

Lysotracker Red

IS-L992-5	Lysotracker Red	5x50 ul
IS-L992-20	Lysotracker Red	20x50 ul

Lyso Tracker Red is a red-fluorescent dye that selectively accumulates in cellular organelles with low internal pH. Particularly, it is used to stain lysosomes in living cells which maintain a low internal pH, i.e. an acidic environment, by an ATP-dependent proton pump providing optimal conditions for the activity of digestive enzymes.

This dye is suitable for vital staining; it permeates cell membrane of living cells without using additional detergents. Because the core part of the dye structure belongs to the BDP family, it exhibits strong hydrophobic properties, which provides good permeability through cell membrane. In addition, the dye has an amino group acting as a weak base. It is not fully protonated at neutral pH and the dye molecule remains relatively uncharged facilitating better passing through the membrane. Presumably, after getting into the lysosome acidic environment the dye might become protonated and thus retains inside the acidic compartment.

The dye is taken up by living cells in a short time and the protonation of the dye promotes local alkalizing, so it is recommended to perform staining of living cells for no more than 7 minutes just before visualization. It is possible to fix cells after treatment with Lyso Tracker Red, however the level of background staining becomes higher. Generally, despite the high selectivity of the dye for lysosomes, it is recommended mostly for the imaging purposes and is not intended to quantify lysosomes.

Lyso Tracker Red exhibits an absorption maximum at 577 nm and emission maximum at 590 nm. We also offer Lyso TrackerGreen for lysosome imaging in the green channel (absorption and emission maxima are at 504 nm and 511 nm, respectively).

Lyso Tracker Red is supplied as a 1 mM solution in DMSO.

General properties

Spectral properties

Excitation/absorption maximum, nm: 577

ϵ , L·mol⁻¹·cm⁻¹: 98000

Emission maximum, nm: 590

Fluorescence quantum yield: 0.13

Storage time in months: 12

Storage conditions: Store at -20°C in the dark. Desiccate. Avoid freeze-thaw cycles. Store in single-use aliquots, if possible. Transportation: at RT for up to 3 weeks

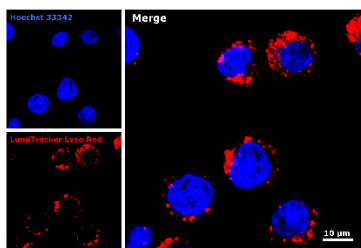
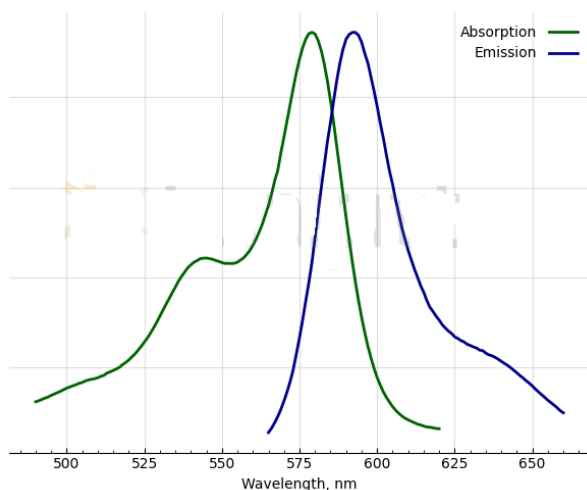
Recommendations for using the dye:

Working concentration: 50–75 nM.*

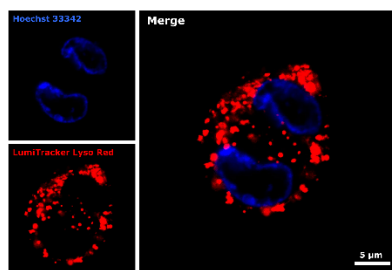
Staining: 3–7 minutes at 37 °C in 1× PBS (just before visualization).

**depending on the cell line, working concentration or incubating time may be changed*

Absorption and emission spectra of Lyso Tracker Red



Vital staining of lysosomes of RAW 264.7 mouse macrophage cells with Lyso Tracker Red



Vital staining of lysosomes of RAW 264.7 mouse macrophage cells with Lyso Tracker Red

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