

Learn how to isolate and purify *Legionella* from aqueous samples in less than two hours with automated immunomagnetic separation (IMS)

Automated IMS combined with different methods of downstream analysis

The rqmicro CellStream instrument performs a fully automated IMS providing purified and concentrated samples ready for downstream analysis (Figure 1). Combined with the rqmicro *Legionella* SEPARATION kits, it provides a complete solution for sample preparation. The target cells are isolated from aqueous samples with different matrices by using antibody-coated magnetic particles. The target cells are isolated from water samples of different matrices by using antibody-coated magnetic particles. After IMS, the isolated and purified target cells are ready for subsequent analysis by cultivation on agar plates or PCR.

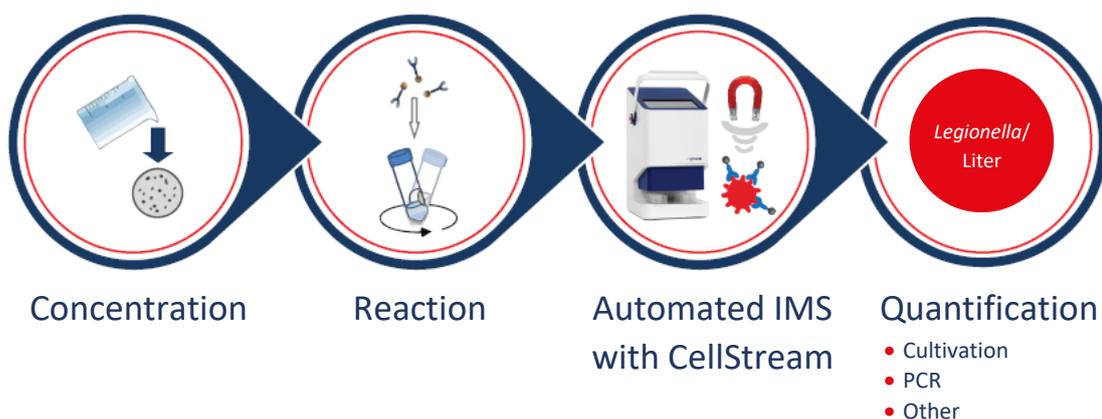
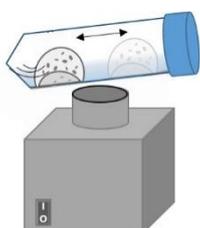


Figure 1: Sample preparation in less than two hours following a straightforward workflow.

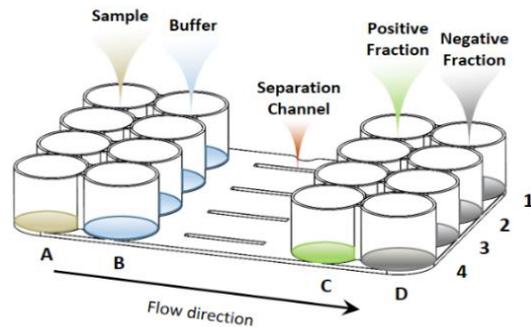
Protocol

Optional for samples with complex matrices/PLUS Kit: Prefiltration of the total sample volume using a 5 µm filter and collection of the filtrate in a sterile container.

1. Filtrate the desired amount of water with a standard filtration unit, using a 0.2 µm polycarbonate filter provided with the *Legionella* kits.
2. Remove the filter from the filtration unit and place it into a 50 mL tube containing 3 mL of buffer 1 (incubation buffer). The filter should lie flat on the inner wall of the tube.
3. Vortex the 50 mL tube for 60 s in a horizontal position, thereby resuspending the bacterial cells in buffer 1. Remove the filter from the tube.



4. Gently mix the suspension containing the magnetic particles and add 30 μ L to each sample.
5. Incubate the samples for 30 min at RT with gentle shaking or rocking. Protection from light is recommended but not necessary.
6. Load buffer and samples into the disposable cartridge provided with the kit. Place the cartridge into the cartridge chamber of the CellStream and start the IMS.



7. When the process is finished, remove the cartridge and transfer the entire positive fraction (1 mL) carefully from the container into a sterile 1.5 mL tube.
8. The samples are now ready for downstream analysis, i.e. cultivation on agar plates (GVPC), PCR, etc.

Results rqmicro method & cultivation on agar plates

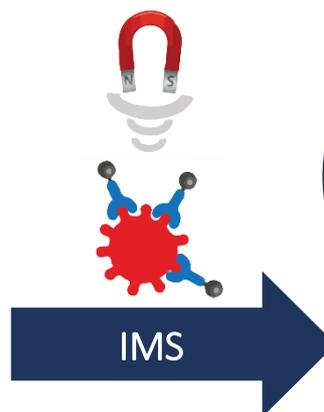
Without IMS: overgrown plate

✗ Not evaluable



With IMS: single *L.p.* SG1 colonies

✓ Clear results



Reagents: *Legionella pneumophila* SG1 SEPARATION Kit.

Instrument: CellStream

Contact us:

rqmicro Ltd.
Brandstrasse 24
8952 Schlieren
Switzerland

+41 44 512 51 51

Sales support: sales@rqmicro.com
General information: info@rqmicro.com

www.rqmicro.com

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