



sartorius stedim  
biotech

Monitoring  
the quality of beverages,  
water and foods...



turning science into solutions

# ... is fast and reliable with Biosart® 100 Monitors and Media

## Microbiological Quality Control with Biosart® 100 Monitors increases efficiency and saves time

The detection of microbial contamination in sample liquids such as final product, incoming inspection or during in-process testing plays a significant role in the quality assurance process. The requirements for a practical microbiological test method are that it permits quantitative and reproducible detection of trace contamination and that it can be performed efficiently and economically under routine conditions. These requirements are fulfilled optimally by the membrane filtration method. The use of ready-to-use disposable units simplifies the testing procedure and prevent cross-contamination of samples.

Biosart® 100 Monitors have been specifically designed for the detection and enumeration of microorganisms in beverages, water, pharmaceuticals, cosmetics, foods and other liquids. These sterile disposables with an incorporated membrane filter and cellulose pad are ready-to-use. After filtration,

just remove the 100 ml funnel to convert the Monitor into a petri dish eliminating the need for membrane manipulation. Culture media for wetting the pad are available in individually sterilized, convenient plastic ampoules. Biosart® 100 Monitors are ready-to-use filter units designed to be placed onto the bases of a vacuum manifold, eliminating the cleaning and sterilization required of reusable funnels.

### High Flow membranes

Biosart® 100 Monitors are also available with the new 0.45 µm High Flow membranes. The special pore structure allows shorter filtration times due to 30% higher flow rates.

### Compliance with International Standards

The membrane filtration method is worldwide accepted and the preferred method of choice for the analysis of microbial contamination in liquid samples. Biosart® 100 Monitors and Media are in compliance with the membrane filtration procedures referenced in the:

- European drinking water directive (Council Directive 98/83/EC on the quality of water)
- Standard Methods for the Examination of Water and Waste Water, 20th edition
- U.S. Environmental Protection Agency, 600/8-78-017.
- ISO Standard's microbiological methods, such as ISO 7704, ISO 9308-1, EN 12780, ISO 8199
- WHO Guidelines for Drinking Water Quality, 1997
- International Pharmacopoeia, such as the current editions of the USP and EP

The quality management system of Sartorius Stedim Biotech meets the requirements of the International Standard ISO 9001. For quality assurance all materials are selected carefully in accordance with current regulations and recommendations, such as the FDA CFR's and applicable current Good Manufacturing Practices.



Each lot is tested by Sartorius Stedim Biotech for accordance with established specifications before release, and each box includes a lot certificate.

## Biosart® 100 Monitors

### Specifications

Housing	Polystyrene
Membrane filter	Cellulose nitrate (cellulose ester): choice of white, green or grey, with grid; Regenerated cellulose: white; can be used as documentation
Plug and adapter	Polyethylene
Pad	Cellulose
Capacity	100 ml, 10 ml graduations
Pore size	0.2 µm, 0.45 µm or 0.8 µm
Filter diameter	47 mm
Filtration area	14.5 cm <sup>2</sup>
Max. operating pressure	Vacuum only
Outlet	6.5 × 1.5 mm
Lot certificates	Recovery rate, sterility and specifications

## Easy work flow – reliable results



1 | Pour the sample



2 | Apply vacuum and filter the sample



3 | Add the Biosart® 100 Nutrient Media

# Combisart® – The sterile vented filter station

The Sartorius Stedim Biotech Combisart® system enables the user to select the optimal hardware and consumables for his needs in quality assurance. Combisart® features a modular design and field-proven standard.

## Description

At the heart of the Combisart® system is a high-grade stainless steel manifold or individual system designed to accommodate all types of filter holders and funnels. The low height of the manifold ports is particularly advantageous for working on a clean bench. The single base support 16840 is screwed into the inlet thread of each filter station. The Biosart® 100 adapter 16414 ensures that the Monitors are positioned perfectly, minimizing the risk of contamination during filtration. For low number of samples, we recommend the use of the 1-branch manifold 16844 or the individual base 16841 on the top of a suction flask. For large number of samples, we recommend the 3- or 6-branch manifolds.

