



Trusted *Legionella* detection

Confidently and reliably detect and enumerate
Legionella species in water samples

Background

Legionella pneumophila is a major cause of both pneumonia and an acute self limiting febrile disease called Pontiac Fever. *L. pneumophila* serogroup 1 is responsible for the majority of adult *Legionella* infections with serogroup 6 present in a smaller number of cases. Other serogroups of *L. pneumophila* and another 19 species of *Legionella* are associated to a varying degree with human disease¹.

Legionella is unlikely to be transmitted person-to-person but is commonly transmitted through aerosols generated from cooling towers of air-conditioning systems or by use of potable water from domestic hot-water installations, for example, showers¹.

This guide describes the Thermo Scientific™ Microbiology products that are commonly used for the detection and enumeration of *Legionella* in water.



Regulations and protocols

For effective public health protection and response, the infection and its source must to be identified with full confidence as quickly as possible. Regulations and testing protocols for *Legionella* in water vary between countries and are continually being revised. A standard procedure for the isolation, culture, and identification of *Legionella* has been prepared by the International Organization for Standardization (ISO 11731).

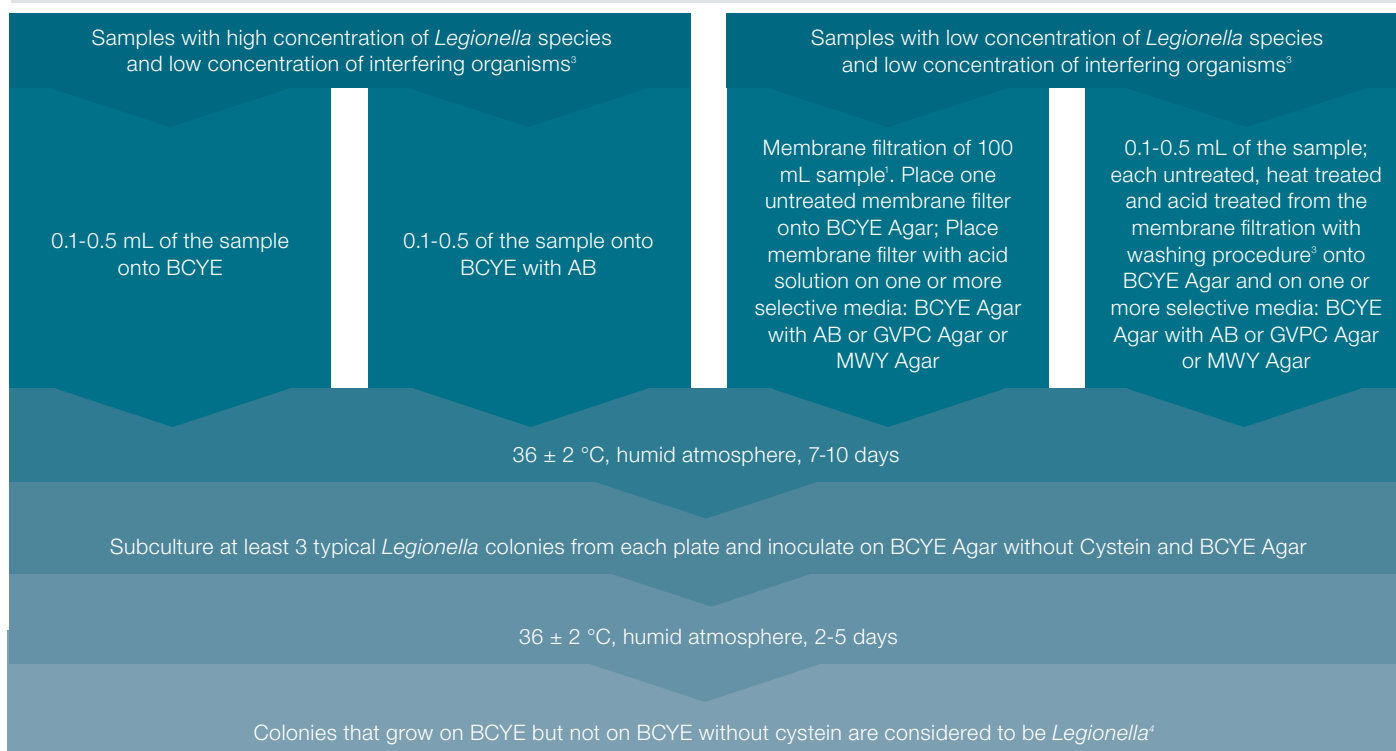
Methods according to ISO 11731:2017

Sample preparation

Heat treated - Put sample into water bath for 30+/-2 minutes at 50 °C

Acid treated - 1 part sample to 9 parts of acid buffer. Mix well and leave it for 5+/- 0.5 minutes.

Acid treated filter - Put 30 mL of acid solution onto the membrane filter. Leave it for 5 +/- 0.5 minutes and remove the solution by filtration. Wash with 20 mL of either sterile Aqua dest., Pages Saline, Ringer Solution or PBS.



