Live-or-Dye™ Fixable Viability Staining Kits

Kits to covalently label dead cells, allowing cells with permeable plasma membranes to be excluded from analysis in flow cytometry. A wide variety of dye options for standard flow, spectral flow, and fluorescence microscopy.

Product attributes

Apoptosis/viability marker	Dead cell stain
For live or fixed cells	Covalent & fixable stains, For live/intact cells
Detection method/readout	Fluorescence microscopy, Flow cytometry
Assay type/options	Endpoint assay
Fixation options	Fix after staining (formaldehyde), Fix after staining (methanol), Permeabilize after staining
Colors	Blue, Green, Orange, Red, Far-red, Near-infrared
Storage Conditions	Store at -10 to -35 °C, Protect dye component from light, Desiccate

Product Description

Live-or-Dye™ Fixable Viability Staining Kits allow discrimination between live and dead cells by flow cytometry or microscopy. Live/dead stains are useful probes to include when analyzing cell surface protein expression by flow cytometry, because they allow intracellular fluorescence signal from dead cells with permeable plasma membranes to be excluded from analysis.

Biotium offers a wide selection of Live-or-Dye™ viability stains spanning the fluorescence spectrum, for maximal flexibility in multi-color analysis. Visit the Live-or-Dye™ Technology Page for more data and information.

How It Works

Live-or-Dye™ Fixable Viability Stains are cell membrane impermeant amine-reactive dyes. The dyes are able to enter into dead cells that have compromised membrane integrity and covalently label free amines on intracellular proteins. The dye labeling is extremely stable, allowing the cells to be fixed and permeabilized without loss of fluorescence or dye transfer between cells. The Live-or-Dye™ staining protocol has been optimized to maximize live/dead discrimination with minimal live cell staining, in order to prevent interference with immunostaining.

Biotium has a wide selection of Live-or-Dye™ viability stains spanning the fluorescence spectrum (see Table 1 below), for maximal flexibility in designing multi-color flow panels.

We also offer two sampler kits, each containing five different dye colors, for excitation from all of the popular flow cytometry laser lines (see Table 2 below). The Live-or-Dye™ Sampler Kit, Standard (32016) was designed for use on the most common flow cytometer laser and filter configurations, with dyes excitable by UV, Violet, Blue, Yellow-Green, and Red lasers. The Live-or-Dye™ Sampler Kit, Spectral (32017) was designed for use in spectral scanning flow cytometry. It contains dyes excitable by UV, Violet, Blue, and Red lasers, all of which have been validated on the Cytek® Aurora spectral cytometer, and chosen for their ability to fill the gaps in many spectral flow panels.

Live-or-Dye™ Fixable Viability Stains are dead cell specific in all cell types, including mammalian cells, bacteria and yeast. See our Cellular Stains Table for more information on how our dyes stain various organisms.

Table 1: Single-Color Live-or-Dye™ Kits

Cat. No.	Viability Dye	Compatible lasers (nm)	Optimal detection channels	Notes
32018, 32018-T	Live-or-Dye™ 330/410	355, 375	BUV395	
32002, 32002-T	Live-or-Dye™ 350/448	355, 375	DAPI	
32014,32014-T	Live-or-Dye™ 375/600	355, 375, 405	Spectral scan, BUV615, BV605	Developed for spectral cytometry
32003, 32003-T	Live-or-Dye™ 405/452	405	Pacific Blue®, BV421, BV450	
32009, 32009-T	Live-or-Dye™ 405/545	405	AmCyan, BV510	
32004, 32004-T	Live-or-Dye™ 488/515	488	FITC	Validated for microscopy
32012, 32012-T	Live-or-Dye™ 510/550	488, 532	Spectral scan	Developed for spectral cytometry
32005, 32005-T	Live-or-Dye™ 568/583	488, 532, 561	PE, PI	Validated for microscopy
32006, 32006-T	Live-or-Dye™ 594/614	488, 532, 561	PI, PE-CF®594, PE-Texas Red®	Validated for microscopy
32015, 32015-T	Live-or-Dye™ 615/740	633-640	Spectral scan, APC-Cy®7	Developed for spectral cytometry
32007, 32007-T	Live-or-Dye™ 640/662	633-640	APC	Validated for microscopy
32023, 32023-T	Live-or-Dye™ 650/720	633-640	APC-700	
32013, 32013-T	Live-or-Dye™ 665/685	633-640	Spectral scan, AF700	Developed for spectral cytometry
32024, 32024-T	Live-or-Dye™ 700/745	633-640, 785	APC-Cy®7	Our best dye for the APC-Cy®7 channel
32008, 32008-T	Live-or-Dye™ 750/777	633-640, 785	APC-Cy®7, IR840	
32011, 32011-T	Live-or-Dye™ 787/808	785, 808	APC-Cy®7, IR800	
32021, 32021-T	Live-or-Dye™ 820/835	808	IR840	
32022, 32022-T	Live-or-Dye™ 850/870	808	IR885	

Texas Red and Pacific Blue are registered trademarks of Thermo Fisher Scientific. Cy Dye is a registered trademark of Cytiva.

Table 2: Live-or-Dye™ Sampler Kits

Kit Name	Catalog No.	Included dyes: Ex/Em (Cat No.)	Application
Live-or-Dye™ Fixable Viability Sampler Kit, Standard	32016	• 350/448 (32002A) • 405/545 (32009A) • 488/515 (32004A) • 568/583 (32005A) • 640/662 (32007A)	Designed for use on most standard flow cytometry laser and filter configurations
Live-or-Dye™ Fixable Viability Sampler Kit, Spectral	32017	• 350/448 (32002A) • 375/600 (32014A) • 510/550 (32012A) • 615/740 (32015A) • 665/685 (32013A)	Designed for use in spectral flow cytometry, to fill in gaps between common fluorophores