## Sterilization

The system is compliant with ISO 8199 with regards to the sterilization methods of the

equipment described in the "General Guide to enumeration of micro-organisms by culture". Since the most reliable sterilization method is autoclaving, the Combisart® design offers a unique advantage for this method. The base support of the filter station can be simply unscrewed from each workstation and autoclaved. This method increases reliability and saves sterilization capacity.

## Sterile venting

A special feature of the Combisart® manifold are the stainless steel three-way valves (taps). They allow the vacuum for each filter holder to be individually controlled and each filter station to be sterilely vented. This rules out secondary contamination of the underside of the filter.

## Maximum Flexibility

The screwable base support 16840 features additional advantages you will benefit from:

- You can pour out a non-filterable sample from each unit
- Filtration equally easy for left- or right-handed users in your laboratory, because funnels can be positioned to suit the individual user

Some of the advantages you will benefit from when using the Combisart® System:

## Safe & reliable

- Sterile venting of each membrane after filtration
- Sterilization acc. to ISO 8199
- Special polished stainless steel surfaces allow easy cleaning & rinsing
- Low height is advantageous for working on a clean bench

## Saves time

- Filtration of 3 or 6 samples in parallel
- Easy pouring out of non-filterable samples
- Equally easy for right- and left-handed users

## Economical

- Maximum flexibility due to different set-ups
- Space-saving in the autoclave
- Stainless steel 304 – long lifecycle

## Combisart®

### Specifications

Stainless steel quality	High-grade stainless steel: B.S. 304S31   AISI 304
Dimensions in mm (L   H   D)	3-branch manifold: 435   103   120 6-branch manifold: 910   103   120
Max. operating pressure	Vacuum only
Sterilization	by autoclaving (max. 134°C), by dry heat (max. 180°C), by flaming, by other methods acc. to ISO 8199
Outlet spouts (individual base)	10 mm outside diameter
Inlets (branches only)	Female threads, TR 20×2
Outlet (branches only)	Hose nipple, DN 10



4 | Close the outlet



5 | Remove the funnel



6 | Incubate the petri dish

Poster  
overleaf

# Ordering Information



## Superior performance

- High flow rate
- High total throughput

## Safe & reliable

- Sterile or individually, sterile packaged
- Consistently recovery
- Membranes meet ISO 7704
- Membranes available in various colors
- Without any hydrophobic adhesive areas

## Economical

- Ready to connect and easy to use
- Minimal amount of equipment needed



## Safe & reliable

- Presterilized media
- Certificate of quality for every batch
- In compliance with international standards
- Consistently recovery

## Economical

- Ready-to-use
- Long shelf life



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## Biosart® 100 Monitors, 100 ml, 47 mm, individually packaged, sterile, 48 units

Pore size	Membrane filter Color   Grid color	Order No.
0.2 µm	Cellulose nitrate white   black	16401-47-07--ACK
0.45 µm	Cellulose nitrate white   black	16401-47-06--ACK
0.45 µm	Cellulose nitrate green   dark green	16402-47-06--ACK
0.45 µm	Cellulose nitrate gray   white*	16403-47-06--ACK

## Biosart® 100 Monitors, 100 ml, 47 mm, packaged in trays, sterile, 48 units

0.2 µm	Cellulose nitrate white   black	16401-47-07----K
0.45 µm High Flow	Cellulose nitrate white   black	16401-47-H6----K
0.45 µm	Cellulose nitrate white   black	16401-47-06----K
0.45 µm	Cellulose nitrate green   dark green	16402-47-06----K
0.45 µm	Cellulose nitrate gray   white*	16403-47-06----K
0.8 µm	Cellulose nitrate gray   white*	16403-47-04----K
0.45 µm	Regenerated cellulose white	16404-47-06----K

