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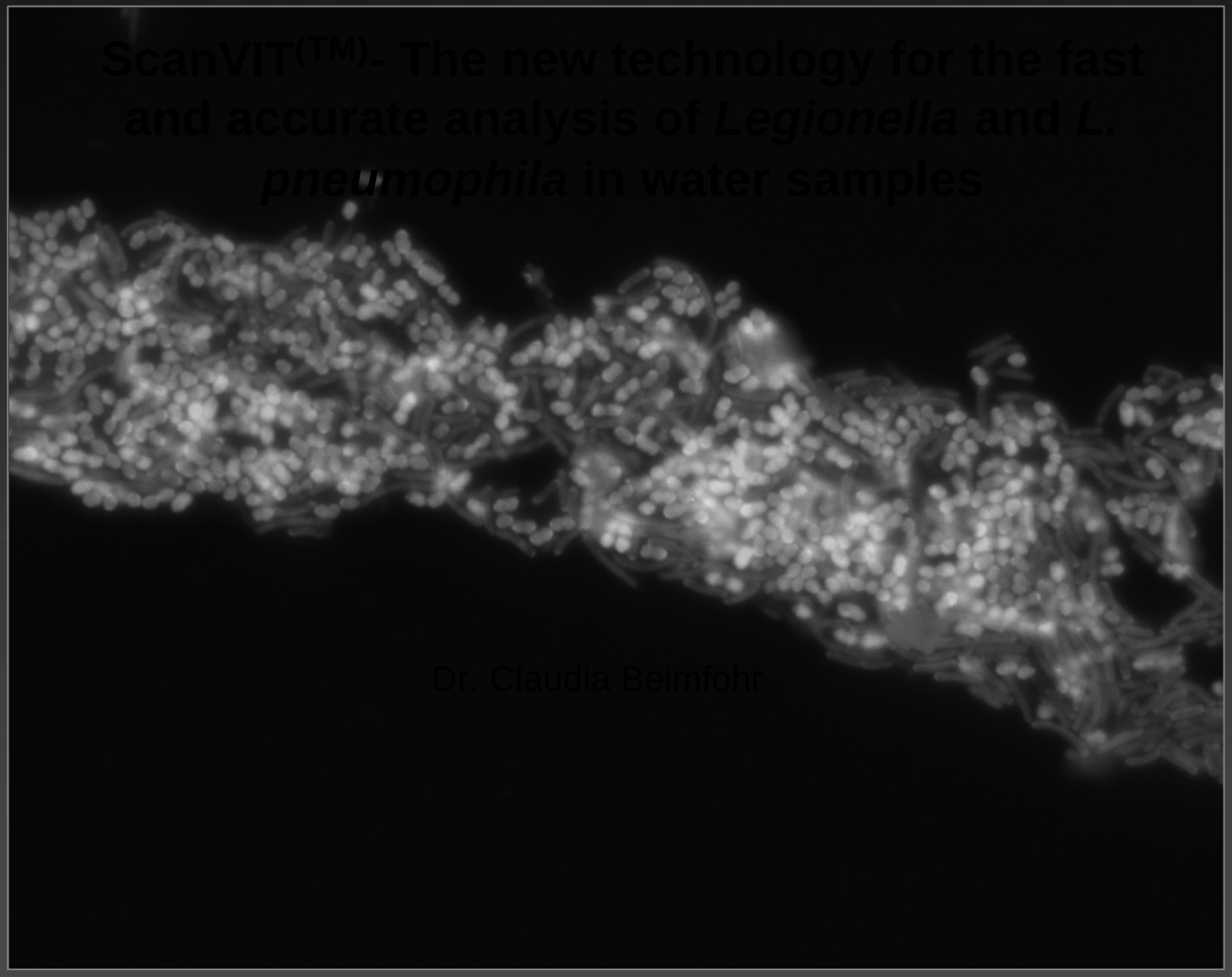
ScanVIT(TM)- The new technology for the fast and accurate analysis of *Legionella* and *L. pneumophila* in water samples



