Mito Tracker Green

MT-45007

Unit Size: 20 x 50 ug

Spectral Properties Ex/Em maxima: 490/523 nm

Product Description
Cell membrane permeable Mito Tracker Green dye can be used at nanomolar concentrations to stain mitochondria. MitoTracker Green becomes brightly fluorescent after accumulating in the lipid environment of mitochondrial membranes. MitoTracker Green can stain mitochondria in live or formaldehyde fixed cells.
The concentration of Mito Tracker Green for optimal staining will vary by application and cell type. The staining protocols provided here are general guidelines and may need to be optimized. Dilute the MitoTracker Green stock solution to the final working concentration in cell culture medium. For live cell staining, working concentrations of 20-200 nM are recommended. At higher concentrations, this probe may stain other cellular structures. Live cells stained with MitoTracker Green can be fixed but fluorescence is not well-retained. Subsequent permeabilization steps may also affect staining.
We also offers Mito Tracker 633, a novel far-red mitochondrial membrane potential dye, as well as a selection of classic mitochondrial membrane potential dyes.

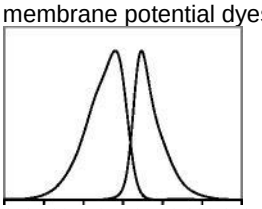

Figure 1. Absorption and emission spectra of Mito Tracker Green in methanol

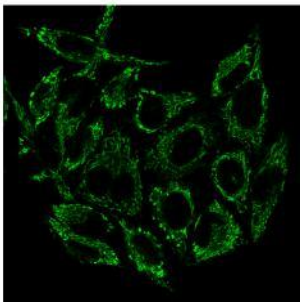

Figure 2. Live HeLa cells stained with 100 nM Mito Tracker Green for 30 minutes at 37°C.

Staining Protocols

Staining of adherent cells:
1. Remove the culture medium and add warm medium containing diluted Mito Tracker Green. Alternatively, the probe can be added directly to the culture medium.
2. Incubate cells for 30 minutes or longer.
3. Replace the loading solution with fresh medium or PBS and image cells by fluorescence microscopy.

Staining of suspension cells:
1. Pellet cells and aspirate the supernatant.
2. Resuspend pellet in medium containing diluted Mito Tracker Green.
3. Incubate for 30 minutes or longer.
4. Centrifuge the cells and resuspend pellet in fresh medium or PBS and image cells by fluorescence microscopy.

Note: If cells are not stained sufficiently, increase the concentration or the incubation time for the dye to accumulate in the mitochondria.

Staining of fixed cells:
1. MitoTracker Green may be used to stain cells fixed in formaldehyde. We recommend 3.7% formaldehyde in PBS for 10 min as a fixative.
2. Following fixation, rinse cells in PBS and incubate with MitoTracker Green.
3. Rinse cells at least once with PBS before viewing.

Note: The concentration of the probe and staining time may differ between fixed and live cells.

Storage and Handling
Store at -20°C, protected from light. Product is stable for at least 12 months from date of receipt when stored as recommended. To prepare a 200 uM stock solution, dissolve one 50 ug vial of lyophilized product in 400 uL anhydrous DMSO or DMF.
Mito Tracker Green stock solutions can be stored in aliquots at -20°C desiccated and protected from light for at least 6 months.

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