BacTrac 4300

Microbiological
Multi Monitoring System

Fast

Automated

Documented

SY-LAB

BacTrac® 4300

Foods Cosmetics Contract Laboratories

Electrically measuring microbial growth

Impedance analysis is an automated microbial culture process. The nutrient media and the liquefied product sample are incubated in a measuring cell and the impedance change of the fluid (the alternating current resistance) is monitored using pin electrodes.

Metabolic products that are created when the micro-organisms inside grow constantly change the resistance, thereby creating an equivalent microbial growth curve.

If this exceeds an application dependent threshold value, the measuring time recorded until then is set as the detection time and provides information on the contamination of the sample.

The Instrument BacTrac

The BacTrac 4300 is user friendly and is ideally suited to the challenges posed by long-term use.

Measuring positions with finished measurements are assessed and can be immediately re-assigned with new cells. The entire measuring cycle is automatic; the results are clearly displayed and can be used as a cornerstone for making a decision.

The BacTrac 4300 instrument holds up to 64 samples in two possible temperature zones ranging from 0°C to + 55°C. Up to 12 devices, i.e. 768 samples can be operated with the measurement software (PC).

The BacWin software monitors the signal development for all measurements and saves the results in a database where they can be sorted and evaluated.

The operating benefits

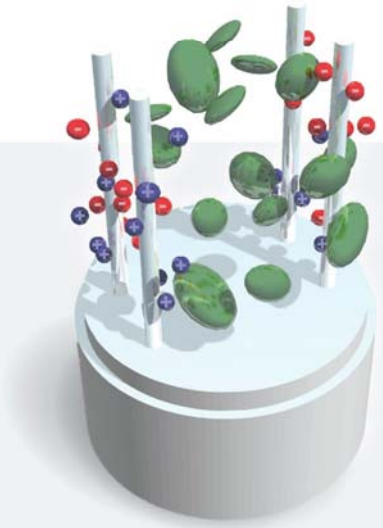
The microbiological quality of food is an essential parameter on which many decisions are based, such as the production parameters, product release, and the expiry date and is also important for the taste, improving production hygiene and the product's competitive edge.

Quick results, allowing rapid response. Automatic operation, increasing the capacity of the staff. Lower error rates.

The documentation can be printed out or forwarded. The data can be integrated into LIMS (SAP, Qualifax).

Adjusted to suit reference methods

Quantification of microbial growth using rapid impedance analysis is performed using calibrations established against the traditional agar plate methods. This ensures compatibility with the traditional reference method.



Using several measuring signals

The BacTrac system uses several components of the impedance in the medium (M value) and the electrodes (E value).

This ensures that the measuring system is accurate, stable and flexible, and can handle even media with a high salt content.

Microbes detectable

- Aerobic mesophilic bacteria
- Gram negative bacteria
- Enterobacteriaceae, Coliforms, E.coli
- Enterococci
- Bacillus cereus
- Anaerobic and aerobic spore formers
- Salmonella, Listeria
- Yeasts and Moulds

Applications

- Enumeration of total viable counts
- Sterility tests
- Detection and quantification of index- and indicator microbes
- Pathogen screening
- Environmental monitoring
- Activity tests
- Screening and characterization of antimicrobial compounds

Pre-filled measurement cells

A wide selection of nutrient media in pre-filled disposable measurement cells allow the user to carry out a wide range of tests. Please refer to our measurement cell catalogue or visit our website for an overview of our pre-filled measurement cells.

Faster product release

In cases where there is a high bacterial count, it often only takes a few hours before the sample is detected. Most products can be released after only 8 to 12 hours, and measurements for the absence of bacteria generally take 14 to 24 hours.

Colour-coding

The current measuring position status is shown in the form of a pie chart. A blue segment is shown until the end of the warm up period.

If a micro-organism is detected within the red or yellow time segment, the current sector will be colour-coded accordingly. The result is then clear.

If nothing is detected and the green limit is reached, the chart remains green and the sample is classified as acceptable.

For simple visualisation of critical and/ or alert limits they can be easily aligned to the red/ yellow/ green colour code system.

Impedance cells for BacTrac and µ-Trac

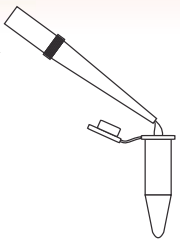
Pre-filled measuring cells are available ready to use for the big majority of impedance applications. TVC determinations as well as detection and enumeration of spoilaging microbes and the detection of pathogens are well covered by the product range of pre-filled disposable measuring cells available.

We are always open to develop new methods and applications.

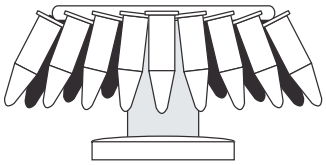
Please refer to our measurement cell catalogue or visit our website for an overview of our pre-filled measurement cells.

RiboFlow™

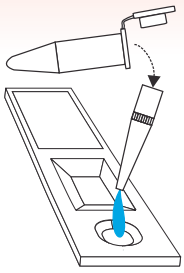
Confirmation – rapid and simple



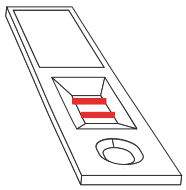
1. Lysis



2. Centrifugation



3. Sample application



4. Result

Confirms pathogen results

The newly developed RiboFlow™ technology allows the highly specific molecular biological detection of, for instance, Salmonella in foodstuffs within only 15 to 20 minutes.