## Biosart® 100 Monitors, 100 ml, 47 mm, sterile, 48 units

0.45 µm High Flow	Cellulose nitrate white   black	16401-47-H6-V--K
0.45 µm	Cellulose nitrate white   black	16401-47-06-V--K
0.45 µm	Cellulose nitrate gray   white*	16403-47-06-V--K
0.8 µm	Cellulose nitrate gray   white*	16403-47-04-V--K

\* Gray membranes after wetting black

## Biosart® 100 Nutrient Media, 2.5 ml, individually, sterile packaged in ampoules, 50 units

Determination of	Media type	Order No.
Total count	Caso (acc. USP)	16400-02----CA-K
Total count	R2A (acc. EP)	16400-02----RA-K
Total count	TGE Total Count	16400-02----TC-K
Total count	Total Count TTC	16400-02----TZ-K
E. coli and coliforms	m Endo	16400-02----EN-K
E. coli and coliforms	m FC	16400-02----MF-K
E. coli and coliforms	Lauryl Sulfate   Teepol	16400-02----LS-K
E. coli and coliforms	Tergitol TTC	16400-02----TT-K
Enterococci	KF Strep   Azide	16400-02----KF-K
Pseudomonas aeruginosa	Cetrimide	16400-02----CE-K
Yeasts and molds	Sabouraud (acc. USP)	16400-02----SB-K
Yeasts and molds	m Green yeast and mold   Schaufus Pottinger	16400-02----MG-K
Yeasts and molds	m Green yeast and mold selective	16400-02----GS-K
Yeasts and molds and bacteria	WL Nutrient   Wallerstein Nutrient	16400-02----WN-K
Bacteria in fermentation processes	WL Differential   Wallerstein Differential	16400-02----WL-K
Yeasts and molds	Wort	16400-02----WZ-K
Acid-tolerant microorganisms	Orange Serum	16400-02----OS-K

## Combisart® individual systems and multi-branch manifolds, made of high-grade stainless steel, without funnels and lids, to accommodate various funnel types

Combisart® individual base with frit (50 mm), stainless steel	16841
Combisart® 1-branch stainless steel manifold, without frit	16844
Combisart® 3-branch stainless steel manifold, without frits	16842
Combisart® 6-branch stainless steel manifold, without frits	16843
Combisart® base support with frit (50 mm), stainless steel	16840