Dr. Claudia Beimfohr

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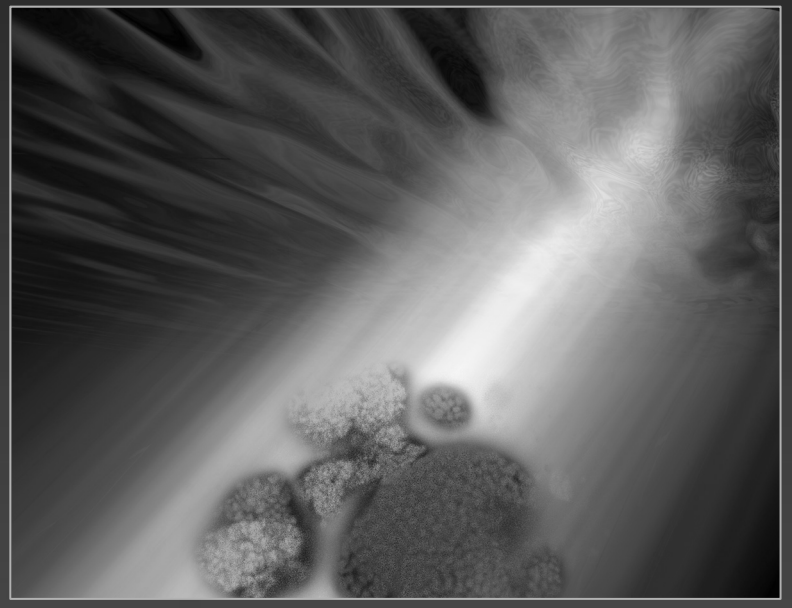
Is there a need for a new *Legionella* detection method?



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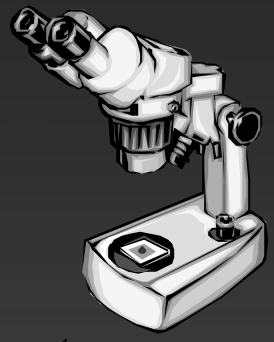
Conventional methods for the analysis of micro-organisms

Microscopy



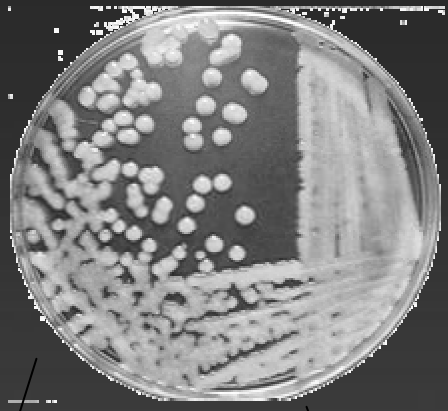
Morphology

Movement

Stain

Cultivation

Physiology



Biochemistry

Morphology

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Conventional methods have disadvantages

Slow Growth of bacteria requires days or weeks

Insufficient Only a minority of bacteria is cultivable

Inaccurate Precise identification can be difficult

Inexact Only a part of the grown colonies are confirmed by further tests

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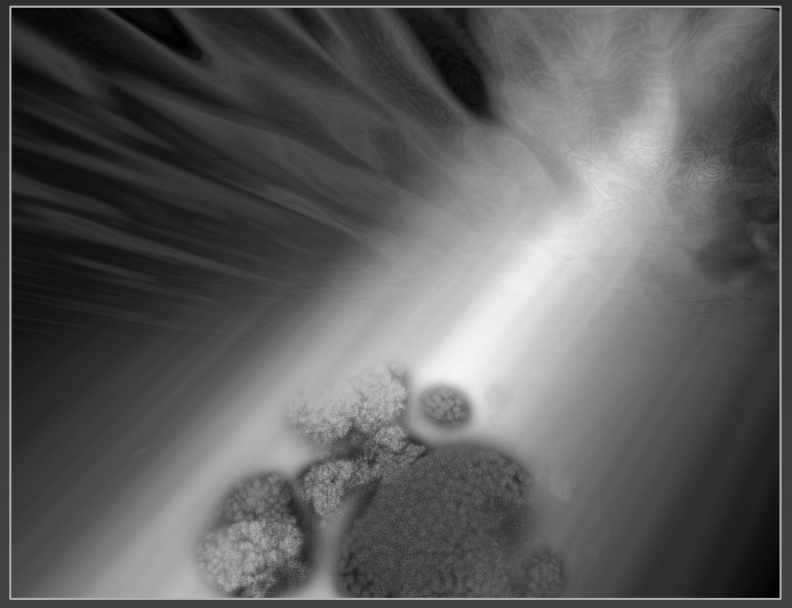
VIT vermicon identification technology

The innovative fast and specific detection technology



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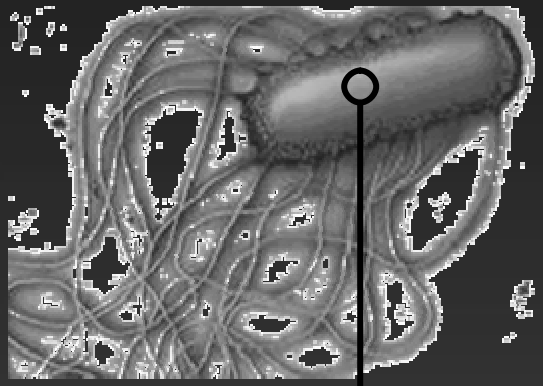
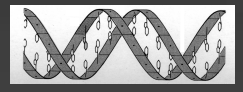
Each bacterium has individual signatures (locks)

