Data Sheet

BioTracker™ Membright 488 Live Cell Dye

Live Cell Dye

SCT083

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 488 live cell dye is a "turn-on" fluorescence probe emitting in the green spectrum for imaging of plasma membranes of live cells.

Specific plasma membrane markers are essential for delineating the cell. Membright dyes exploit a unique fluorogenic mechanism, existing in a self-quenched nanoparticle state. Upon contact with and propagation within the plasma membrane, fluorescence is turned on, producing bright, background-free signal. The Membright live cell membrane dyes are compatible with two-photon imaging, superresolution imaging, and can also be used for fluorescent staining of fixed cells. The remarkable photostability and lack of cytotoxicity of the BioTracker™ Membright dyes make them suitable for long-term live cell imaging. This suite of superior characteristics of these unique plasma membrane dyes permit use in a wide spectrum of cell analysis applications.

Source

SCT083 does not contain genetically modified organisms.

Spectral Properties

Fluorescence images obtained by λex = 488 nm and emission range of 500-550 nm.

Peak exλ = 495 nm. Peak emλ = 515 nm.

Quality Control Testing

Purity: ≥ 98% confirmed by HPLC, HNMR, LC-MS and elemental analysis. Molar Mass: 1218.5 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 green solution in 50 µL DMSO.

Representative Data

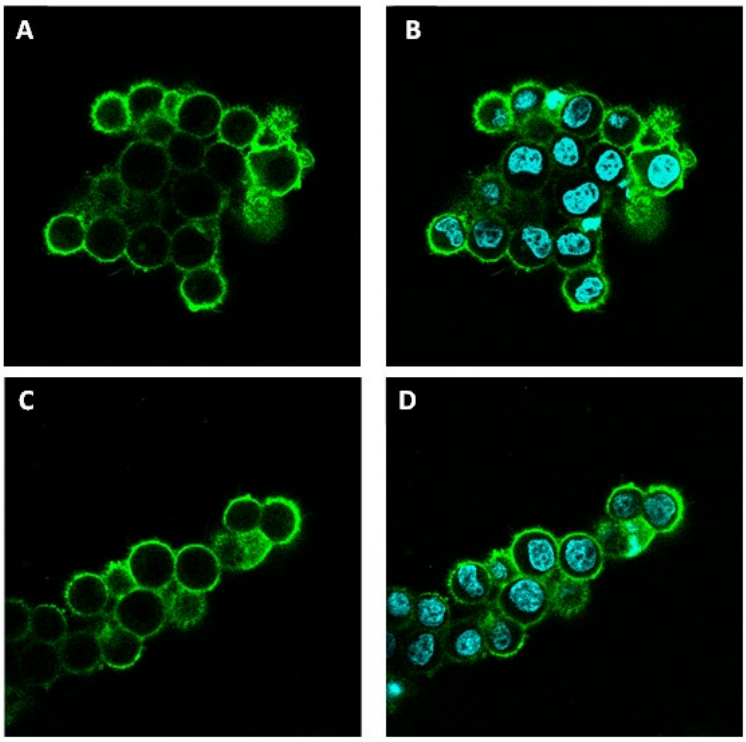

Figure 1: Confocal microscopy images of Membright-488 staining. KB human endocervical adenocarcinoma cells were cultured and stained with 200 nM Membright-488 dye solution (green; A, C) and co-stained with 7 µM Hoechst nuclear dye (cyan; B, D).

