Revised: August 13, 2021

Product Information

LysoView™ Dyes

Product	Catalog no.	Size	Ex/Em (nm)**	Detection channel
LysoView™ 405, 1000X in DMSO	70066-T	10 uL	318, 400/464	DAPI, Pacific™ Blue
	70066	50 uL		
LysoView™ 488, 1000X in DMSO	70067-T	10 uL	496/526	GFP, FITC
	70067	50 uL		
LysoView™ 540, 1000X in DMSO	70061-T	10 uL	540/634	TRITC, Cy®3, PE
	70061	50 uL		
LysoView™ 550, 1000X in DMSO	70083-T	10 uL	542/567	TRITC, Cy®3, PE
	70083	50 uL		
LysoView™ 594, 1000X in DMSO	70084-T	10 uL	585/634	Texas Red®
	70084	50 uL		
LysoView™ 633 (lyophilized solid)	70058-T	1 vial*	634/657	Cy®5, APC
	70058	10 vials*		
LysoView™ 640, 1000X in DMSO	70085-T	10 uL	640/671	Cy®5, APC
	70085	50 uL		
LysoView™ 650, 1000X in DMSO	70059-T	10 uL	650/675	Cy®5, APC
	70059	50 uL		
LysoView™ 680, 1000X in DMSO	70086-T	10 uL	674/711	Cy®5.5
	70086	50 uL		

* One vial of LysoView™ 633 yields 100 uL of 1000X dye stock solution after reconstitution (see below).
** Spectral properties at pH ≤ 5. See Figure 1.

Storage and Handling

Store at -20°C and protect from light. Product is stable for at least 12 months from date of receipt when stored as recommended. Before use, centrifuge vials briefly to collect all of the liquid at the bottom of the vial.

Reconstitution (LysoView™ 633 only)

To prepare LysoView™ 633, 1000X stock solution in water: Briefly centrifuge vial to collect any loose material from cap before opening. Add 100 uL dH_2O to one vial of lyophilized dye and vortex to mix. Stock solution is stable for at least 2 weeks when stored at -20°C, protected from light.

Product Description

LysoView™ dyes are fluorescent stains for imaging lysosome localization and morphology in live cells. The dyes accumulate in the low pH environment of acidic organelles, resulting in highly specific, no-wash staining. LysoView™ 540 and LysoView™ 633 also exhibit pH-sensitive fluorescence (Figures 2-3).

We offer a selection of LysoView™ dyes for flexibility in multi-color detection:

- LysoView™ 405: Blue fluorescence for the DAPI or Pacific Blue™ channel.
- LysoView™ 488: Green fluorescence for the FITC or GFP channel.
- LysoView™ 540: Orange dye for the Cy®3 channel with pH-dependent fluorescence (Fig. 2). **Note**: This dye has limited photostability and may not be suitable for all microscopy applications.
- LysoView™ 550: Bright and photostable orange dye for the Cy®3 channel.
- LysoView™ 594: Bright and photostable red dye for the Texas Red® channel.
- LysoView™ 633: Far-red dye with pH-dependent fluorescence (Fig. 3).
- LysoView™ 640: Bright and photostable far-red dye for the Cy®5 channel.
- LysoView™ 650: Photostable, far-red dye compatible with super-resolution imaging by SIM or STED.
- LysoView™ 680: Bright, photostable, unique near-infrared lysosome dye for the Cy®5.5 channel.

Also see Light-On LysoView™ 555 (Related Products), a unique, UV-activated orange lysosome dye.

Considerations for Staining

- LysoView™ dyes can be used to stain adherent cells or cells in suspension.
- We recommend staining in complete medium with serum, but staining also can be done in serum-free medium or other buffer. If buffer is used to stain adherent cells, we recommend using a buffer like HBSS with calcium and magnesium to maintain cell attachment and morphology.
- We recommend using 1X dye as a starting point for optimization. Higher or lower concentrations may be optimal for different imaging systems or cell types.
- Do not add 1000X concentrated dye solution directly to cells in culture. This will cause transient high dye concentration leading to uneven or non-specific staining or toxicity. To add dye to cells without changing the medium, prepare an intermediate dilution of 10X dye in medium, then add 1/10 volume to the medium on the cells and pipette up and down gently to mix.
- In our tests, cells showed no obvious signs of toxicity after incubation with LysoView™ dyes for 3 days or longer, but toxicity may vary by cell type.
- We have observed LysoView™ 550, LysoView™ 594, and LysoView™ 680 to be well retained in stained cells for 3 days after dye washout. Signal is less bright after washout compared to continuous dye incubation. Dye retention after washout may vary between cell types.
- LysoView™ dyes are recommended for live cell imaging only. Staining is not well retained after fixation with formaldehyde.