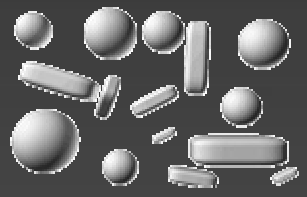




signatures

Specific for single bacteria species

Specific for whole bacteria groups



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Gene probes are developed for these signatures (keys)

Gene probes are tiny pieces of DNA

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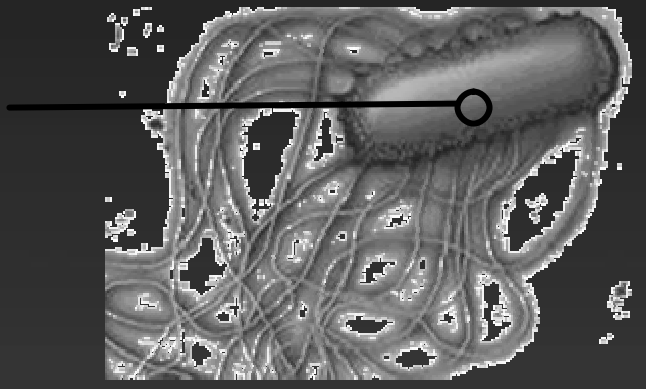
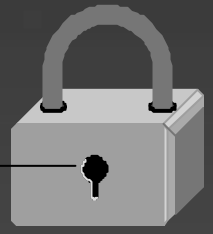
The gene probes fit to the signatures like the key to the lock

signatures





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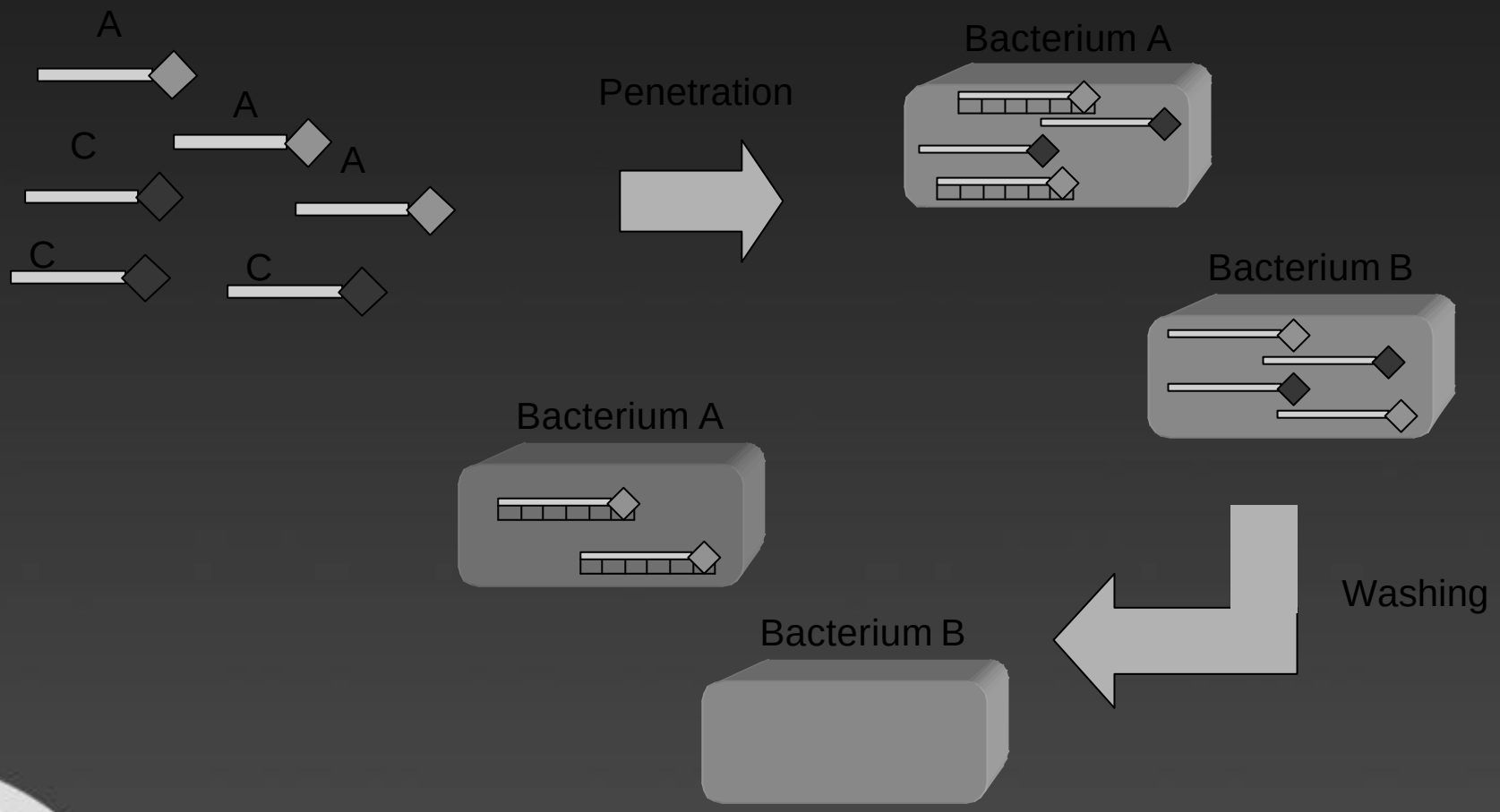
Gene probes penetrate the bacteria ...



