



Legionella Testing Solutions

A complete system for the detection of *Legionella* in
water, biofilm, and aerosol samples

BIO-RAD

Complete Solutions for *Legionella* Testing

Bio-Rad provides a complete range of products for the detection of *Legionella*. Our products comply with regulatory standards and allow for risk management based on accurate and rapid results.

These *Legionella* testing products are suitable for water supply systems, water intended for human consumption, hot water for sanitation purposes, water for industrial use, natural mineral water, water for recreational activities, biofilms, and aerosol samples.

Legionella Monitoring

Method based on real-time PCR technology

⌚ 4 hr



Aerosol sample*



Water sample



Biofilm sample

DNA extraction and purification with the Aquadien™ Kit

Detection and quantification with iQ-Check® Screen and iQ-Check Quanti *Legionella* spp. Kits

Detection and quantification with iQ-Check Screen and iQ-Check Quanti *L. pneumophila* Kits



iQ-Check Real-Time PCR Kit

*CIP10-M Air Sampler

The combination of the CIP10-M kit and the iQ-Check *Legionella* method is the fastest and most ideal way of measuring onsite worker exposure to *Legionella* in cooling towers, hot sanitary water systems, whirlpool and natural spa baths, fountains, and waste water treatment plants. Refer to bulletin 16186, available on bio-rad.com, for more information about quantification of *Legionella* in aerosol samples.



Method based on culture media

⌚ 10–13 days



Water sample

Direct sample analysis

Membrane filtration (0.5 L)

Centrifugation (0.5 L)



Acid treatments

Heat treatments



GVPC



⌚ 8–11 days
36°C

Confirmation of *Legionella* spp. growth: Bio-Rad's BCYE biplate contains media supplemented with L-cysteine on half the plate to allow for better confirmation of *Legionella* species, which require L-cysteine to grow.



BCYE Biplate, BCYE with L-cysteine and BCYE without L-cysteine, Nutrient Agar (water testing), or Blood Agar



⌚ 48 hr
36°C

Confirmation of *L. pneumophila* growth: Bio-Rad's *L. pneumophila* Latex Kit allows for the rapid and easy identification of *L. pneumophila* in serogroups 1 and 2–15 and of the ten most common *Legionella* species and serogroups.



MonoFluo™ Kit or *L. pneumophila* Latex Kit

Fast, Reliable, and Sensitive Results with iQ-Check *Legionella* Kits

Real-time PCR methods provide same day results while ensuring reliable detection of all *Legionella* species. DNA is extracted and purified using the Aquadien Kit, which results in high yields of DNA. This kit is suitable for all types of water including hot sanitary water and water from spas and cooling towers, and has an optimized protocol for samples containing PCR inhibitors. The PCR solutions for *Legionella* testing are AFNOR ISO validated (NF VALIDATION by AFNOR certification).

Key Benefits

Fast

- 4 hr from sample to results
- No confirmation needed

Reliable

- Detects all *Legionella* species including viable but nonculturable (VBNC) and intraamoebal
- Includes positive/negative DNA controls and internal control
- Avoids contamination risk by not requiring post-PCR processing

Convenient

- All reagents provided with the kits
- Automated result interpretation

High Performance

- NF VALIDATION certified according to the T90-471 and ISO/TS 12869 standards
- Gene-specific primers and probes for maximum specificity
- Standards connected to the Standard Reference Material



BRD 07/15-12/07
BRD 07/16-12/07
Water analysis methods
nf-validation.afnor.org

Protocol

1.

Sampling



Water

Biofilm

Aerosol CIP10-M

2.

Filtration



Concentrate bacteria by filtering water

3.

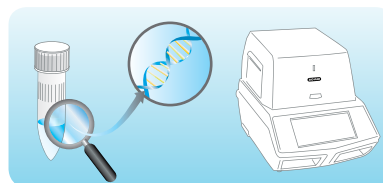
DNA Extraction



Recover bacteria from filter and extract DNA using the Aquadien Kit

4.

