Revised: March 13, 2017

Product Information

MitoView™ Blue

Catalog Number: 70052-T, 70052

Size:
70052-T: 50 ug,
70052: 20 x 50 ug

Molecular Information: MW: 435

Color and Form: Pale yellow solid

Spectral Properties: λ_{abs} /λ_{em} = 398/440 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 574 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™ Blue is a blue 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.

Staining Protocols
General guidelines for staining cells with MitoView Blue are provided below. The optimal staining concentration and incubation time may vary by application and cell type. We recommend performing an initial test with MitoView Blue at a range of concentrations around 50-100 nM and lower to determine the optimal staining conditions for your cell type and detection system. The lowest concentration that gives good signal should be used; 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 Blue. For suspension cells, pellet the cells and resuspend in medium containing diluted MitoView Blue.

   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 Blue 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 405 nm excitation and filter sets for DAPI or Pacific Blue®.

   Note: MitoView Blue can cause phototoxicity to mitochondria during imaging, which causes the dye to leach out of mitochondria into the cytoplasm, so the lowest laser power that gives adequate signal should be used for microscopy. Due to phototoxicity, imaging of MitoView Blue by epifluorescence microscopy is not recommended. If you must use UV excitation to focus on the cells, the exposure should be kept as brief and low intensity as possible. Once the cells are in focus, move to an adjacent field for confocal imaging.

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

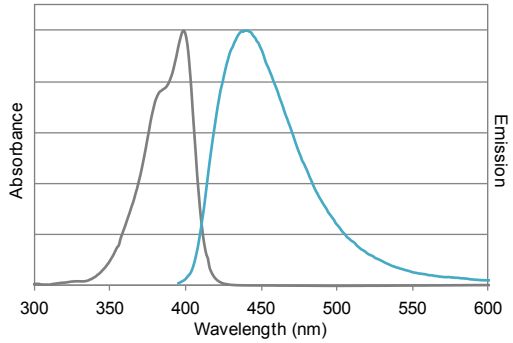

Figure 1. Absorbance and emission spectra of MitoView Blue in methanol.

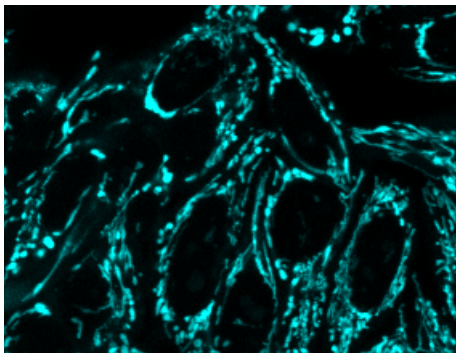

Figure 2. Live HeLa cells stained with 50 nM MitoView Blue for 15 min. at 37°C. Cells were imaged (no wash) on a Zeiss LSM 700 confocal microscope using 405 nm laser excitation with laser power at 2%, and detection in the DAPI channel with PMT gain of 600.

Related Products

Catalog number	Product
70054	MitoView™ Green
70055	MitoView™ 633
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
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

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