Legionella testing solutions

Culture media

Rely on high quality media manufactured in our ISO compliant production facilities and supported by a team of experts dedicated to microbiology.

Legionella

Method	Media	Product	Format	Product code
ISO 11731:2017 and EN ISO 11731-2				
Sample preparation	Acid Buffer	Legionella Acid Buffer Solution	6 x 1 L bottles Prepared media	GFB01
Direct and membrane filtration	Legionella GVPC Agar	Legionella GVPC Selective Agar	10 x 90 mm plates Prepared media	PO5074A
			10 x 90 mm plates Prepared media	PO0245A
		Legionella CYE Agar-Base +	500 g Dehydrated culture media	CM1203B
		Legionella BCYE Supplement +	10 tubes (500 mL) Dehydrated culture media	SR0251C
		Legionella GVPC Selective Supplement	10 tubes (500 mL) Dehydrated culture media	SR0252E
	Legionella GVPC Agar with antibiotics	Legionella BCYE Agar with antibiotics	10 x 90 mm plates Prepared media	PO5325A
	Legionella BCYE Agar	Legionella BCYE Agar	10 x 90 mm plates Prepared media	PO5072A
		Legionella CYE Agar Base +	500 g Dehydrated culture media	CM1203B
		Legionella BCYE Supplement	10 tubes (500 mL) Dehydrated culture media	SR0251C
		Legionella MWY Selective Supplement	10 tubes (500 mL) Dehydrated culture media	SR0255B
	Legionella MWY Agar	Legionella MWY Agar	10 x 90 mm plates Prepared media	PO5071A
		Legionella CYE Agar Base +	500 g Dehydrated culture media	CM1203B
		Legionella BCYE Supplement +	10 tubes (500 mL) Dehydrated culture media	SR0251C
Subculture	Legionella BCYE Agar without Cystein	Legionella BCYE Agar without Cystein	10 x 90 mm plates Prepared media	PO5028A
			10 x 90 mm plates Prepared media	PO0255A*
		Legionella CYE Agar Base +	500 g Dehydrated culture media	CM1203B
		Legionella BCYE without Cystein Supplement	10 tubes (100 mL) Dehydrated culture media	SR0253A
	Legionella BCYE Agar	Legionella BCYE Agar	10 x 90 mm plates Prepared media	PO5072A
		Legionella CYE Agar Base +	500 g Dehydrated culture media	CM1203B
		Legionella BCYE Supplement	10 tubes (500 mL) Dehydrated culture media	SR0251C

* Minimum order quantity required.



Quality control organisms

Stringent quality control ensures accurate and consistent test results in your microbiology laboratory. Our dedication to quality has driven us to develop a wide selection of reliable, easy-to-use products. Thermo Scientific™ Culti-Loops™ are ready to use, disposable inoculation loops which contain stabilized, preserved, viable microorganisms, for simple and convenient performance testing.

Product	Sample numbers	Cat. No.
<i>Legionella pneumophila</i> ATCC® 33152™*	WDCM 00107	R4603950
<i>Legionella anisa</i> NCTC 11974™	WDCM 00106	R4601315
<i>Enterococcus faecalis</i> ATCC® 19433™*	WDCM 00009	R4601990
<i>Enterococcus faecalis</i> ATCC® 29212™*	WDCM 00087	R4607030
<i>Pseudomonas aeruginosa</i> ATCC® 27853™*	WDCM 00025	R4607060
<i>Pseudomonas aeruginosa</i> ATCC® 9027™*	WDCM 00026	R4605210
<i>Escherichia coli</i> ATCC® 8739™*	WDCM 00012	R4607085
<i>Escherichia coli</i> ATCC® 25922™*	WDCM 00013	R4607050

Diagnostic reagents

Our selection of rapid, easy-to-use identification systems is designed for manual testing or as confirmation for automated test systems.

Product name	Quantity	Cat. No.
Thermo Scientific DrySpot Legionella pneumophila Serogroup 1 Kit	60 tests	DR0200M
Thermo Scientific DrySpot Legionella pneumophila Serogroup 2-14 Kit	60 tests	DR0210M
Thermo Scientific DrySpot Legionella species Kit	60 tests	DR0220M
Thermo Scientific Legionella Latex Test Kit	50 tests	DR0800M
Thermo Scientific Legionella pneumophila Serogroup 1 Latex Test Kit	50 tests	DR0801M
Thermo Scientific Legionella pneumophila Serogroup 2-14 Latex Test Kit	50 tests	DR0802M
Thermo Scientific Legionella species Latex Test Kit	50 tests	DR0803M

References

1. World Health Organization Guidelines for drinking water quality – *Legionella*. www.who.int/water_sanitation_health/water-quality/guidelines/en/
2. 10 – 1000 mL sample volume according to ISO 11731-2.
3. The choice of the method for the enumeration of *Legionella* species depends on the origin/characteristics of the sample and the reason for sampling or investigation. A decision matrix can be found in the ISO 11731:2017, Annex J.
4. Further information, please see ISO 11731:2017.



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