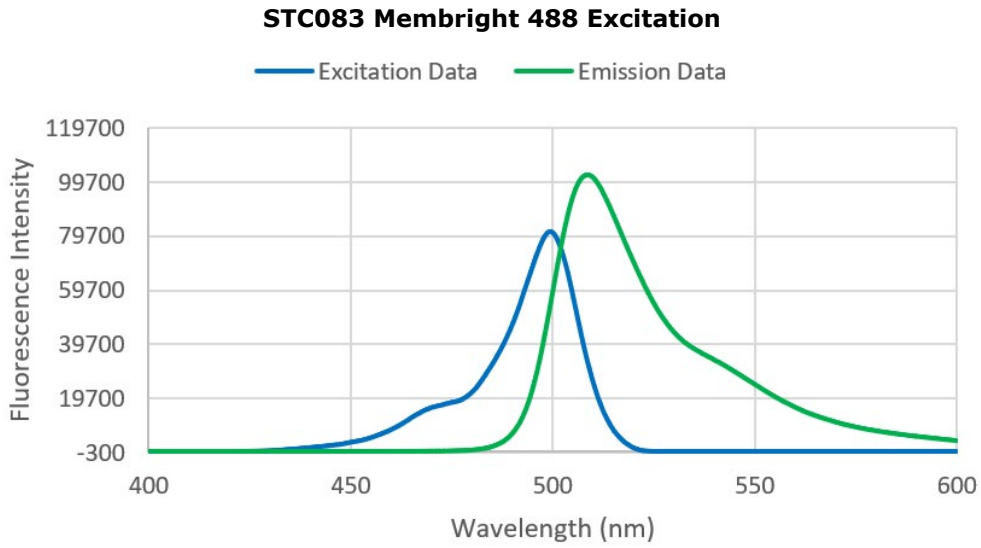

Figure 2: Probe excitation and emission data. 7 µL of probe at stock concentration (200 µM) was diluted in 1 mL of DMSO before undergoing excitation and emission scans. Spectral scans were conducted using a PerkinElmer FL8500 Fluorescence Spectrophotometer.

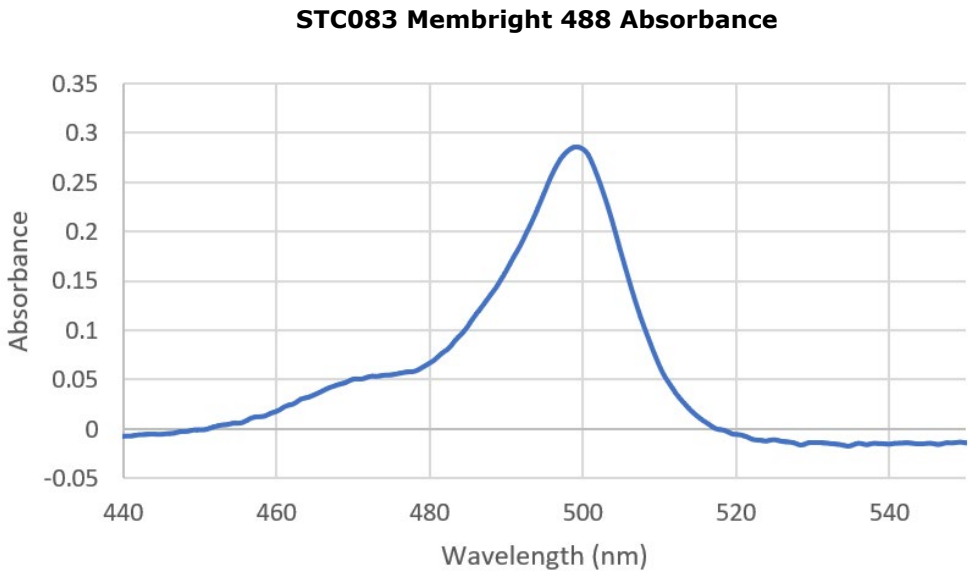

Figure 3: Probe absorbance data. 7 µL of probe at stock concentration (200 µM) was diluted in 1 mL of DMSO before undergoing an absorbance scan. Spectral scans were conducted using a PerkinElmer FL8500 Fluorescence Spectrophotometer.

Protocols

Preparing BioTracker™ Membright-488 Live Cell Dye Stock Solution

1. Warm the vial to room temperature.
2. Before opening the vial, brifely spin 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-488 staining solution by diluting the Membright-488 stock solution 1:1000 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 Membright staining solution to cover the cells.
5. Without washing, immediately observe the cells under fluorescence microscope for fluorescence. λex = 488 nm, λem = 500-550 nm or other filter suitable for emission characteristics.

Note: Optimal dilution must be determined by end user.

References

1. Collot, M *et al.* "MemBright: A family of fluorescent membrance probes for advanced cellular imaging and neuroscience." *Cell Chem. Biol.* 2019, 26:600-614.

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Terms and Conditions of Sale

Warranty, use restrictions, and other conditions of sale may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

Document Template 20306518 Ver 6.0

23026497 Ver 1.0, Rev 16JAN2024, BR/AB