



## CellVue® Fluorescent Dye Kits for Cell Membrane Labeling

### What are they?

CellVue® dyes are fluorescent probes for irreversible labeling of plasma membranes of live cells.

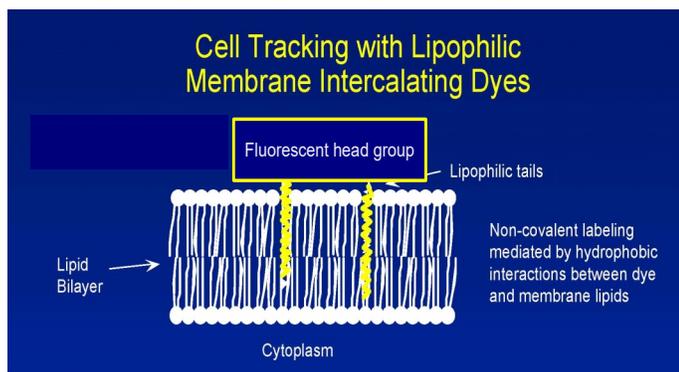
### What do CellVue® Kits for Cell Membrane Labeling Offer?

- Versatility – use with any cell type or bioparticle with a membrane
- Provides stable labeling with minimal transfer from cell to cell
- Provides rapid, uniform membrane labeling
- Combine with fluorescent antibodies or markers of cell function
- Suitable for cell tracking and proliferation studies
- Several colors (UV to NIR) for multi-parameter studies (use with existing fluorochromes for more colors)
- Far-Red and NIR versions can provide greater signal to noise due to reduced background autofluorescence
- Compatible with flow cytometers, confocal and in vivo imaging equipment
- Convenient, easy-to-use kit format

### How do they work?

The CellVue® cell linker kits use proprietary membrane labeling technology to stably incorporate a fluorescent dye with long aliphatic tails into the lipid regions of the cell membrane, see Figure 1. The labeling vehicle provided with the kit (Diluent C) is an iso-osmotic aqueous solution which contains no physiologic salts or buffers, detergents, or organic solvents and is designed to maintain cell viability while maximizing dye solubility and staining efficiency. The pattern of staining is dependent upon the cell type being labeled and the membranes of the cells.

Figure 1.

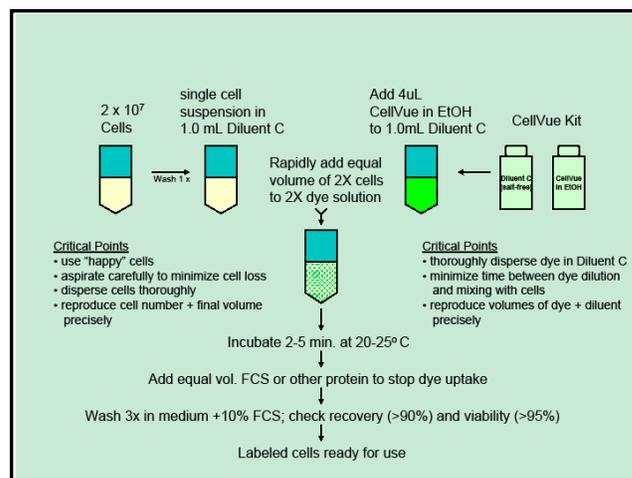


### What are the advantages of Far Red and Near Infrared Fluorescence?

- Reduced autofluorescence background
- Greater signal to noise
- Greater ability to multiplex with visible probes due to minimal spectral overlap
- Excellent for use in combination with other cell tracking probes such as CFSE or PKH26 .

### Methods for Cell Labeling with CellVue® Dyes

#### Mixing Steps and Critical Preparation Points



Davis HW, Hussain N, Qi X. 2016. Detection of cancer cells using SapC-DOPS nanovesicles. *Mol. Cancer*. 15:1, 33.

