

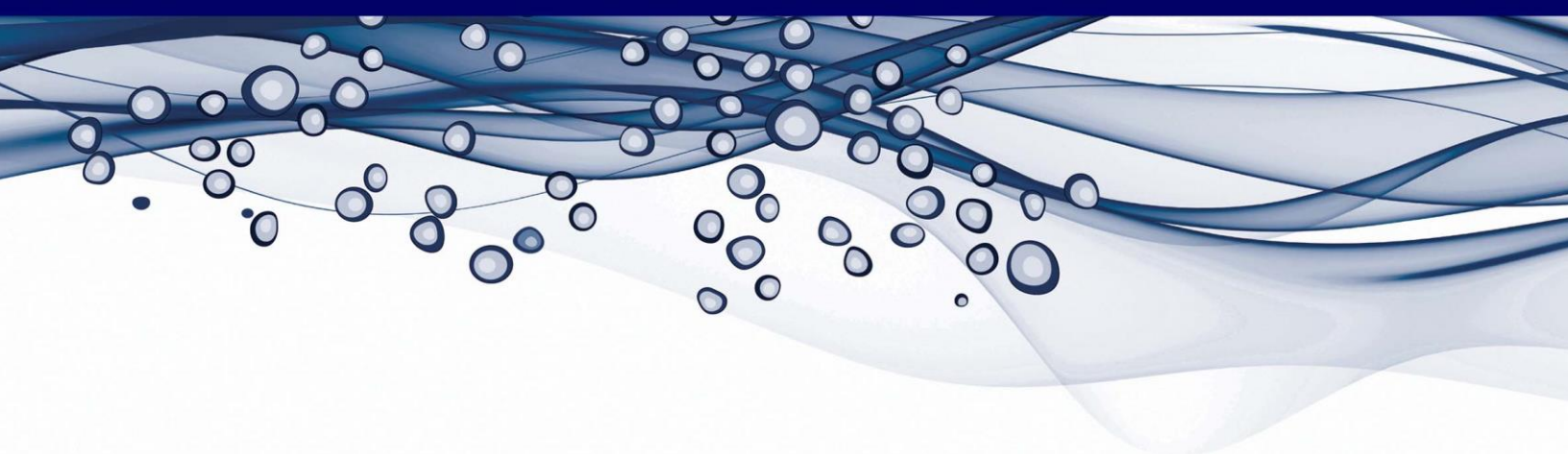
# Cellometer<sup>®</sup>

**Product Number:** CSK-0102-2mL, CSK-0102-10mL

**Description:** ViaStain™ Yeast Kit for Live/Dead Concentration

**Instrument (s):** Cellometer X2, Spectrum 10x

## Instruction Booklet: ViaStain™ Yeast Kit for Live/Dead Concentration



This product is for RESEARCH USE ONLY and is not approved for diagnostic or therapeutic use.

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## Description

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The ViaStain™ Yeast Kit for Live/Dead Concentration enables the user to quantitatively distinguish live and dead yeast in pure cultures and in cultures containing debris such as corn mash using the Cellometer system. The kit contains a solution of the green-fluorescent nucleic acid stain, acridine orange, and the red-fluorescent nucleic acid stain, propidium iodide, and a dilution buffer. Propidium iodide is a membrane exclusion dye that only enters cells with compromised membranes while acridine orange penetrates all cells in a population. When both dyes are present in the nucleus, propidium iodide causes a reduction in acridine orange fluorescence by fluorescence resonance energy transfer (FRET). As a result, yeast with intact membranes stain fluorescent green and are counted as live, whereas yeast with compromised membranes only stain fluorescent red and are counted as dead when using the Cellometer system.

## Materials

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### Materials Supplied

1. CSK-0102-2mL (100 tests)
  - a. Component A: One 2 mL bottle of two color fluorescence staining solution
  - b. Component B: One 10 mL bottle of yeast dilution buffer
2. CSK-0102-10mL (500 tests)
  - a. Component A: One 10 mL bottle of two color fluorescence staining solution
  - b. Component B: One 20 mL bottle of yeast dilution buffer
3. CSK-0102-S (25 tests)
  - a. Component A: One 500 µL bottle of two color fluorescence staining solution
  - b. Component B: One 1 mL bottle of yeast dilution buffer

### Materials Required

1. 600 µL micro centrifuge tube
2. 20-200 µL pipette
3. 100-1000 µL pipette
4. Cellometer counting chamber
5. Cellometer X2 or Spectrum 10x (with Fluorescent Optics Modules S1-534-470 and S1-655-527)

## Procedure

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### Brewing Yeast Sample Preparation

1. Dilute yeast sample from the fermentation tank ~10-50x in saline solution, for a final concentration of yeast in the slide of at least  $1 \times 10^6$ .
2. If working with yeast from slurry, dilute the sample ~100-200x in saline solution, for a final concentration of yeast in the slide of at least  $1 \times 10^6$ .

### Corn Mash Yeast Sample Preparation for Biofuel

1. Dilute corn mash sample 10-fold (by weight) in water and mix well.
2. Allow corn mash debris in diluted sample to settle for 30 sec.

### Sample Staining

1. Pipette 10  $\mu$ L of diluted yeast (if using corn mash, avoid the large debris in the mixture) and dispense into a micro centrifuge tube.
2. Add 10  $\mu$ L of yeast dilution buffer to micro centrifuge tube and mix well by pipetting up and down 3 times.
3. Add 20  $\mu$ L yeast staining solution to micro centrifuge tube and mix well by pipetting up and down 3 times.
4. Incubate the stained corn sample for 1-2 min at room temperature.
5. Pipette sample up and down 3 times to mix and then load 20  $\mu$ L into a counting chamber (if using SD100 slides, peel plastic film off both sides before loading).
6. Place loaded slide on a Kimwipe® and wait 1 min before inserting sample into instrument to allow sample to settle in the chamber.
7. Select the appropriate assay type for yeast AOPI viability measurement.
8. Preview bright-field and fluorescent images
9. Count

### Storage and Handling

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Store the Yeast Dilution Buffer at room temperature and the Yeast Live / Dead Staining Solution at 2-8°C protected from light. The ViaStain™ Yeast Dilution Buffer is a buffer at high pH; safety precautions must be taken when handling the solution. Please consult the Safety Data Sheet for more safety information, found on [www.nexcelom.com/Products](http://www.nexcelom.com/Products).

### Warranty

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This product is for RESEARCH USE ONLY and is not approved for diagnostic or therapeutic use. Product is warranted to meet the specifications outlined in the Certificate of Analysis when stored and used according to the manufacturer's instructions. No other warranty, expressed or implied (such as merchantability, fitness for a particular purpose, or non-infringement) is granted. Warranty is valid until the expiration date stated on the product label. If no expiration is listed, the warranty is valid for 12 months from the date of product receipt.

Warranty will be void if product is stored incorrectly, the recommended protocol is not followed, or the product is used for a different application.

### Ordering Information

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When ordering with a Purchase Order:

Fax a copy of the order to 978-327-5341

Email a copy of the order to [sales@nexcelom.com](mailto:sales@nexcelom.com)

When ordering with a Credit Card:

Visit [www.shop.nexcelom.com](http://www.shop.nexcelom.com) and place your order