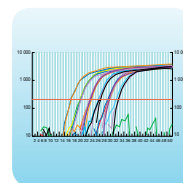
Real-Time PCR Detection and Quantification



Add DNA to PCR microtubes containing PCR mix from iQ-Check *Legionella* Kits

5.

Automatic Data Analysis



View results in a report with full traceability using CFX Manager™ Software, IDE

Applications

- Direct detection when screening for the presence or absence of *Legionella*
- Direct quantification of samples with provided standards in line with the Standard Reference Material
- Outbreak investigation for rapid results during a crisis
- Detection of *Legionella* in biofilm, aerosol, and amoebae samples
- Easy implementation by service labs
- Testing large water resources, including water supply systems, industrial water systems (cooling towers), health establishments, public buildings, and recreational water systems
- Management of complex (clogging) water samples with high-yield DNA extraction using the Aquadien Kit



Aquadien Kit, CFX96 Touch Deep Well Real-Time PCR Detection System, and iQ-Check Real-Time PCR Kits



“The microbiological quality of water is a public health issue. Our aim is to facilitate and improve the performance of analysis with simple and innovative methods for the satisfaction of laboratories and their customers.”

FREDERIC PASTORI
International Product Manager
Food Science Division
12 years at Bio-Rad

Ordering Information

Catalog # Description

Classical Culture Media Product Range (ISO 11731 and ISO 11731-2)

3563718	BCYE Biplate/Agar, 90 mm x 20 plates
3563720	BCYE with L-Cysteine/Agar, 90 mm x 20 plates
3563722	BCYE without L-Cysteine/Agar, 90 mm x 20 plates
3563804	Columbia + Horse Blood/Agar, 90 mm x 20 plates
3563719	GVPC/Agar, 90 mm x 100 plates
3563717	GVPC/Agar, 90 mm x 20 plates
3562790	<i>Legionella pneumophila</i> Latex Kit, serogroups 1 and 2–15, 50 tests
3562795	<i>Legionella pneumophila</i> and Species Latex Kit, 50 tests
1660500	Long-Wave UV Lamp, pkg of 1
3532514	MonoFluo <i>Legionella pneumophila</i> Kit, 24 tests
3550717	Portable UV Observation Chamber; without UV Lamp, pkg of 1
3550718	Wood Lamp, pkg of 1

Catalog # Description

Real-Time PCR Product Range

3578121	Aquadien Kit, 96 tests
3578125	Aquadien Lysis Solution, 5 ml x 1 bottle, sufficient for 32 air samples
3578119	Aquadien W2, wash solution, 48 tests
3578102	iQ-Check Quanti <i>Legionella</i> spp. Kit, 96 tests, includes standards kits
3578103	iQ-Check Quanti <i>L. pneumophila</i> Kit, 96 tests, includes standards kits
3578104	iQ-Check Screen <i>Legionella</i> spp. Kit, 96 tests
3578105	iQ-Check Screen <i>L. pneumophila</i> Kit, 96 tests
3594990	CFX96 Touch Deep Well Real-Time PCR Detection System, 96 wells (3600037 in North America)
3593893	CFX Manager Software, Industrial Diagnostic Edition (IDE) (3600042 in North America)

Aerosol Sampling

3593084*	CIP10-M 220 V Kit, 1 CIP10-M sampler, 3 rotating cups, 3 snap-in alveolar nozzles, 3 cup chambers, 1 harness with back attachments, 220 V charger, 1 magnet
3593094*	CIP10-M 110 V Kit, containing 1 CIP10-M sampler, 3 rotating cups, 3 snap-in alveolar nozzles, 3 cup chambers, 1 harness with back attachments, 110 V charger, 1 magnet

* Each accessory is available separately.

Visit bio-rad.com/water to find out more about our line of water products.

Bio-Rad's thermal cyclers and real-time thermal cyclers are covered by one or more of the following U.S. patents or their foreign counterparts owned by Eppendorf AG: U.S. Patent Numbers: 6,767,512 and 7,074,367.

The CIP10-M Air Sampler is a product of Tecora.



BIO-RAD

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Laboratories, Inc.**

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