

# BioTracker™ 555 UV-Excitation Red Lysosome Dye

Live Cell Dye

Cat. # SCT140

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

pack size: 50µL

Store at -20°C



## Data Sheet

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### Background

Lysosomes are membrane-enclosed organelles that contain an array of enzymes capable of breaking down all types of biological material including proteins, nucleic acids, carbohydrates, and lipids. Lysosomes function as the digestive system of the cell, serving both to degrade material taken up from outside the cell and to digest obsolete components of the cell itself.

BioTracker™ Lysosome dyes are fluorescent stains for imaging lysosome localization and morphology in live cells. The dyes accumulate in the low pH environment of the lysosomes, resulting in highly specific lysosomal staining without the need for a wash step.

The BioTracker™ 555 UV-Excitation Red Lysosome is a red fluorogenic lysosome dye with pH-dependent fluorescence. The dye is unique among commercially available lysosome dyes in that its fluorescence in cells is activated by exposure to UV excitation. In solution, the dye shows pH-dependent fluorescence that does not require UV activation. The dye initially shows low fluorescence, but brief exposure to UV excitation from a mercury arc lamp through a DAPI filter

### Storage

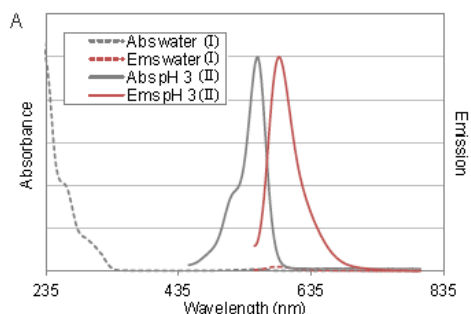
Store BioTracker™ 555 UV-Excitation Red Lysosome Dye at -20°C. Protect From Light.

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

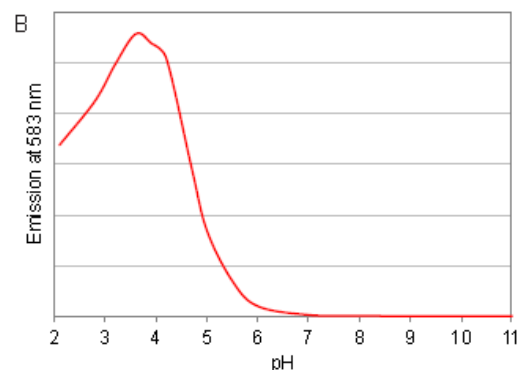
### Spectral Properties

Absorbance: 554nm

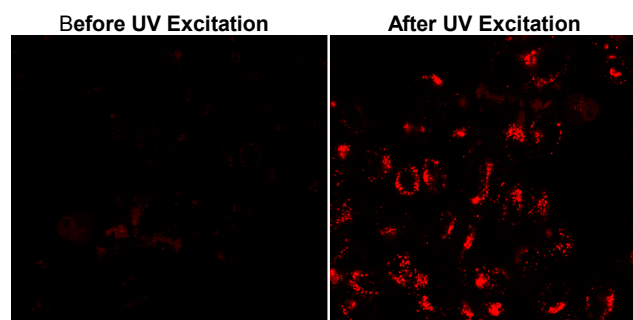
Emission: 583nm



**Figure 1.** Absorption spectra of BioTracker 555 Red Lysosome Dye



**Figure 2.** Emission spectra of BioTracker™ 555 UV-Excitation Red Lysosome Dye at varying pH.



**Figure 3.** HeLa cells stained with BioTracker™ UV-Excitation Red Lysosome Dye before and after UV excitation.

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## Assay Protocol

### Staining Protocol

1. Dilute BioTracker™ 555 UV-Excitation Red Lysosome Dye in cell culture medium to a final concentration of 1  $\mu$ M (MW 470.64).

*Note: 1  $\mu$ M is recommended as an initial concentration for testing. The final dye concentration that results in UV-activated staining may require optimization for different cell types. At higher dye concentrations, lysosomal staining may be observed without UV activation.*

2. Incubate live cells with medium containing dye for 15-30 minutes at 37°C.

*Note: Staining time can be varied depending on cell type and application. HeLa cells incubated with the dye show no obvious signs of toxicity after overnight incubation with 1  $\mu$ M dye, but toxicity may vary by cell type.*

3. Image cells using excitation/emission settings for visible red dyes (such as Cy®3). No wash step is required before imaging. To activate dye fluorescence, expose cells to mercury arc lamp excitation through a DAPI filter cube for five seconds or longer. Fluorescence fades in 1-5 minutes after UV exposure, but can be re-activated in the same cells multiple times with no appreciable reduction in signal.

*Note: The dye staining is retained after subsequent fixation with formaldehyde. Formaldehyde fixation results in activation of dye fluorescence in lysosomes without UV exposure, although UV exposure may further increase fluorescence in fixed cells. Staining is not compatible with detergent or solvent permeabilization.*

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**Please visit [www.millipore.com](http://www.millipore.com) for additional product information, test data and references**

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