Data Sheet

BioTracker™ MemBright 560 Live Cell Dye

Live Cell Probe

SCT084
Pack Size: 50 µL
Store at -20 °C

FOR RESEARCH USE ONLY

Not for use in diagnostic procedures. Not for human or animal consumption.

Background

The BioTracker™ MemBright 560 live cell dye is a "turn-on" fluorescence probe emitting in the orange to red spectrum for imaging of plasma membranes of live cells.

Probes specific for the plasma membrane are essential for demarcating cell boundaries. MemBright dyes use a novel fluorogenic mechanism, operating in a self-quenched nanoparticle state. On contact and propagation within the cell membrane, fluorescence is turned on, producing a bright signal with low to no background. The MemBright live cell membrane probes are compatible with two-photon imaging, super resolution microscopy, and can be used in live or fixed cells. Their robust photostability and lack of cytotoxicity make MemBright probes optimal for protracted live cell imaging. The superior characteristics of these plasma membrane probes permit use in a diverse spectrum of fluorescence detection applications.

Spectral Properties

Excitation: 560 nm

Emission: 570 nm

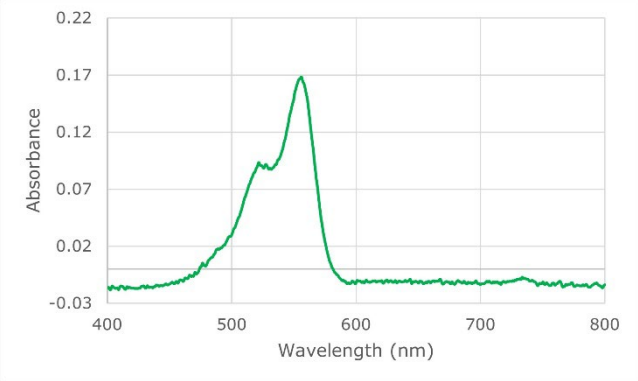

Figure 1: Probe absorbance data. 7 µL of probe at stock concentration (200 µM) was diluted in 1 mL of DMSO before undergoing an absorbance scan. Spectral scans were conducted using a PerkinElmer® FL8500 Fluorescence Spectrophotometer.

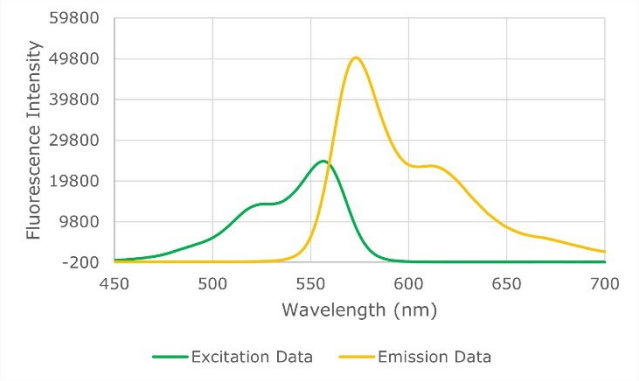

Figure 2: Probe excitation and emission data. 7 µL of probe at stock concentration (200 µM) was diluted in 1 mL of DMSO before undergoing excitation and emission scans. Spectral scans were conducted using a PerkinElmer® FL8500 Fluorescence Spectrophotometer.

Source

BioTracker™ MemBright 560 Live Cell Dye (SCT084) does not contain genetically modified organisms.

Quality Control Testing

- Purity: ≥ 98% confirmed by HPLC, HNMR, LC-MS and elemental analysis
- Molar Mass: 1370.3 g/mol

Storage and Handling

Store BioTracker™ MemBright Live Cell Dye at –20 °C, protected from light.

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

Presentation

200 µM magenta solution in 50 µL DMSO

Representative Data

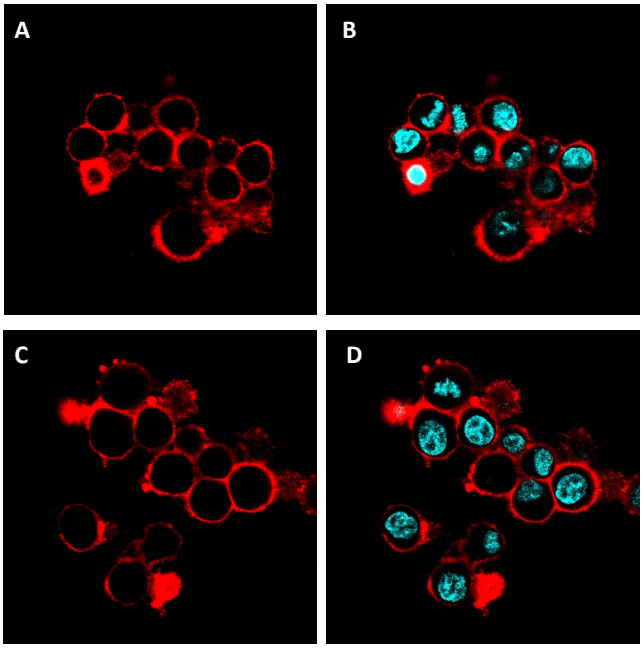

Figure 3: Confocal microscopy images of MemBright 560 staining. (**A**, **C**) KB human endocervical adenocarcinoma cells were cultured and stained with 200 nM MemBright 560 dye solution (red), and (**B**, **D**) co-stained with 7 µM Hoechst nuclear dye (cyan).

Protocols

Preparing BioTracker™ MemBright 560 live cell dye stock solution

1. Warm the vial to room temperature.
2. Before opening the vial, briefly spin down the solution to bottom by a microcentrifuge or by a desktop centrifuge.
3. Aliquot and store stock solution at –20 °C or below for longer storage.

Labeling cells

1. Culture cells in an appropriate medium and vessel for fluorescence microscopy.
2. Prepare the MemBright 560 staining solution by diluting the MemBright 560 stock solution 1:2500 in culture medium.
3. Remove the cell culture medium from the cells. If desired, counterstain for 10-20 minutes with a DNA dye and wash.
4. Add sufficient BioTracker™ MemBright 560 Live Cell Dye (SCT084) probe staining solution to cover the cells.
5. Immediately observe the cells under fluorescence microscope for fluorescence: λ_{ex} = 560 nm, λ_{em}=565-750 nm, without washing.

   Note: Optimal concentration must be determined by end user.

References

1. Collot M, Ashokkumar P, Anton H, Boutant E, Faklaris O, Galli T, Mély Y, Danglot L, Klymchenko AS. 2019. MemBright: A Family of Fluorescent Membrane Probes for Advanced Cellular Imaging and Neuroscience. Cell Chemical Biology. 26(4):600-614.e7. doi: https://doi.org/10.1016/j.chembiol.2019.01.009

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