


How many bacteria are in your water sample?

CyStain™ BacCount Reagents Workflow

A high-speed photograph of a single water droplet suspended in mid-air, just above a surface of water. The droplet is perfectly spherical and reflects light. Below it, concentric ripples spread out across the water's surface, creating a sense of motion and depth. The background is a soft, out-of-focus blue gradient.

Bacteria quantification in
minutes instead of days

A new method employing flow cytometry for water testing



*Measure bacteria
in your water*

Quantifying bacterial amounts in water is important to control the microbial ecology of water samples. Sysmex instruments use an improved and standardized method to determine bacterial counts in water, ensuring early preventative action can be taken if necessary.

The CyStain BacCount Total kit enables the detection of the total amount of bacteria in water samples (Total Cell Count, TCC). This is crucial for process control of water treatment and for the analysis of the microbial ecology.

The CyStain BacCount Viable kit discriminates between live and dead bacteria (Viable Cell Count, VCC), which is important to monitor successful inactivation of harmful bacteria in water. Both kits are designed for the quality control of drinking water of different sources (ground water, spring water or surface water). However, these kits can also be used to control water for industrial applications (raw material dilution, water for in-processes, effluent after cleaning/sanitation processes).

Bacteria quantification in minutes instead of days

Often, bacterial cultivation detects only up to 1% of waterborne bacteria when cultivating on agar in petri dishes. Furthermore, the cultivation of bacteria is not able to detect viable but non-culturable (VBNC) bacteria.

CyStain BacCount enables a fast and convenient detection of all bacteria in your water sample

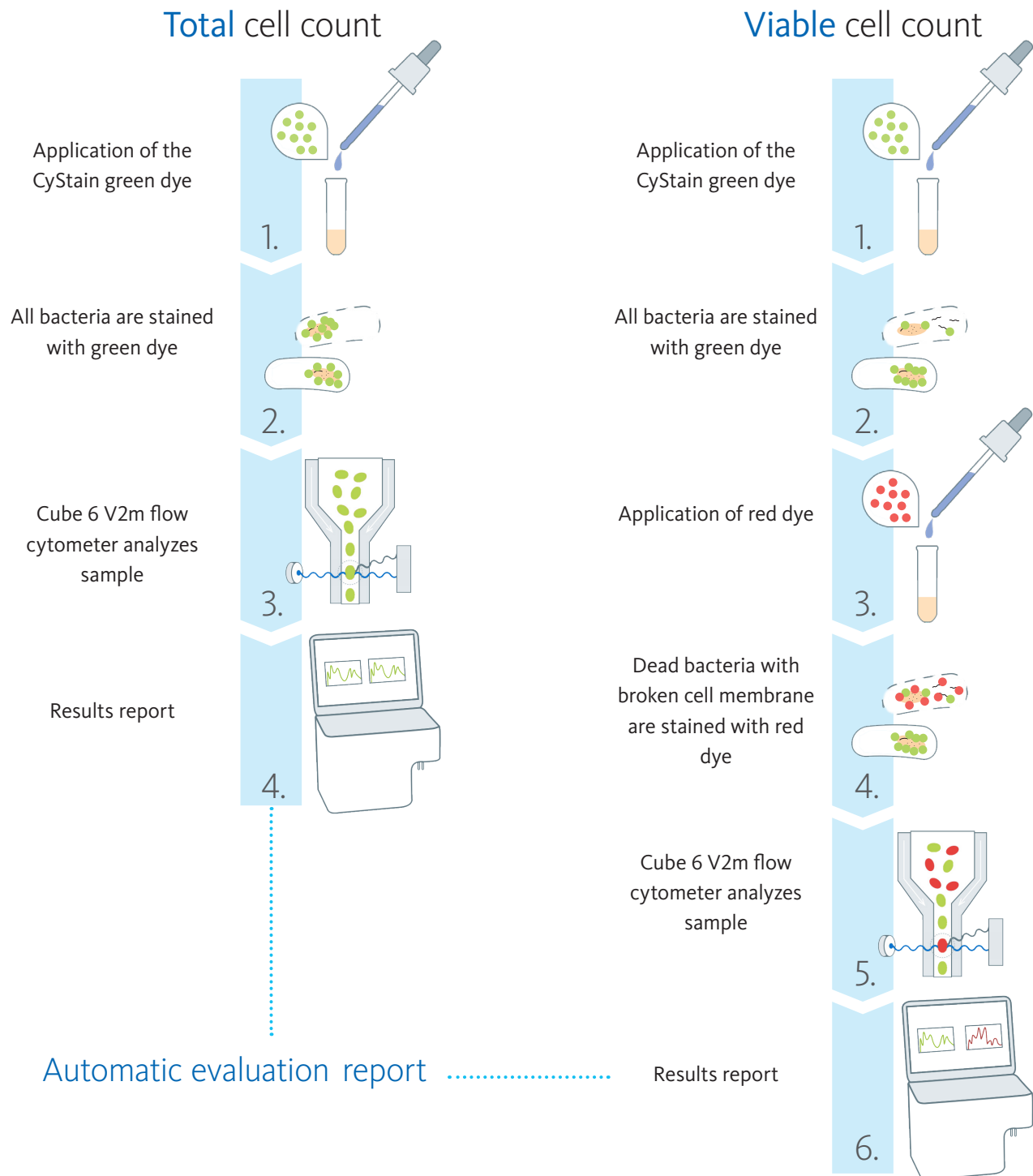
BacCount Total and BacCount Viable enable a fast and reliable bacterial quality control process for water samples. When used with the compact and portable Sysmex CyFlow™ Cube 6 2Vm, it is possible to detect a variety of bacteria in water samples in as little as 15 minutes.



