Instruction Manual:

VitalStain Violet 500 for Flow Cytometry	**Cat. no. 59008**
VitalStain Blue 520 for Flow Cytometry	**Cat. no. 59009**
VitalStain Red 660 for Flow Cytometry	**Cat. no. 59010**
VitalStain Red 780 for Flow Cytometry	**Cat. no. 59011**

General information

VitalStain dyes are used to distinguish live cells from dead cells based on cell membrane integrity. The dyes are amine reactive and membrane impermeable.
Dead cells with permeable membranes are typically labelled to a higher extend due to reaction with intracellular amines resulting in highly fluorescent dead cells. Impermeable live cells are labelled only on the cell surface and show dim fluorescence.
The exclusion of dead cells from data allows a better identification of cell populations.
VitalStain dyes can be also used for determination of cell viability within samples after fixation and/or permeabilization.

VitalStain dyes are available for the 405-, 488- and 633 nm laser lines with detection in the common green, red and infrared channels.

Features

- High brightness for optimal differentiation between live and dead cells
- Ready-to-use kit, DMSO pre-diluted to test size formulation
- Unlike 7-AAD and PI, labelled cells can be fixed, permeabilized, washed and stained
- May be used for any cell species

Storage conditions

Recommended temperature for short term storage: - 15 °C to - 25 °C
Recommended temperature for long term storage: - 80 °C

Spectral properties

Dye	Excitation (nm)	Emission (nm)
VitalStain Violet 500	405	515
VitalStain Blue 520	488	523
VitalStain Red 660	633	660
VitalStain Red 780	633	780

SERVA Electrophoresis GmbH ● Carl-Benz-Str.7 ● D-69115 Heidelberg
Telefon: +49 6221 13840-0 ● E-Mail: info@serva.de ● Internet: www.serva.de

Important to know

VitalStain dyes are supplied as pre-diluted to test size formulation in anhydrous DMSO. Protect from light and moisture. Pre-warm to room temperature and short centrifugation prior to use.

For optimal results, staining with VitalStains is best performed in azide-free and protein-free phosphate buffer saline (PBS). VitalStains are compatible with any multi-color experiment.

Dyes are supplied as pre-diluted, nevertheless it is recommended to determine the optimal concentration and incubation time, as optimal dosage may vary with cell type and should be assessed empirically.

General assay protocol

1. Prepare cells as desired.
2. Wash cells twice in azide-free and protein-free phosphate buffer saline (PBS).
3. Resuspend cells at 1-10 x106 cells/ml in azide-free and protein-free phosphate buffer saline (PBS).

Note: For consistent staining it is not recommended to stain in less than 0.5 ml.

4. Stain cells by adding 1 µl of VitalStain solution per 1 ml of cells and mix by vortexing.
5. Incubate cells for 30 min at 2 °C to 8 °C. Protect from light.
6. Wash cells twice in phosphate buffer saline (PBS) or any appropriate flow cytometry buffer.
7. Proceed with experiment, as desired.

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