CYTO-ID® Red long-term cell tracer kit

Live cell fluorescent labeling over extended time periods with no apparent toxic effects

The CYTO-ID® Red Long-Term Cell Tracer Kit uses proprietary noncovalent cell labeling technology to stably incorporate a red fluorescent dye containing hydrophobic aliphatic chains into the cell membrane's lipid bilayer. The dye may be loaded into cells by following the included protocol. The labeling buffer is isotonic for mammalian cells and contains no detergents or organic solvents. The appearance of labeled cells may vary depending upon the cell type from uniformly bright to punctuate. This difference is thought to relate to the extent of membrane internalization occurring after cell labeling. The CYTO-ID® Red Tracer Dye fluorescence is independent of pH within normally encountered physiologic ranges and fluorescence intensity per cell is typically unaffected by the ultimate pattern of dye distribution. The CYTO-ID® Red Tracer Dye is not toxic to cells, as determined using the benchmark MTT cell viability assay. The dye is well retained by cells for up to 96 hours after loading, and is passed to daughter cells upon mitosis. Since the dye does not covalently modify proteins within the cells, normal physiological responses are better preserved than with molecular probes based upon thiol-reactive chloromethyl-based or amine-reactive succinimidyl ester-based fluorescent dyes. Dual labeling is also possible using a variety of available CELLESTIAL® dyes. Labeled cells can be visualized by epifluorescence or confocal fluorescence microscopy. Additionally, dye-labeled and unlabeled cell populations can be analyzed by flow cytometry. No transfer of fluorescence to adjacent cells was observed after a prolonged 96-hour incubation period. This is in stark contrast to Calcein AM and BCECF AM, which are only retained within viable cells for a few hours at physiological temperatures. The kit is suitable for a variety of applications including long term cell viability, cytotoxicity, cell adhesion, cell migration and cell-cell fusion studies.

- Allows dual labeling with a variety of CELLESTIAL® fluorescent probes
- Minimal transfer of fluorescence from dye-labeled to unlabeled cells
- Suitable for long-term cell viability, cytotoxicity, cell adhesion, cell migration and cell-cell fusion assays

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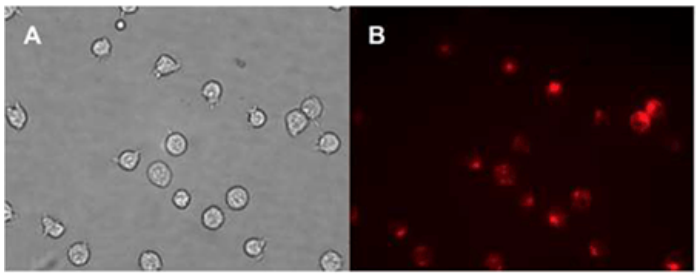
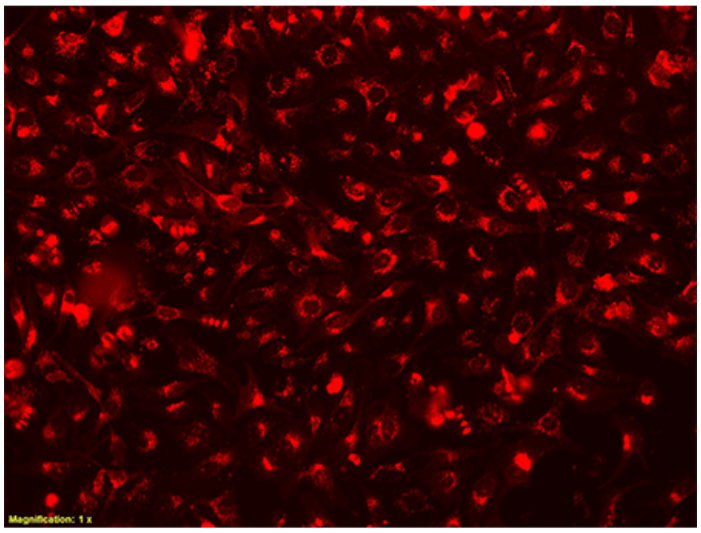
ENZ-51037-K025	1Kit