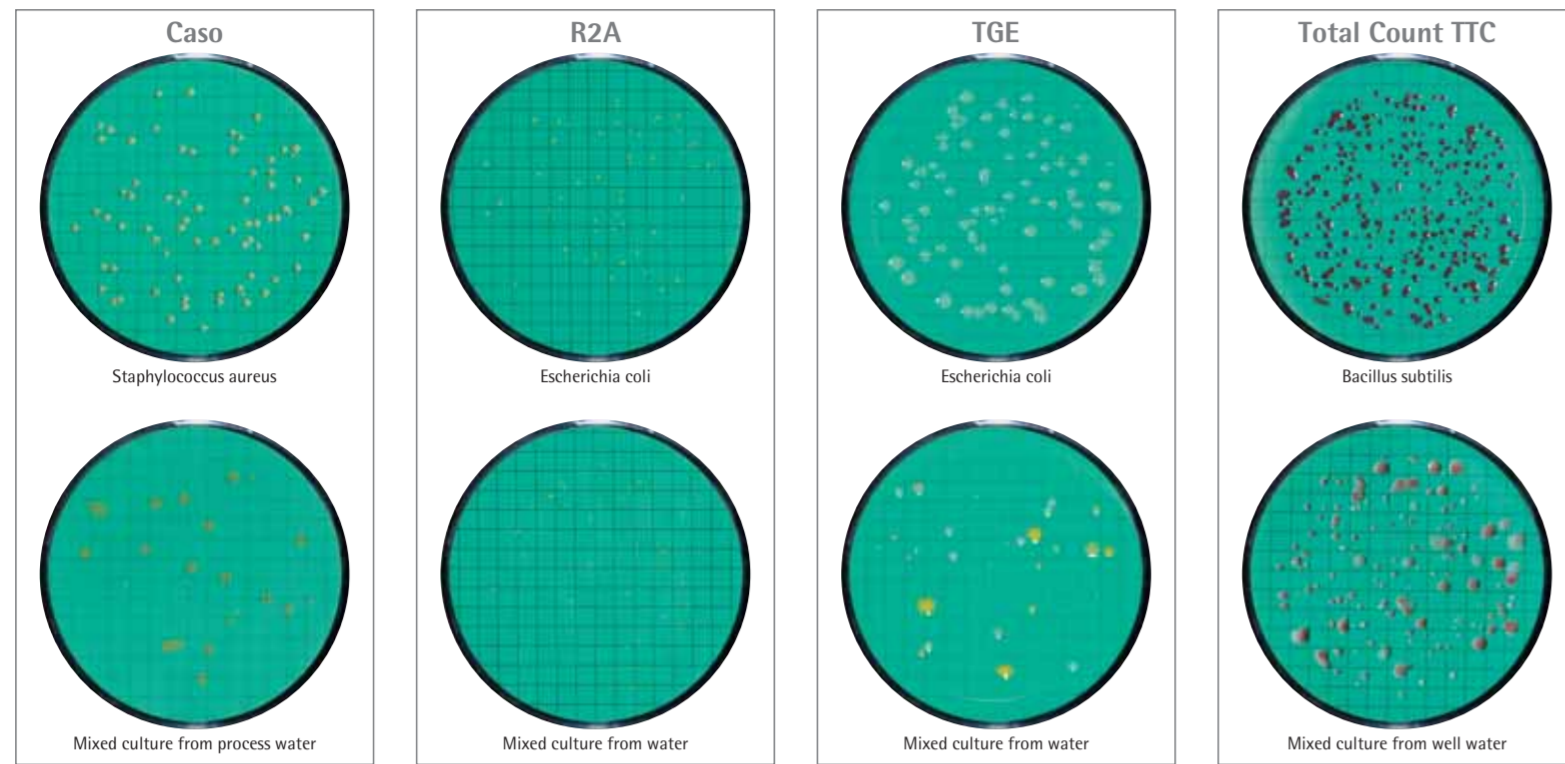
## Biosart® 100 Monitor Adapters and Membrane Lifter

Description	Adaptation	Order No.
Biosart® 100 Adapter, silicone	onto Sartorius Stedim Biotech stainless steel bases with frits e. g. 16840	16414
Biosart® 100 Adapter, PP	onto 50 mm supports	16415
Biosart® 100 Adapter, PP	onto 56 mm supports and vacuum pumps	16416
Biosart® 100 Membrane Lifter, ABS	for easy transfer to agar	16417