... and bind to the signatures inside the bacteria

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With VIT the bacteria are detected by their shining

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VIT is absolutely specific

VIT will find it!

Sample

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VIT-Legionella: A highly-specific presence/absence test for *Legionella* and *L. pneumophila* in drinking water

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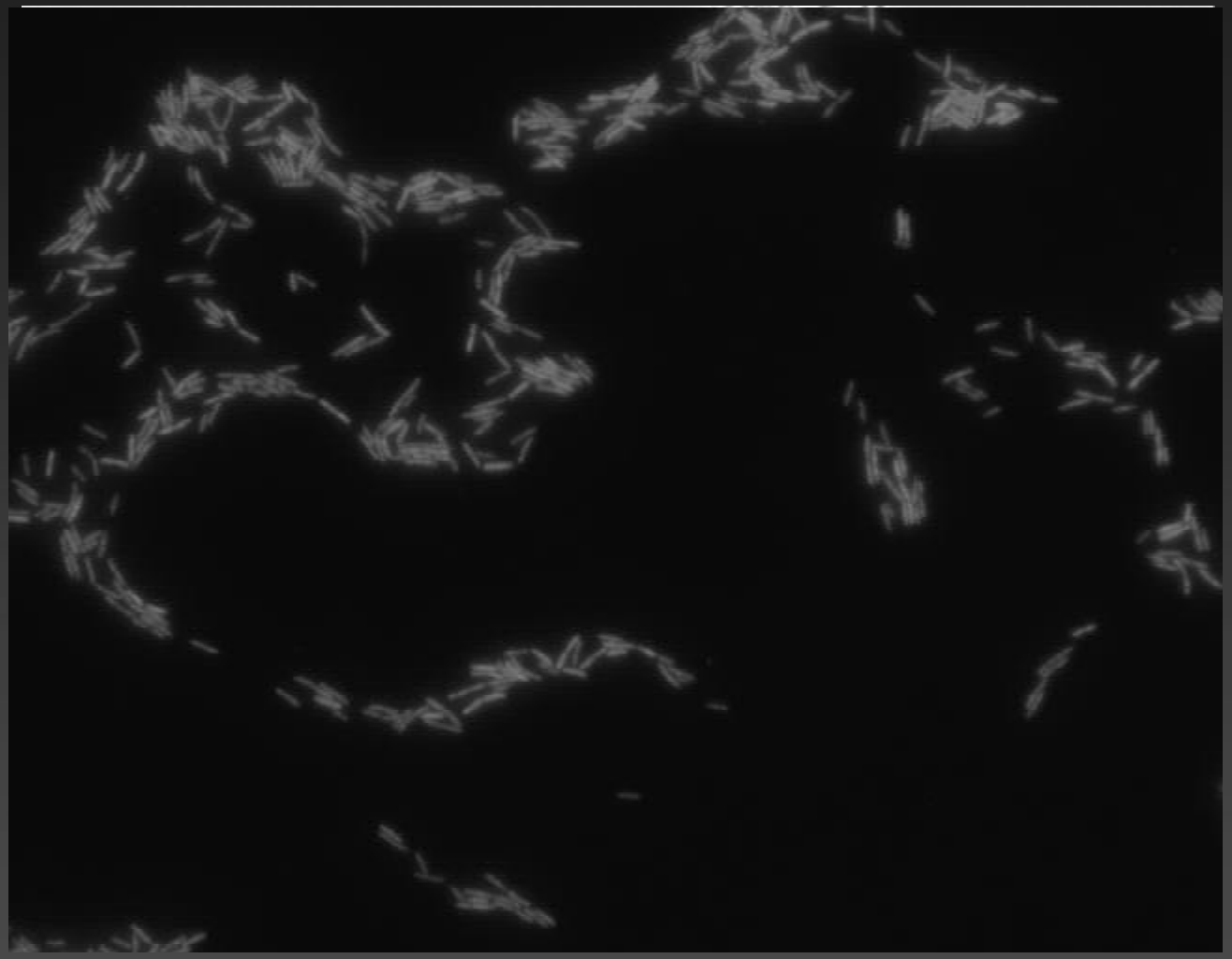
VIT-Legionella: highly-specific detection of *Legionella* and *L. pneumophila* in drinking water



