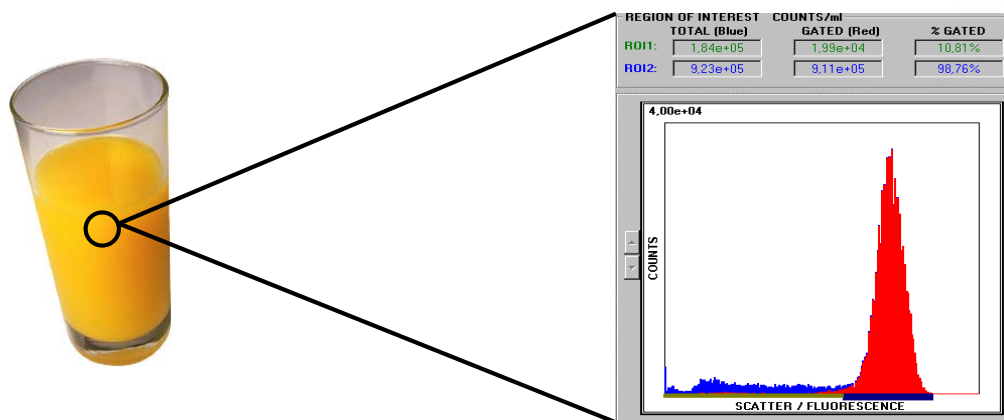


Feb. 6, 07: Application note no 1.02

# Yeast contamination

Rapid method for detection of yeast contaminants in fruit based beverages



BioDETECT 24h Yeast Contaminant Detection

The taste and shelf life of a fruit based beverage is significantly improved if it is produced without the presence of viable yeast. *BioDETECT* has developed an easy-to-use time saving application that is able to detect one single growing yeast cell in a defined volume of beverage after only 24 hours. The application, based on the *MICROCYTE*<sup>®</sup> cytometer technology and a specific line of reagents, will be most useful to manufacturers of beverages using ingredients from fruit.

**Rapid response** - 24 hours on-site feedback time - compared to several days of traditional methods

**Detection limit** - detection of a single growing yeast cell

**Reliability** - scientific method applied in health diagnostics, medicine and food production for several years

**Ease of use** - simple, easy to use procedure and instrumentation

**Instrument based analysis** - reducing the risk of subjective human interpretation

**Small** - 12 kg moveable instrument with minimal space requirements

**Proven technology** - with reference customers within the food and pharmaceutical industries

## *BioDETECT* Instrument family

*MICROCYTE*<sup>®</sup> Field  
*MICROCYTE*<sup>®</sup> Aqua  
*YEASTCYTE*<sup>®</sup>

Easy to use instruments for accurate, rapid and cost effective bio-analysis for the pharmaceutical, biotech, food/beverage industry, military and universities.



*MICROCYTE*<sup>®</sup> Field & *MICROCYTE*<sup>®</sup> Aqua

The total number of yeast cells in a beverage sample is detected and counted on the MICROCYTE<sup>®</sup> right after sampling and after 24 hours of incubation. The 0- and 24- hours samples are compared to see if growth has occurred. In order to distinguish the micro-organisms from other particles in the same size range, the cells are stained with a fluorescent dye, TOPRO-3<sup>™</sup>, that binds to nucleic acids. The number of fluorescent particles are counted on the MICROCYTE<sup>®</sup> and taken as a measure of the number of yeast cells in the sample.

## Procedure

### 1. Concentration of cells

- Collect cells by filtration.
- Transfer the filter to a petri dish and add growth medium.
- Withdraw 1 ml for immediate staining and counting (0-hour sample).

### 2. Incubation

- Incubate the remaining medium for 24 hours.

### 3. Staining

- Fix cells in ethanol.
- Centrifuge and resuspend the pellet in staining buffer.
- Add one drop of staining solution (TOPRO-3<sup>™</sup>).
- Vortex and incubate for 1-5 minutes at room temperature.