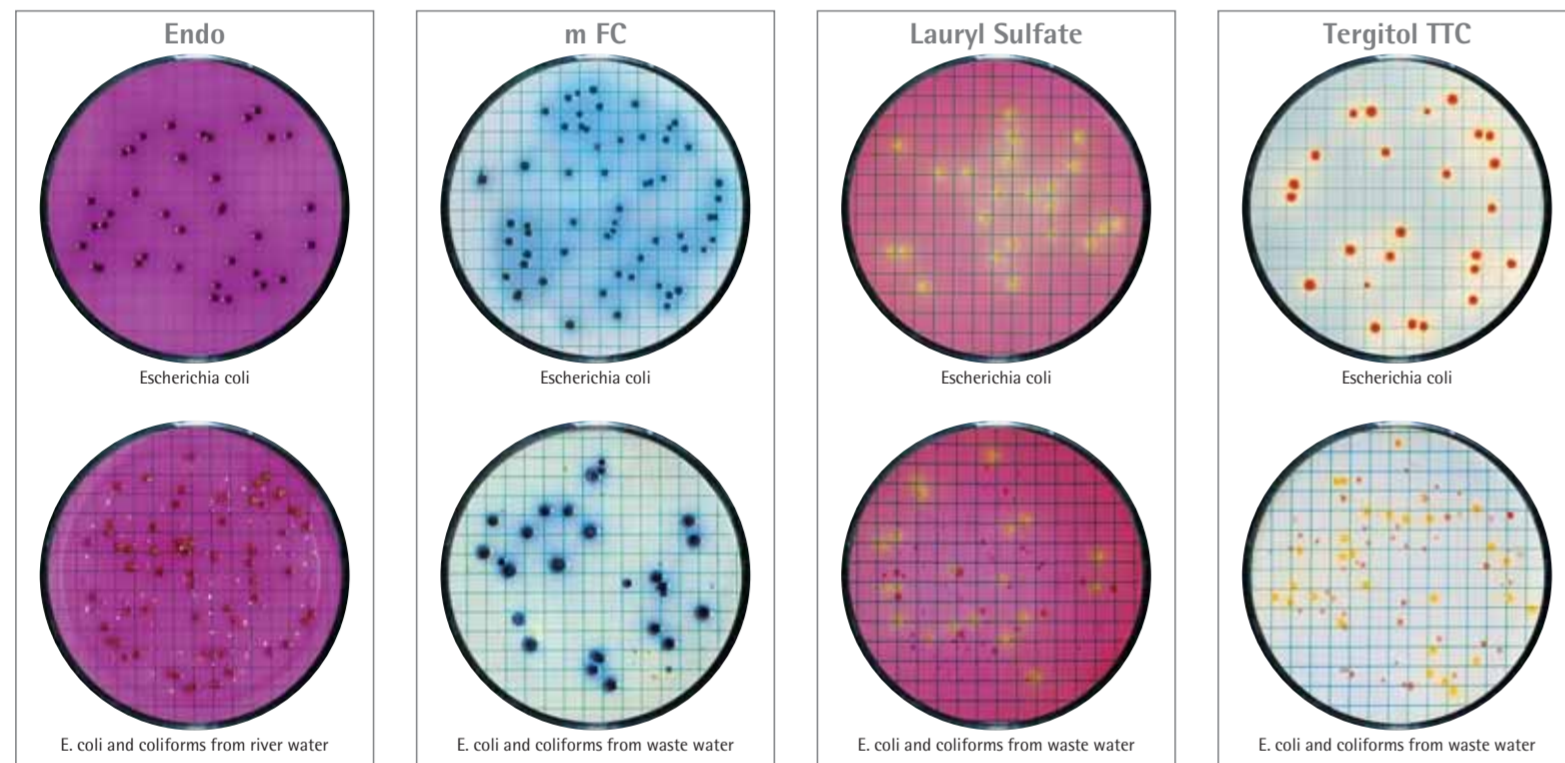




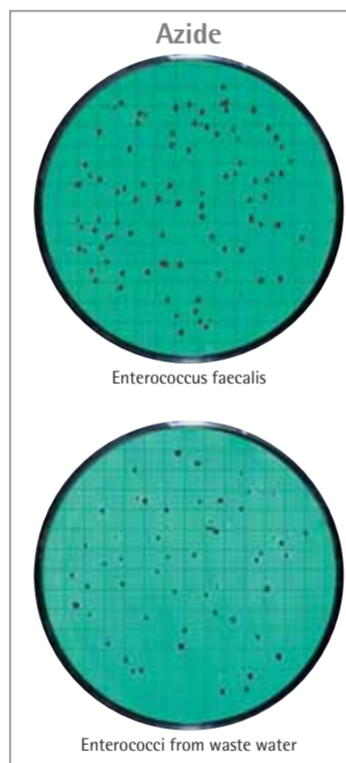
## Total colony count



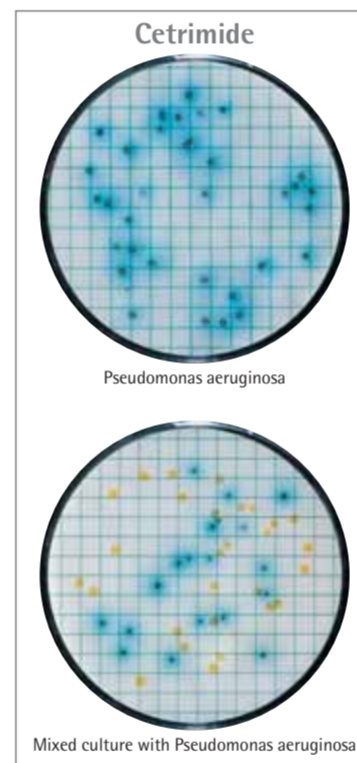
## E. coli and coliforms, Enterobacteria