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VIT - a system which fulfills high industrial standards

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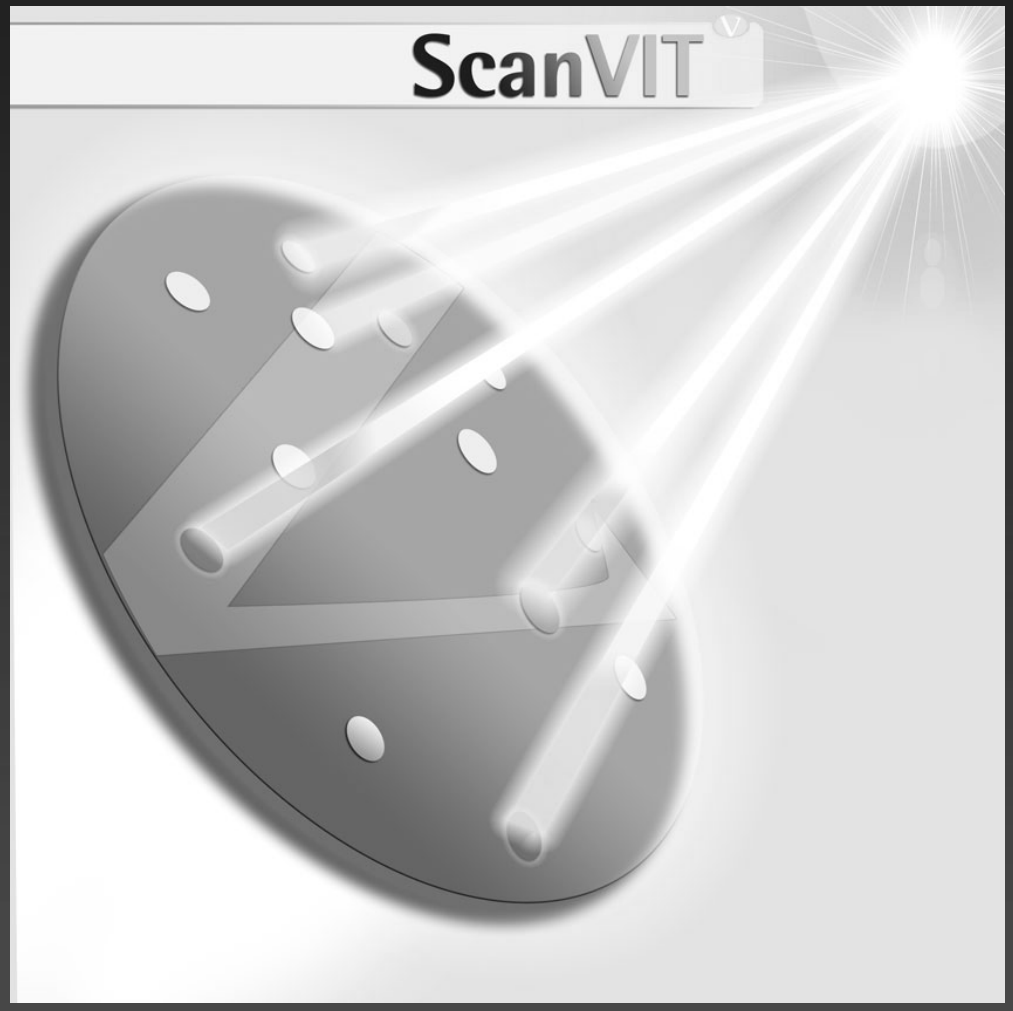
ScanVIT – the fast and easy quantification system for *Legionella* and *L. pneumophila*