### 4. Counting

- Vortex and count on the MICROCYTE<sup>®</sup>.
- Compare results from 0- and 24-hour samples to check for yeast growth.

For a more detailed application note, please do not hesitate to contact us.

\* TOPRO-3<sup>™</sup> was obtained from Molecular Probes, Inc.

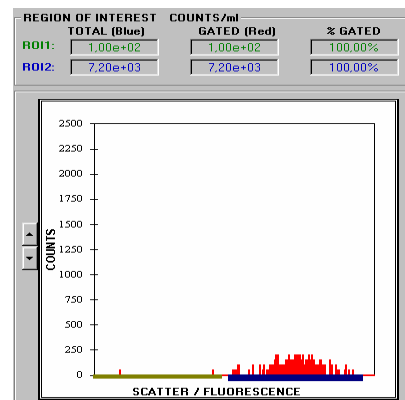


Figure 1: 0-hour sample

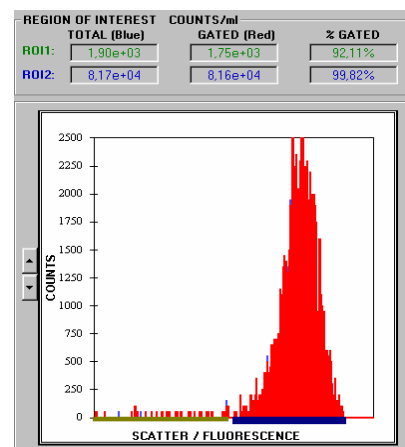
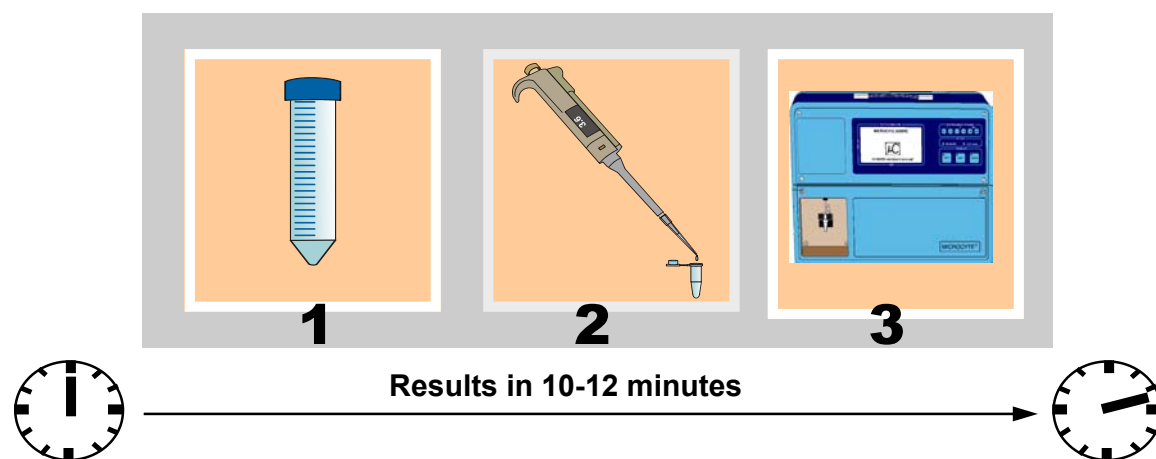


Figure 2: 24-hours sample



BioDETECT AS, Olaf Helsetts vei 5, POB 56 Bogerud, N-0621 Oslo, Norway Phone: +47 22628152 Fax: +47 22628151  
mail@biotdetect.no www.biotdetect.no

BioDETECT develops, manufactures and markets instruments and kits targeted at the pharmaceutical, beverage, water, military/civil defense and OEM markets. The products aim at offering robust, rapid and accurate enumeration and analysis of microorganisms from a liquid, air or powder sample.


  
MICROCYTE