CyStain BacCount reagents are suitable to control the bacterial amount of many different water samples: Drinking water such as ground water, tap water, spring water or surface water; as well as water in industrial applications, such as raw material dilution, sewage water, water for cleaning/sanitation or cooling processes, water for distribution and desalination.

Quick, reliable and cost-effective

The workflow is fast and easy, and allows for accurate detection of bacteria in water samples. The TCC kit uses a green, fluorescent marker to mark all bacterial cells. In addition, the VCC kit includes a red fluorescent dye for the detection of dead cells. This allows for an easy distinction between live and dead bacteria.



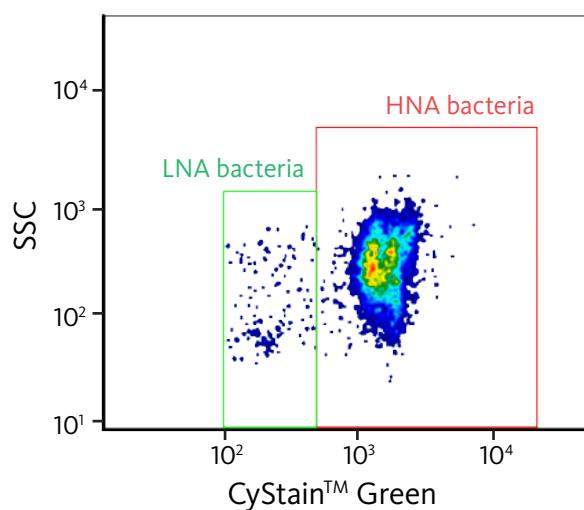
Automatic read-out of results

For over 100 years, the industry standard to detect bacteria in water has been bacterial cultivation. Flow cytometry offers a fast and easier process that can improve sample analysis. Easy handling and automation increase workflow efficiency and decrease downtime. Both, low nuclei acid (LNA) and high nuclei acid (HNA) bacteria can be detected due to the high resolution of the flow cytometer. Since LNA/HNA cell numbers differ from sample to sample, they act as a unique "fingerprint" for that particular sample.

Automated flow cytometry



The CyFlow™ Robby V2m Autoloading Station is a valuable addition to the Cube 6 V2m and allows for automatic read-outs of various water samples. It is attached to the Cube 6 V2m flow cytometer. The Robby pipettes and shakes samples using a 96-well plate. The Cube 6 V2m and Robby V2m Autoloading Station provide a complete solution for semi-automated enumeration of bacteria in water.



Analysis of a water sample (mineral water) with CyStain BacCount Total kit. Automatic read-out visualizes all bacteria. Total bacteria: 59077 counts/ml. HNA bacteria: 52912 counts/ml. LNA bacteria: 6167 counts/ml. LNA.

Key benefits

- Faster than bacterial cultivation method
- Low limit of detection
- Counts all bacterial cells (TCC kit)
- Discriminates between dead / living bacteria (VCC kit)
- Detection of a variety of bacteria, including non-culturable cells
- Automated read-out of results
- Easy handling

Reagent	Product Number	Suitable flow cytometer system
CyStain BacCount Total	05-5008	Cube 6 V2m
CyStain BacCount Viable	05-5028	Cube 6 V2m

Additional equipment
CyFlow Cube 6 V2m
CyFlow Robby V2m Autoloading Station

Learn more about Sysmex flow cytometry at sysmex.com/flowcytometry

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Program availability varies by location. Programs and specification subject to change without notice.