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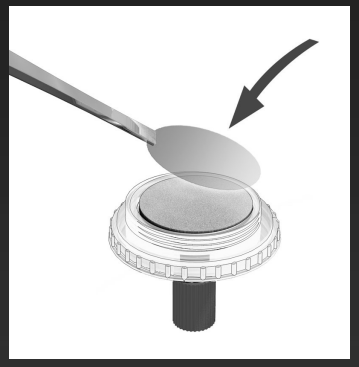
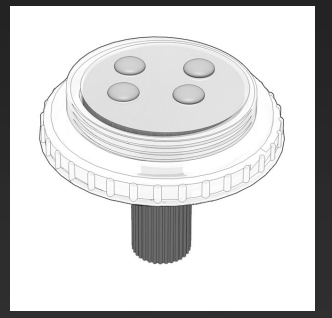
ScanVIT – only few steps from the filtered water sample to the result

Filtration and cultivation for 48 h

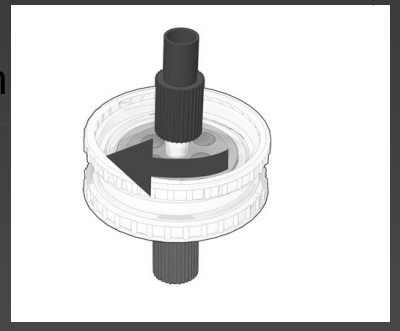
Placing membrane filter in the ScanVIT-reactor



Addition of gene probes

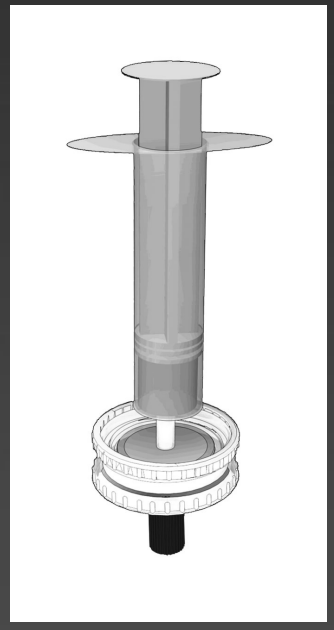


Closing

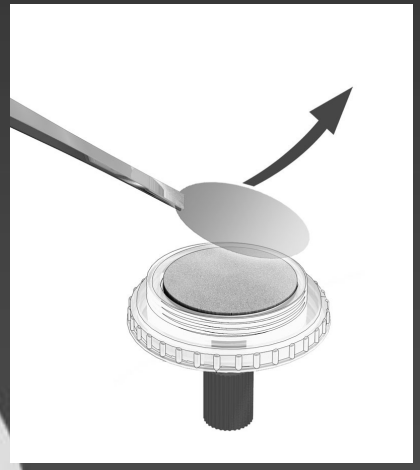


Incubation 46°C, 90 min

Washing 46°C, 15min



Removel



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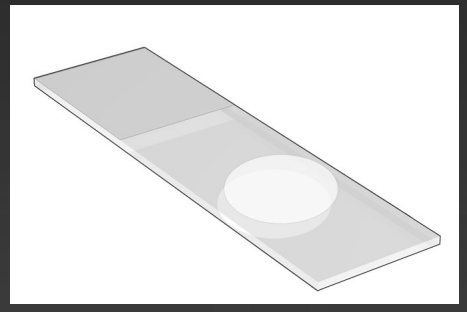
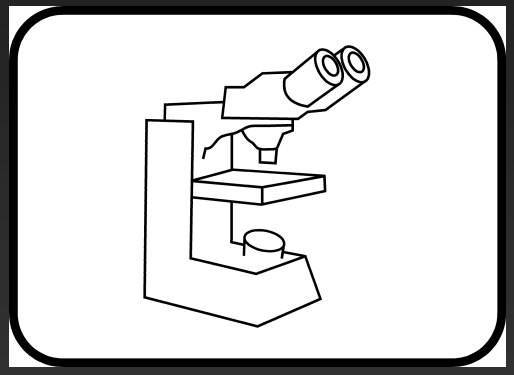
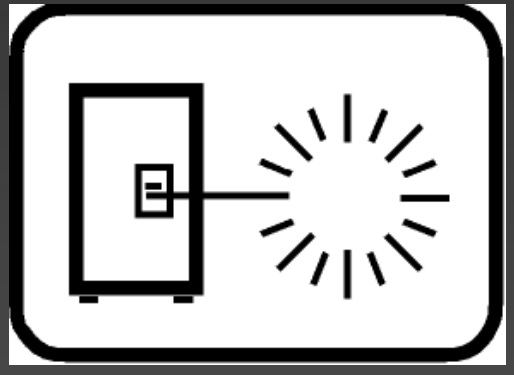
ScanVIT – 2 possibilities to analyse the final filter