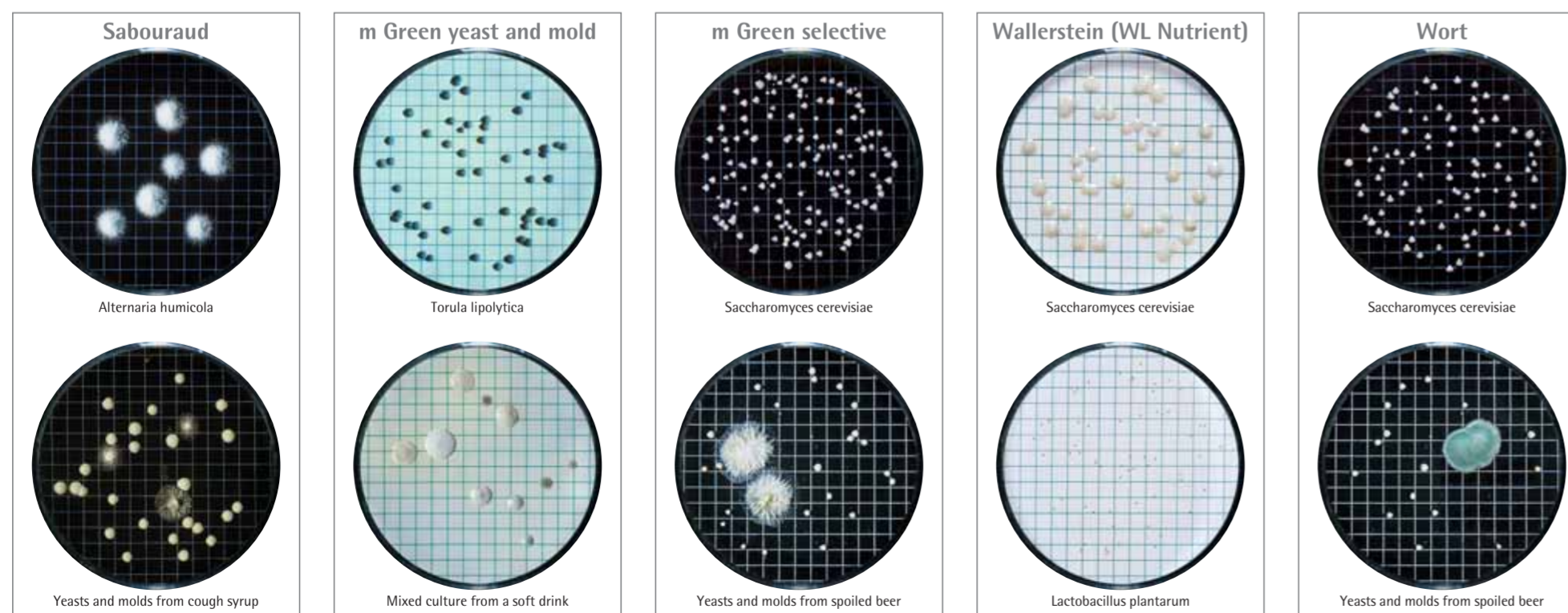
## Other faecal bacteria



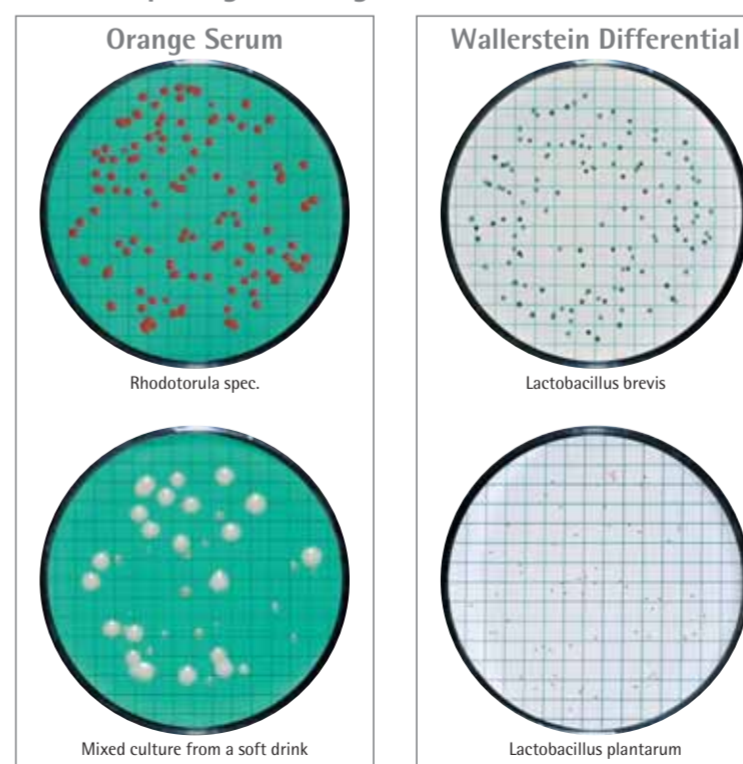
## Non-faecal, pathogenic bacteria



## Yeasts and molds



## Product-spoiling microorganisms

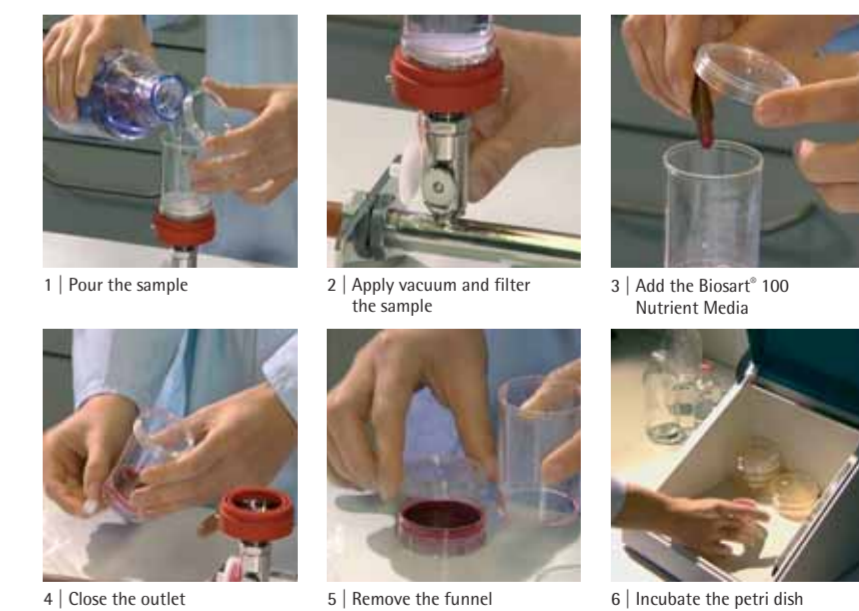


## Typical Application Examples

Product	Detection and enumeration of...	Biosart® 100 Nutrient Media Type
Beer	Lactobacilli and Pediococci and other beer spoiling organisms	Wallerstein Differential
	Total colony count	Total Count TTC
	Yeasts and molds	Wallerstein Nutrient, Wort
Foods	Acid-tolerant microorganisms	Orange Serum
	Enterobacteria, E. coli and coliforms	Endo, m FC, Teepol   Lauryl Sulphate, Tergitol TTC
	Enterococci, Enterococcus faecalis	Azide   KF Strep
	Pseudomonas aeruginosa	Cetrimide
	Total colony count	Caso, TGE   Tryptone Glucose Extract
Fruit juice	Yeasts and molds	Wort
	Enterobacteria, E. coli and coliforms	Endo, Tergitol TTC*
	Oenococcus and other product spoiling organisms	Orange Serum, Wallerstein Differential
Milk	Yeasts and molds	m Green yeast and mold   Schaufus Pottinger, Wallerstein Nutrient
	E. coli and coliforms	Endo
	Enterococci, Enterococcus faecalis	Azide   KF Strep
