Revised: March 13, 2017

Product Information

MitoView™ 633

Catalog Number: 70055-T, 70055

Size:
70055-T: 50 ug
70055: 20 x 50 ug

Molecular Information: MW: 579.6

Color and Form: Dark blue solid

Spectral Properties: λ_{abs} /λ_{em} = 622/648 nm in methanol

Storage and Handling

Store desiccated at -20°C, protected from light. When stored as recommended, the dye is stable for at least one year from date of receipt. To prepare a 200 uM stock solution, dissolve one 50 ug vial in 460 uL anhydrous DMSO or DMF. The stock solution can be stored desiccated in single use aliquots at -20°C, protected from light for at least six months.

Product Description

MitoView™ 633 is a far-red fluorescent dye that stains mitochondria. The dye is membrane permeable and becomes brightly fluorescent upon accumulation in the mitochondrial membrane. Staining is dependent on mitochondrial membrane potential, and can be used to monitor mitochondrial membrane potential in intact cells. The dye is designed for use in live cells, subsequent fixation reduces or abolishes staining.

Note: The optimal detection settings for MitoView 633 are the same as for Cy®5 and other far-red dyes. However, the dye also has visible red fluorescence and can be imaged using Cy®3 settings as well. As a consequence, the dye cannot be used for two-color imaging with a other visible red probes.

Staining Protocols

General guidelines for staining cells with MitoView 633 are provided below. The optimal staining concentration and incubation time may vary by application and cell type. We recommend performing an inital test with MitoView 633 at staining concentrations between 20-200 nM or lower. At higher concentrations, other cellular structures may be stained.

1. When cells are at appropriate confluence, remove the medium and add pre-warmed medium containing diluted MitoView 633. For suspension cells, pellet the cells and resuspend in medium containing diluted MitoView 633.

   Note: alternatively, the dye can be added directly to the current culture medium. We recommend making a dilute stock solution in culture medium to avoid exposing the cells to a transient high concentration of dye. For example, dilute MitoView 633 to 10 times the final desired concentration in culture medium, and then add 1/10 volume to the medium on the cells and mix well by gently pipetting up and down.

2. Incubate cells for 15 minutes or longer at 37°C.

   Optional: you can replace the staining solution with fresh medium or buffer prior to imaging. For suspension cells, pellet the cells and resuspend in fresh medium or buffer.

3. Analyze fluorescence by fluorescence microscopy, flow cytometry, or fluorescence microplate reader using 633 nm excitation and filter sets for Cy®5. Alternatively, the dye can be imaged using 555 nm excitation and filter sets for Cy®3 (see note under product description).

   Note: If cells are not stained sufficiently, increase the concentration or the staining time.

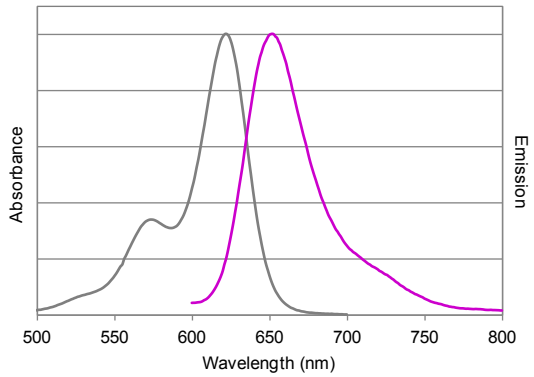

Figure 1. Absorbance and emission spectra of MitoView 633 in methanol.

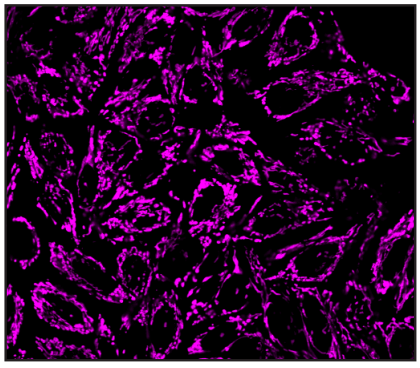

Figure 2: Live HeLa cells stained with 25 nM MitoView 633 at 37°C for 15 min. Cells were imaged (no wash) using 633 nm laser excitation and detection in the Cy®5 channel on a Zeiss LSM 700 confocal microscope with laser power at 2% and PMT gain of 400.

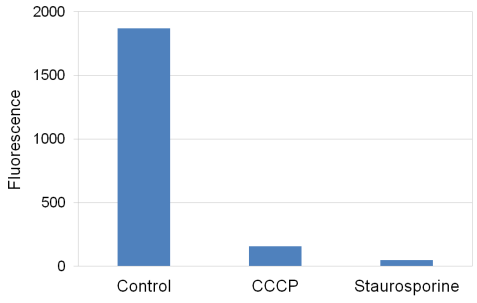

Figure 3: Measurement of mitochondrial membrane potential in Jurkat cells using MitoView 633 and flow cytometry. Jurkat cells were treated with CCCP (50 uM, 10 min.) to depolarize the mitochondrial membrane, or staurosporine (1 uM, 5 hours) to induce apoptosis. Cells were stained with 150 nM MitoView 633 for 30 minutes and analyzed by flow cytometry using a BD FACSCalibur in the FL4 channel (635 nm excitation, 661/16 emission filter). Cells treated with CCCP or staurosporine showed a marked decrease in staining intensity compared to untreated cells.

Related Products

Catalog number	Product
70052	MitoView™ Blue
70054	MitoView™ Green
30001	JC-1 Mitochondrial Membrane Detection Kit
70058	LysoView™633
70059	LysoView™650
70061	LysoView™540
70062	ViaFluor™488 Live Cell Microtubule Stain
70063	ViaFluor™647 Live Cell Microtubule Stain
40081	NucSpot™ Live 488 Nuclear Stain
40082	NucSpot™ Live 650 Nuclear Stain
40060	RedDot™1 far-red nuclear stain for live cells
40061	RedDot™2 far-red nuclear stain for dead or fixed cells
30062	NucView™488 and MitoView™633 Apoptosis Assay Kit
30067	Dual Apoptosis Assay Kit with NucView™ 488 caspase-3 substrate and CF™594-Annexin V
30065	Apoptosis & Necrosis Quantitation Kit Plus
30066	Apoptotic, Necrotic & Healthy Cells Quantitation Kit Plus

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