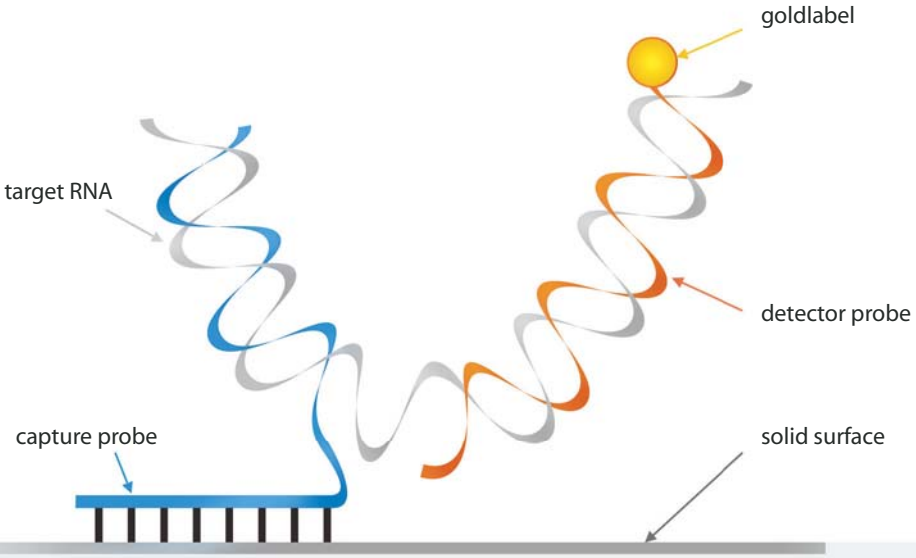
The RiboFlow™ test is simple to carry out, and the procedure can easily be used with a simple protocol in any laboratory without requiring special skills or expensive laboratory equipment. As RNA is quickly broken down in dead cells, the test only detects live bacteria.

RiboFlow™ – Applications

The RiboFlow™ test system is ideally suited for quickly confirming results from all BacTrac selective enrichment media and single colonies on selective agar plates.

We recommend the use of the RNAssay™ hybridisation test systems for rapid molecular biological confirmation from conventional enrichment media. RNAssay™ technology is based on the enzymatic colorimetric detection of the bacteria-specific RNA.

Molecular biological diagnostics doesn't get much easier or cost-effective than that!



No special sample preparation

- No equipment needed other than an Eppendorf centrifuge
- No expertise in molecularbiological methods needed

The benefits

- Highly sensitive – 1 bacteria per 25g sample can be easily detected
- High specificity – only the target organisms show a reaction
- Only living micro-organisms are detected, target RNA is quickly broken down in dead cells and will not be detected

µ-Trac® 4200

The compact professional solution

The cost-effective introduction to in-house microbiology.
Safety and discretion even with small sample numbers.
Rapid status report for all hygiene-related microbes, including aerobic mesophiles and yeast / moulds.

Rapid results showing the goods are safe and documented reports show your customers that your products undergo careful quality controls. This means that uncertainty or delayed results are a thing of the past.

The µ-Trac 4200 is also a highly effective tool for detecting hygiene-relevant risks in production. The measurement technology used in µ-Trac is simple and efficient. Therefore automated analysis of the most common microbiological parameters at economic costs is made possible.

Pre-filled measurement cells are available as consumables. It is extremely simple to use. With the µ-Trac you can set up a microbiology laboratory with very little space. Results are available within hours and can be easily read and interpreted by a colour coded evaluation system.

The illustrated number of
3 measurement cells to enumerate for
3 different microbiological parameters
corresponds to the equivalent of the
staple of agar plates next to them.

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TVC Enumeration	Gram negative Bacteria	Enterobacteriaceae, Coliforms, E.coli	Enterococci	Bacillus cereus	Salmonella, Listeria sp., coagulase pos. Staphylococci	aerobic und anaerobe Spore Formers	Yeasts and Moulds	
●	●	●	●	●	●	●	●	Mik, Milk Products, Infant Foods
●		●	●		●			Meat and Meat Products
●		●	●		●			Fish, Seafood
●		●		●	●		●	Convenient Food, Frozen Food, Delicacies
●		●			●		●	Sweets, Pastries
		●				●	●	Beverages, Vegetables, Fruits, Tinned Foods
●		●			●		●	Environmental Samples
●							●	Toiletries

Support

Our customers can be assured that we are constantly making developments in microbiological and molecular biological detection methods through our commitment to future-orientated research and development. Our application laboratory supports customers in their routine requirements and in developing new calibrations and carrying out method validations. We can also test your specific samples so that you are assured in advance and without any obligation that the method is suitable for your needs.

We also offer on-site service and remote training and servicing as well as regular servicing of the equipment and ongoing software and application development is available.

Helpdesk, equipment inspection, training

We offer a comprehensive service package to meet the requirements for food testing, which includes regular checks and recalibration, if necessary, of the equipment using calibrated measuring equipment in accordance with ISO and IFS standards, including the necessary documentation. All software updates and the hotline with an option for remote maintenance of the software are part of that package.

A training package tailored to meet your company's needs allows the efficient initial training or further training if new staff join the team. Take advantage of the expertise of our highly qualified staff on our sales team and in-house.

Validation and standardisation

In cooperation with national and international committees, we are involved in driving the standardisation of impedance applications. National standards are now already available in many countries. We are also committed to method validation in line with ISO 16140. Furthermore, we offer support for customers having special requirements, with in-house validations and also work in cooperation with external laboratory services of your choice.