Staining Protocol

1. For LysoView™ 633 only, prepare 1000X stock solution in water as described under Reconstitution. Other LysoView™ dyes are supplied as 1000X stock solutions in DMSO.
2. Dilute 1000X LysoView™ stock solution in cell culture medium to a final concentration of 1X.
3. Remove the medium from the cells and replace with medium containing dye.
4. Incubate live cells with medium containing 1X LysoView™ for 15-30 minutes or longer at 37°C.
5. Image or detect fluorescence using the appropriate excitation/emission settings or detection channel (see product table). No wash step is required.

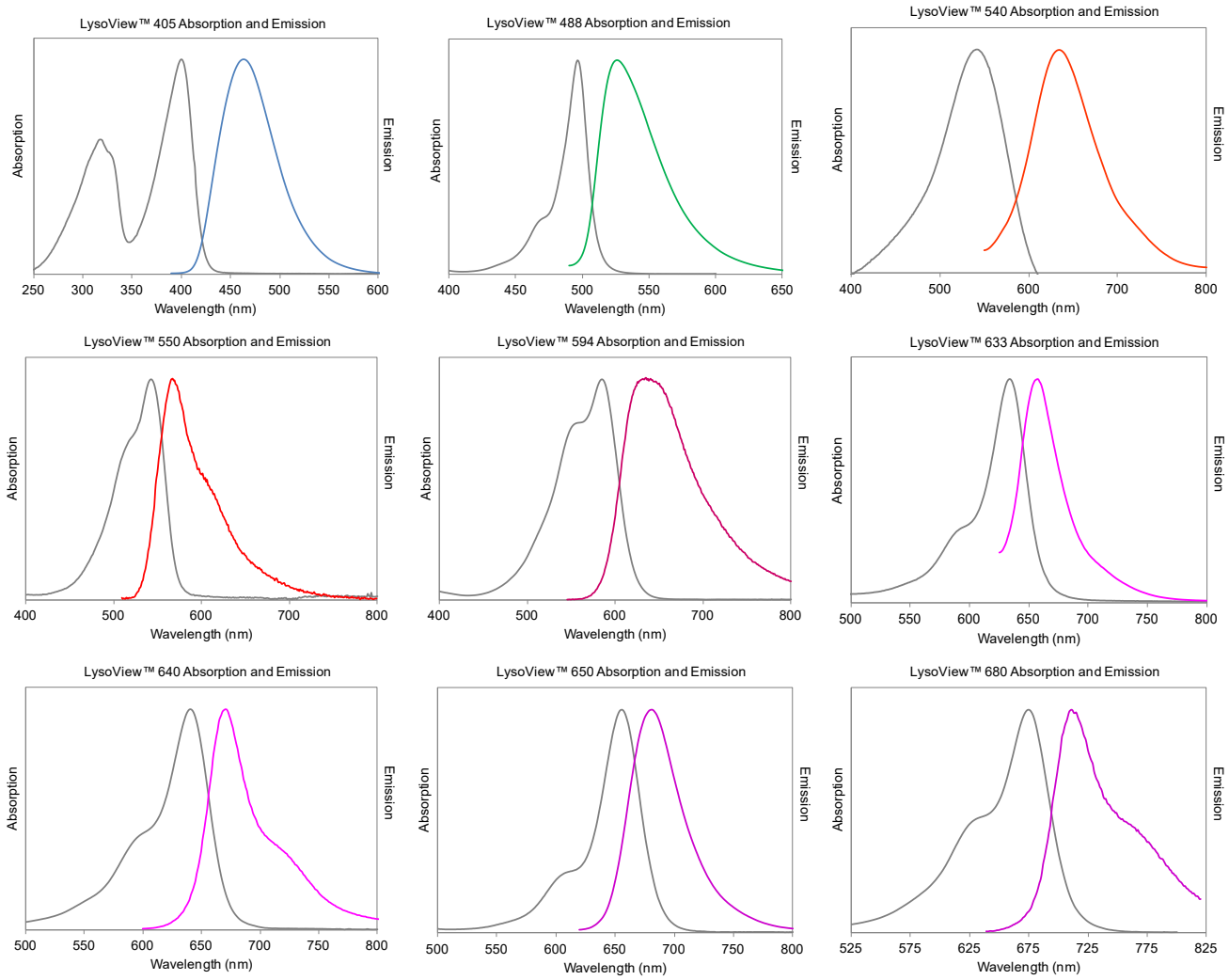

Figure 1. Normalized absorption and emission of LysoView™ dyes at pH ~5.

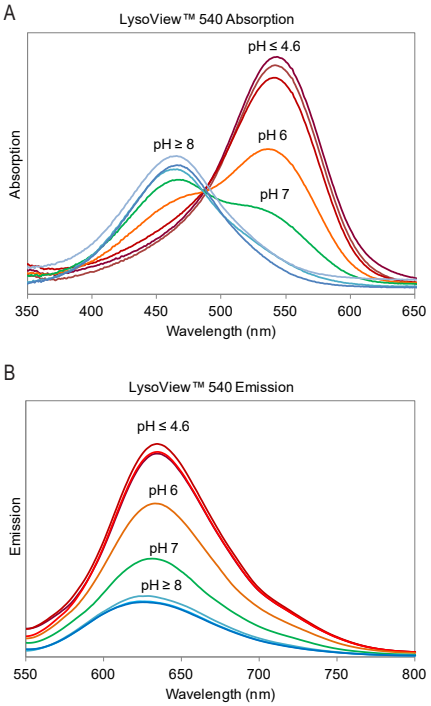

Figure 2. LysoView™ 540 normalized absorption (A) and emission (B) at varying pH.

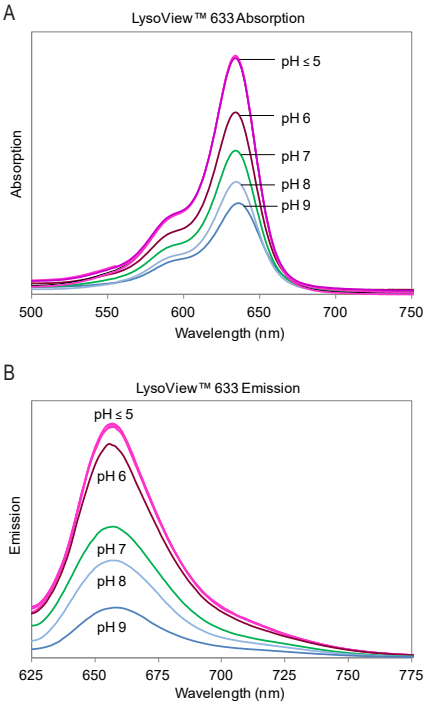

Figure 3. LysoView™ 633 normalized absorption (A) and emission (B) at varying pH.

Related Products

Catalog number	Product
70060	Light-On LysoView™ 555
70052...70075	MitoView™ Mitochondrial Dyes
70082	MitoView™ Fix 640
70065	LipidSpot™ 488 Lipid Droplet Stain
70069	LipidSpot™ 610 Lipid Droplet 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
70064	ViaFluor® 405 Live Cell Microtubule Stain
70062	ViaFluor® 488 Live Cell Microtubule Stain
70063	ViaFluor® 647 Live Cell Microtubule Stain
30020-30024	CellBrite® Cytoplasmic Membrane Dyes
30070...30079	CellBrite® NIR Cytoplasmic Membrane Dyes
30088-30090	CellBrite® Fix Membrane Stains
30092-30104	MemBrite® Fix Cell Surface Staining Kits
30105-30109	CellBrite® Steady Membrane Staining Kits
30111-30113	ExoBrite™ EV Membrane Staining Kits

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