<-15 °C), Minimize light exposure	1 vial
Component B: Assay Buffer	Freeze (<-15 °C)	1 bottle (20 mL)
Component C: DMSO	Freeze (<-15 °C)	1 vial (100 µL)

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 cells can be fixed to retain the imaging pattern. 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 100 µL/well of 1X Track It™ Red working solution
3. Stain cells at 37°C for 15 minutes to 1 hour
4. Wash cells
5. Examine the specimen under microscope with Texas Red filter sets

Important Thaw all the components to room temperature. Centrifuge 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

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

PREPARATION OF STOCK SOLUTIONS

Unless otherwise noted, all unused stock solutions should be divided into single-use aliquots and stored at -20 °C after preparation. Avoid repeated freeze-thaw cycles.

1. Track It™ Red DMSO stock solution (500X):
Add 50 µL DMSO (Component C) into the vial of Component A.

Note The unused portion of the Track It™ Red stock solution should be aliquoted as a single used vials stored at -20 °C. Avoid light and repeated freeze/thaw cycles.

PREPARATION OF WORKING SOLUTION

Dilute 500X Track It™ Red DMSO stock solution into Assay Buffer (Component B). For example, to get a 1X final concentration of Track It™ Red working solution for one 96-well microplate, dilute 20 µL of the Track It™ Red DMSO stock solution into 10 mL of Assay Buffer (Component B).

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.

Note The working solution should be prepared and used promptly. Keep from light.

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. Remove the cell medium, and add 100 µL/well (for 96 well plate) of 1X Track It™ Red working solution.
2. Incubate the cells in a 37°C, 5% CO₂ incubator for 15 minutes to 1 hour.
3. Wash cells with Hanks and 20 mM Hepes buffer (HHBS) or an appropriate buffer.
4. Fill the cell wells with growth medium or fix the cells (optional).
5. Analyze the cells using a fluorescence microscope with Texas Red filter sets or flow cytometer with 610/20 nm filter (PE-Texas Red channel).

EXAMPLE DATA ANALYSIS AND FIGURES

Example data analysis and images of this product can be found on the web at: <https://www.aatbio.com/products/cell-explorer-fixable-live-cell-tracking-kit-red-fluorescence>

DISCLAIMER

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