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Product Specifications

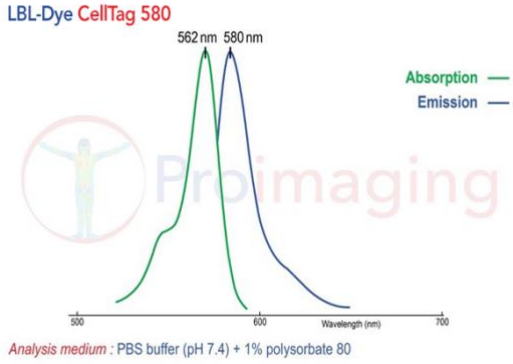
LBL-Dye CellTag 580 - Red Cellular Tracer

Product Information

Product Name: LBL-Dye CellTag 580 *(formerly known as LBL-Dye M580)*
Product Reference: CZ277
Unit Size: 1mg
Shipping Conditions: Room temperature for up to 3 weeks
Storage Conditions: Store 18 months at -20°C and protect from light

Molecular Weight: ~ 740
Max Absorption: 562 nm
Max Emission: 580 nm

Solubility:
- DMSO
- PBS Buffer (pH 7.4) + 1% polysorbate 80



Product Description

LBL-Dye CellTag 580 is a cell-permeant, lipophilic fluorescent dye with an emission wavelength of 580 nm, designed for effective cellular staining.

This photostable, non-cytotoxic probe is ideal for long-term imaging in living cells.

LBL-Dye CellTag 580 is compatible with a range of imaging techniques, including widefield, confocal, high-content screening (HCS), and flow cytometry, and can be used on both live cells or fixed cells and tissues (PFA fixation after labeling).

Product for Research Use Only. Not for Human Use.

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Protocol of Use`

Preparing Stock Solution

Solubility in DMSO / PBS Buffer (pH 7.4) + 1% polysorbate 80

To prepare a stock solution, dissolve the **1 mg** lyophilized **LBL-Dye CellTag 580** product in **125 µl** of
high-quality, anhydrous dimethylsulfoxide (DMSO) to a **final concentration of 8 mg/ml**. The solution must be aliquoted and stored at ≤–20°C and protected from light.

Experimental Protocols

Cell Preparation and Staining

The concentration of probe for optimal staining varies by application, cell type or on other factors, such as the permeability of the cells or tissues to the probe. In general, use working concentrations of **0,01% to 0,025% (0,8 to 2 µg/ml) – x4 000-10 000 from stock solution**.

1. *Preparation of staining solutions*

Dilute **1 µl LBL-Dye CellTag 580 stock solution for 4 ml** of appropriate buffer or growth medium.

2. *Staining adherent cells*

Cells grow on plate or coverslips with the appropriate culture medium. When cells have reached the desired confluency, remove the media from the dish and add prewarmed (37°C) staining solution containing **LBL-Dye CellTag 580** probe. The probe can be applied directly in culture medium without removal. While incubation times vary depending on the model system and probe used, incubation for 15–45 minutes under growth conditions appropriate for the cell type is generally sufficient but may need to be optimized. After staining is complete, visualize the staining after exposure at **optimal absorbance of 562 nm and detect at 570-610 nm of emission wavelength**. If background is observed, replace the staining solution with fresh prewarmed media or buffer and observe cells using a fluorescence microscope or fluorescence microplate reader. The cells can be fixed with PFA4% to preserve the staining in fixed cells and tissues.

3. *Staining suspension cells*

Centrifuge with adapted speed to obtain a cell pellet and aspirate the supernatant. Resuspend the cells gently in prewarmed culture medium (37°C) containing the **LBL-Dye CellTag 580** probe. While incubation times vary depending on cell type, incubation for 15–45 minutes under growth conditions is generally sufficient but may need to be optimized. After staining is complete, observe directly or re-pellet the cells by centrifugation and resuspend cells in fresh prewarmed medium if background signal is high.

Cells may be analyzed by flow cytometry, microplate-based analysis, or fluorescence microscopy. The cells can be fixed with PFA4% to preserve the staining in fixed cells and tissues.