Placing the membrane filter on a slide





Microscope Version



Scanner Version

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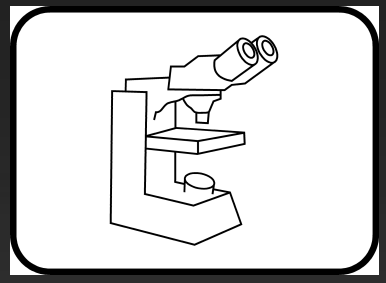
Micro-colonies of *Legionella* are shining in red, whereas *L. pneumophila* shines in green and red

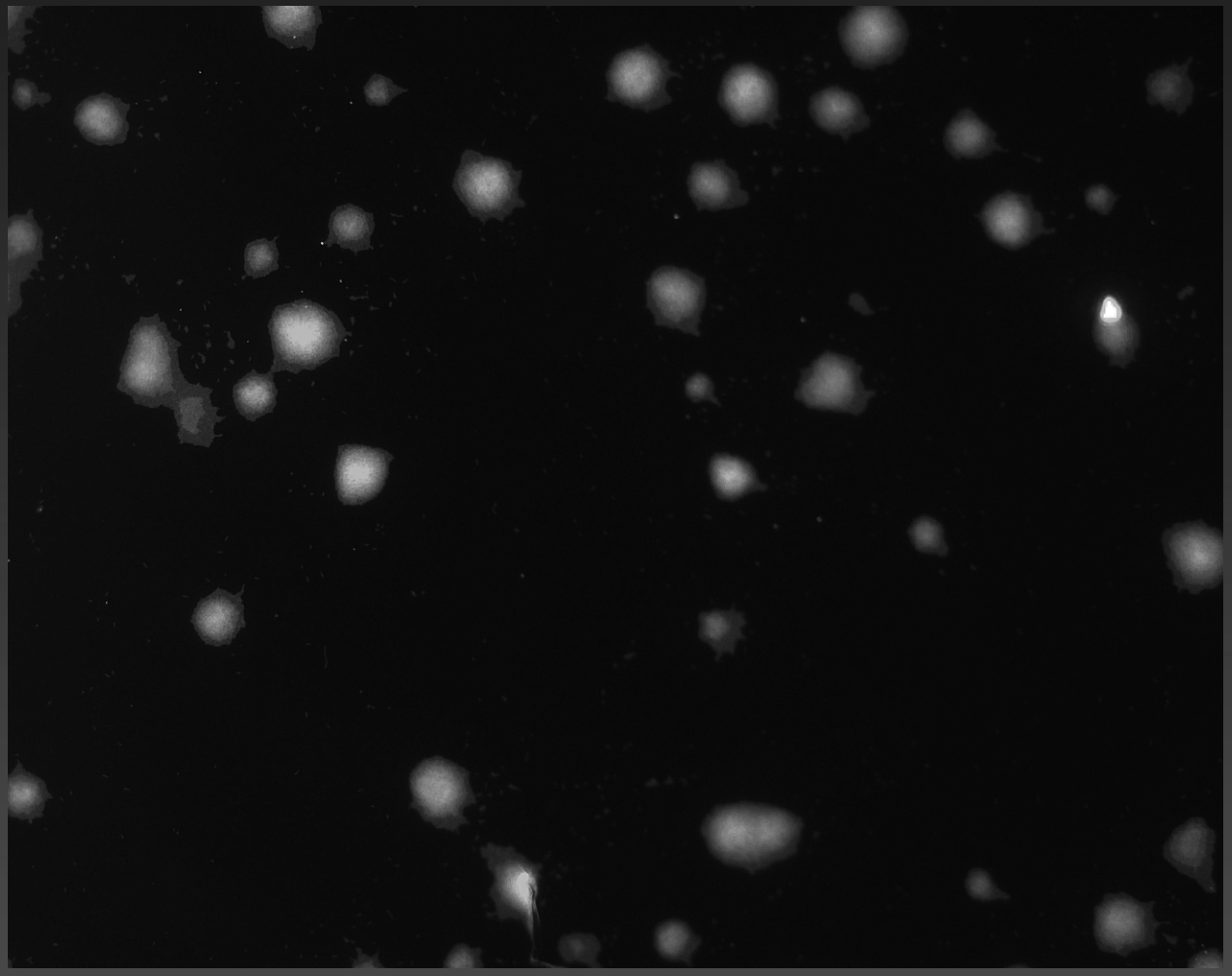


Microscope Version

Quantification levels:

