Yeast Viability Kit 1

F23202

Storage

Room temperature
- ✓ Cell Dilution Buffer

4 °C in the dark
- ✓ Propidium Iodide Stain for Yeast

-20 °C in the dark
- ✓ Fluorescein Diacetate Stain
- ✓ Fluorescence Signal Enhancer

Product Description

F23004	Propidium Iodide Stain for Yeast
F23211	Fluorescein Diacetate Stain
F23212	Cell Dilution Buffer
F23213	Fluorescence Signal Enhancer 1

Yeast Viability Kit 1 is used to analyze the cell concentration and viability of yeast samples with the automated fluorescence cell counters of the LUNA™ family.

Fluorescein Diacetate Stain and **Propidium Iodide Stain for Yeast** are used to assess cell viability. Viable cells hydrolyze fluorescein diacetate into the green fluorescent compound fluorescein, causing viable cells to fluoresce green. Not being able to permeate intact cell membranes, propidium iodide is taken up by nonviable cells and cells with compromised membranes binding to the nucleus of nonviable cells and causing them to fluoresce red.

Fluorescence Signal Enhancer 1 is an inhibitor of ATP-dependent fluorescein efflux. By blocking fluorescein from being pumped out of the cell, Fluorescence Signal Enhancer 1 lowers background and increases signal intensity, thereby enhancing the fluorescein signal-to-noise ratio. Fluorescence Signal Enhancer 1 is most effective with metabolically active cells in the log growth phase.

Cell Dilution Buffer is for washing cells and diluting cell suspensions.

Directions for Use

1. Wash yeast pellets with Cell Dilution Buffer as needed.
2. Dilute yeast cell suspensions with Cell Dilution Buffer as needed prior to staining.
3. Mix:
   - 1 µL Fluorescence Signal Enhancer 1
   - 1 µL Propidium Iodide Stain for Yeast
   - 1 µL Fluorescein Diacetate Stain
   - 17 µL yeast sample
4. Incubate the mixture at room temperature for 10 minutes.
5. Count the sample with a compatible LUNA™.

Disclaimer

This product is for research use only.
Please consult the material safety data sheet for information regarding hazards and safe handling practices.

References

1. Hong, D. et al. Fast automated yeast cell counting algorithm using bright-field and fluorescence microscopic images. *Biological Procedures Online* 15:13. http://www.biologicalproceduresonline.com/content/15/1/13 (2013).
2. Kowlek-Miurek, M & Zadrag-Tecza, R. Comparison of methods used for assessing the vitality of yeast cells. *FEMS Yeast Research* 14, 1068-1079 (2014).
3. Lopezamoros R, et al. Flow cytometric assessment of *Escherichia coli* and *Salmonella typhimurium* starvation-survival in seawater using rhodamine-12, propidium iodide, and oxonol. *Applied Environmental Microbiology* 61, 2521-2526 (1995).

Additional information is available on our website at www.logosbio.com.

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LBSM-RD-PI-YVK-001 Rev.2

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