

Cellometer[®]

Product Number: CSK-0102

Description: Cellometer ViaStain[™] AOPI Staining Solution in PBS Counting Kit

Instrument (s): Cellometer X2, Vision10x

Instruction Booklet: ViaStain[™] Yeast Live/Dead Viability Kit



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

8001257 Rev. B

Product

Part Number: **CSK-0102**

Description: Cellometer ViaStain™ Yeast Live / Dead Viability Kit

CS0-0102-10ML Lot Number: **YYMMDD-RR-B**

CS2-0105-2ML Lot Number: **YYMMDD-RR-B**

Size: 100 tests

Description

The ViaStain™ Yeast Live / Dead Cell Counting Kit 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

Materials Supplied

1. Cellometer ViaStain™ Yeast Live / Dead Cell Counting Kit (CSK-0102)*
 - a. One 10 mL bottle of yeast dilution buffer
 - b. One 2 mL bottle of two color fluorescence staining solution

*Each kit contains sufficient material to perform ~ 100 tests using the Cellometer system.

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 Cellometer Vision 10x (with Fluorescence Optical Module F101, VB-535-401, or equivalent and F304, VB-660-501, or equivalent)

Procedure

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 1×10^6 .
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 1×10^6 .

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 µL of diluted yeast (if using corn mash, avoid the large debris in the mixture) and dispense into a micro centrifuge tube.
2. Add 10 µL of yeast dilution buffer to micro centrifuge tube and mix well by pipetting up and down 3 times.
3. Add 20 µL 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 µL 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

Store the Yeast Dilution Buffer at room temperature and the Yeast Live / Dead Staining Solution at 4-6°C protected from light. The ViaStain™ Yeast Dilution Buffer is a buffer at high pH and the Yeast Live / Dead Staining Solution is highly carcinogenic; safety precautions must be taken when handling the solution. Please consult the Material Safety Data Sheet for more safety information, found on www.nexcelom.com/Products.

Warranty

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.

Quality Control

Manufactured and tested according to SOP #: 8001434

Passed



Matthew Bularzik, Quality Engineer

03/10/2014