- < 100 CFU
- 100-1.000 CFU
- 1.000-10.000 CFU
- > 10.000 CFU

- duration: 15 min



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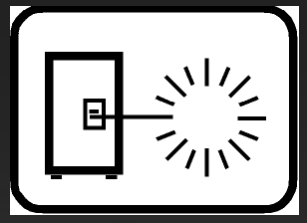
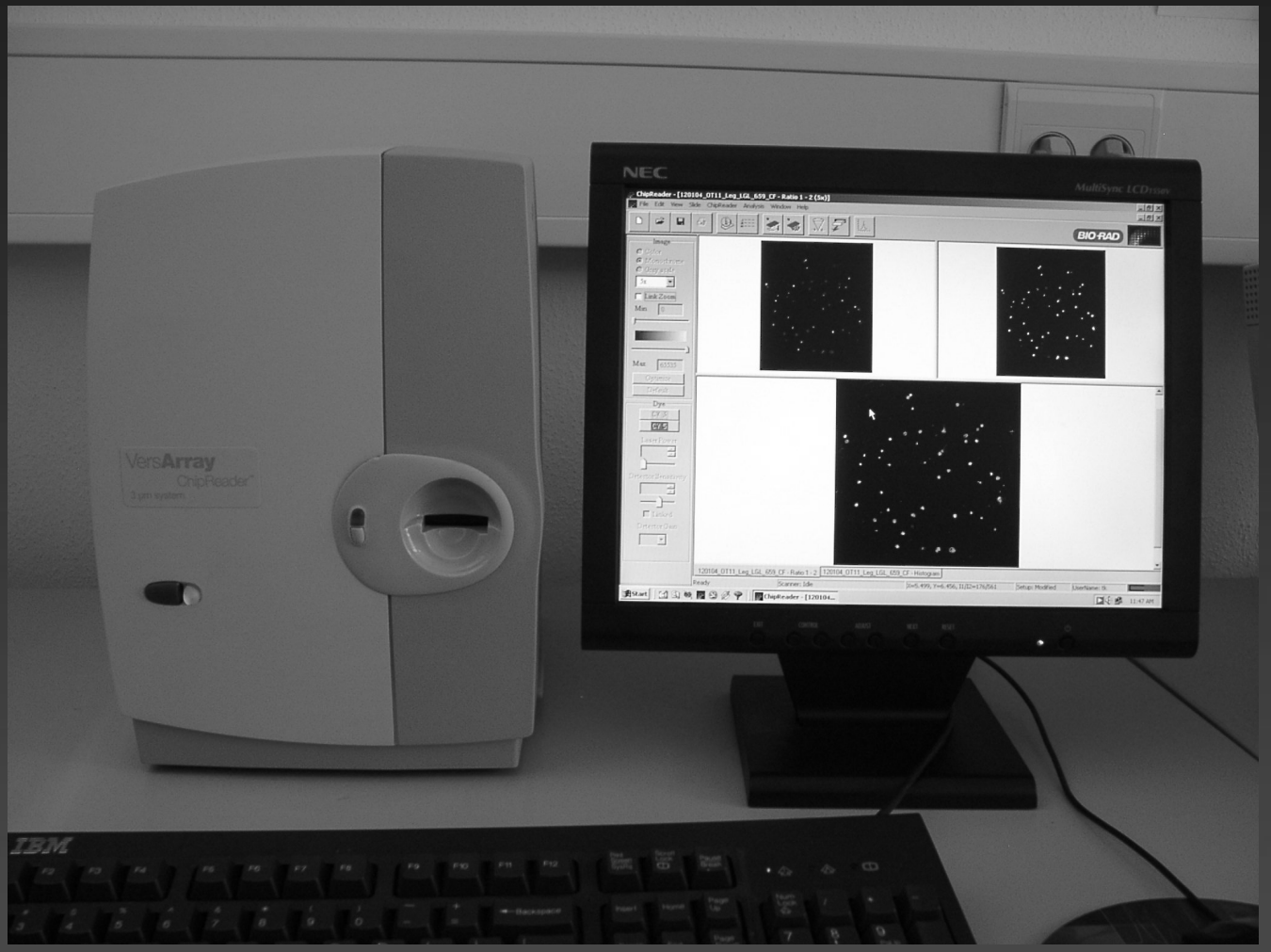
Within 5 min all *Legionella* species are quantified



Scanner Version

- Fast and exact quantification
- Highly sensitive



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ScanVIT-Legionella has many advantages

Fast test saves at least 5 days until the final result

2 in 1 with one test *Legionella* spec. AND *Legionella pneumophila* are detected

Save every colony is confirmed

Error-free not influenced by non-target bacteria or inhibiting substances

Easy-to-use no molecular-biological skills necessary

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