Pharmaceuticals, WFI, raw materials and cosmetics	Enterococci, Enterococcus faecalis	Azide   KF Strep
	Pseudomonas aeruginosa	Cetrimide
	Total colony count	Caso, R2A
	Yeasts and molds, Candida albicans	Sabouraud
Soft drinks, concentrates	Acid-tolerant microorganisms, Lactic-acid bacteria	Orange Serum, Wallerstein Differential
	Enterobacteria, E. coli and coliforms	Endo
	Total colony count	TGE   Tryptone Glucose Extract, Total Count TTC
	Yeasts and molds	m Green yeast and mold   Schaufus Pottinger, m Green yeast and mold selective, Wallerstein Nutrient, Wort
	E. coli and coliforms	Endo
Sugar, sugar products	Total colony count	Total Count TTC
	Yeasts and molds	m Green yeast and mold   Schaufus Pottinger, m Green yeast and mold selective, Wort
	Acid-tolerant microorganisms, Lactic-acid bacteria	Orange Serum
Water (general quality), mineral water, natural water, waste water	Enterobacteria, E. coli and coliforms	Endo, m FC, Teepol   Lauryl Sulphate, Tergitol TTC
	Enterococci, Enterococcus faecalis	Azide   KF Strep
	Pseudomonas aeruginosa	Cetrimide
	Total colony count	Caso, R2A, TGE   Tryptone Glucose Extract
Wine	Yeasts and molds, Candida albicans	Sabouraud
	Acetobacter	Orange Serum (by adding 5-8% ethanol)
	Acid-tolerant microorganisms, Lactic-acid bacteria	Orange Serum, Wallerstein Differential
Wine	Yeasts and molds	m Green yeast and mold   Schaufus Pottinger, Wallerstein Nutrient, Wort

\* These Biosart® 100 Media types are suitable for the determination of the mentioned microorganisms, although the media are not explicit declared in references.

## Easy work flow – reliable results



**Remarks**  
The pictures show typical appearance of the mentioned microorganisms. In particular cases, color and shape of the colonies could vary from the expected habitus. Further tests may be necessary to validate the result.

Sartorius Stedim Biotech shall not be liable for consequential and / or incidental damage sustained by any customer from the use of its products.

Biosart® 100 Nutrient Media are subject to continuous product improvement as part of our product development program to align our products with changing application requirements. For current specifications and lot release criteria please visit our homepage under: [www.sartorius-stedim.com/BiosartMediaSearch](http://www.sartorius-stedim.com/BiosartMediaSearch).