Cocola C, Piscitelli E, Vougiogiannopoulou K, Pelucchi P, Gray BD, Karnavas T, Moro M, Reinbold RA, Zucchi I. Methods for screening natural compounds using breast stem cells and cancer stem cells. *Methods in Molecular Biology Vol 1235*.

Chu Z, LaSance K, Blanco V, Kwon CH, Kaur B, Frederick M, Thornton S, Lemen L, Qi X. 2014. In vivo optical imaging of brain tumors and arthritis using fluorescent SapC-DOPS nanovesicles. *J Vis Exp*. 2:87.

Zolnierowicz J, Ambrozek-Latecka M, Kawiak J, Wasilewska D, Hoser G. 2013. Monitoring cell proliferation in vitro with different cellular fluorescent dyes. *Folia Histochem Cytobiol*. 51:3, 193-200.

Beem E, Segal MS. 2013. Evaluation of stability of cell labels when used for cell migration. *J Fluoresc*. 23:5, 975-87.

Cocola C, Piscitelli E, Sabour D, Gray BD, et. al 2012. A novel approach for high-throughput screening of mammary gland normal and cancer stem cells. *Biology: special issue "Gene Expression and Regulation" article*.

CellVue® Kits are available in 3 sizes:

**Mini Kit** (small): 0.1 ml of 1mM ethanolic dye stock and 1 x 10mL of diluent.

**Midi Kit** (medium): 0.2 ml of 1mM ethanolic dye stock and 6 x 10 ml of diluent.

**Maxi Kit** (large): 0.5 ml of 1mM ethanolic dye stock and 6 x 10 ml of diluent.

| Catalog Number | Name              | Description   |
|----------------|-------------------|---|
| C-1001         | CellVue® Maroon   | The CellVue Maroon Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Ex max = 647 nm and Em max = 667 nm. Provides stable labeling of the lipid regions of cell membranes.   |
| C-1002         | CellVue® Claret   | The CellVue Claret Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Ex max = 655 nm and Em max = 675 nm. Provides stable labeling of the lipid regions of cell membranes.   |
| C-1003         | CellVue® Plum     | The CellVue Plum Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Ex max = 652 nm and Em max = 671 nm. Provides stable labeling of the lipid regions of cell membranes.   |
| C-1004         | CellVue® Burgundy | The CellVue Burgundy Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Ex max = 683 nm and Em max = 707 nm. Provides stable labeling of the lipid regions of cell membranes.   |
| C-1005         | CellVue® Lavendar | The CellVue Lavender Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Ex max = 425 nm and Em max = 461 nm. Provides stable labeling of the lipid regions of cell membranes.   |
| C-1006         | CellVue® NIR815   | The CellVue NIR815 Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Ex max = 786 nm and Em max = 814 nm. Provides stable labeling of the lipid regions of cell membranes.   |
| C-1007         | CellVue® NIR780   | The CellVue NIR780 Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Abs max = 745 nm and Em max = 776 nm. Provides stable labeling of the lipid regions of cell membranes.  |
| C-1008         | Diluent C         | Six vials containing 10 mL of Diluent C for membrane labeling with CellVue dyes.  |
| C-1009         | CellVue® Jade     | The CellVue Jade Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Abs max = 478 nm and Em max = 508 nm. Provides stable labeling of the lipid regions of cell membranes.  |
| C-1011         | CellVue® Red      | The CellVue Red Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Ex max = 567 nm and Em max = 588 nm. Provides stable labeling of the lipid regions of cell membranes.  |
| C-1012         | CellVue® Lilac    | The CellVue Lavender Fluorescent Cell Linker Kit contains a 1 mM dye stock solution and cell labeling diluent. Dye fluorescence properties: Ex max = 423 nm and Em max = 471 nm. Provides stable labeling of the lipid regions of cell membranes. CellVue Lilac is an improved version of CellVue Lavender. It has improved dye solubility resulting in improved membrane staining. |

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