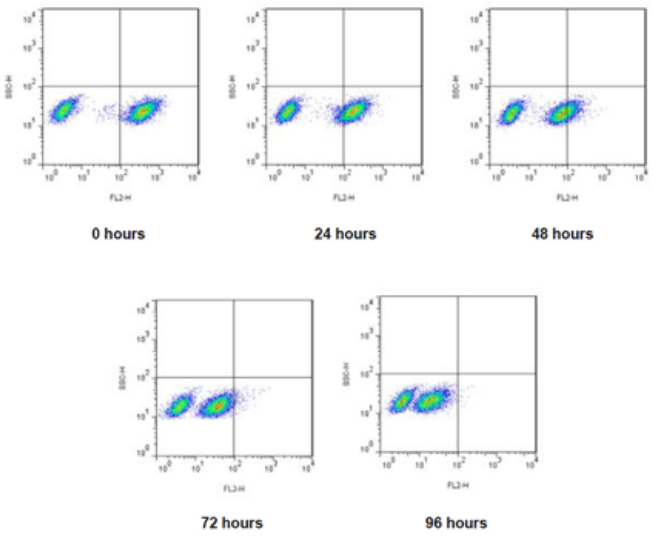
Manuals, SDS & CofA View Online »



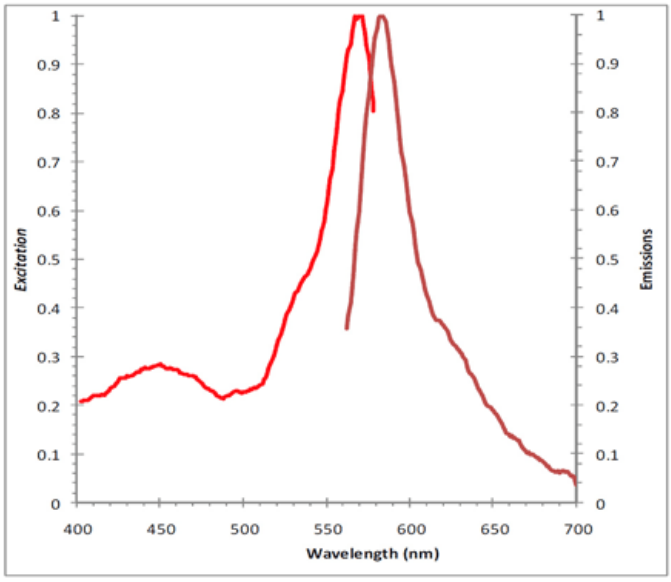
Composite bright-field (panel A) and fluorescence microscopy (panel B) images demonstrating staining of Jurkat cells with CYTO-ID Red Tracer Dye. Standard Texas Red filter set was used to image the membrane-bound signal.



Fluorescence microscopy images demonstrating staining HeLa cells stained overnight with CYTO-ID® Red Tracer Dye. Standard Texas Red filter set was used to image the membrane-bound signal. (20x)



Flow Cytometry analysis of fluorescence of mixed population of Jurkat cells over time. Jurkat cells stained with CYTO-ID® Red Tracer dye were mixed with an unstained population of Jurkat cells and incubated over a 96 hour period.



Fluorescence excitation (Ex 450nm, 570nm) and emission (Em 583nm) spectra for the CYTO-ID® Red Tracer Dye.

Handling & Storage

Use/Stability	Store the kit at -20˚C in a non-frost free freezer, protected from light. Avoid multiple freeze-thaw cycles. With proper storage, the kit components are stable for one year from date of receipt.
Handling	Protect from light. Avoid freeze/thaw cycles.
Short Term Storage	-20°C
Long Term Storage	-20°C
Shipping	Dry Ice

Regulatory Status

RUO - Research Use Only

Product Details

Application	Flow Cytometry, Fluorescence microscopy, Fluorescent detection
Application Notes	CYTO-ID® Red long-term cell tracer kit is suitable for a variety of applications including long term cell viability, cytotoxicity, cell adhesion, cell migration and cell-cell fusion studies.
Contents	CYTO-ID® Red Tracer Dye, 50 µl 4X Labeling Buffer, 12.5 ml 10X HBSS, 25 ml
Quality Control	A sample from each lot of CYTO-ID® Red long-term cell tracer kit is used to stain Jurkat cells and analyzed by flow cytometry using the procedures described in the user manual. Mean fluorescence of stained to unstained cells is greater than 5.
Quantity	25 assays

Technical Info / Product Notes

The CYTO-ID® Red long-term cell tracer kit is a member of the CELLESTIAL® product line, reagents and assay kits comprising fluorescent molecular probes that have been extensively benchmarked for live cell analysis applications. CELLESTIAL® reagents and kits are optimal for use in demanding cell analysis applications involving confocal microscopy, flow cytometry, microplate readers and HCS/HTS, where consistency and reproducibility are required.

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