

# VIASURE MULTIPLEX

*Legionella + Legionella pneumophila* Real Time PCR Detection Kit

## Pathogen and product description

**L**egionellae are aerobic gram-negative bacteria associated with respiratory infections. *Legionella pneumophila* is the most common pathogenic species. Serogroup 1 (sg1) alone has been recognized as the most important agent. *Legionellae* are ubiquitous in environmental water sources and may cause sporadic as well as epidemic cases, which can be nosocomial, community-acquired and travel-associated. Aerosol-generating systems such as faucets, showerheads, whirlpools, cooling towers, and nebulizers aid in the transmission of *Legionella* from water to air. Afterwards, human inhalation or aspiration of contaminated water droplets into the lower respiratory tract leads to *Legionella* infections and disease outbreaks.

*Legionella pneumophila* accounts for up to 90% of legionellosis cases, which includes both legionnaires' disease (LD) and Pontiac fever. Legionnaires' disease presents additional non-specific symptoms include fever, non-productive cough, myalgias, dyspnea and diarrhea, and neurological findings such as headache

and lethargy. Pontiac fever is also characterized by malaise, myalgia, and fever; but it is a milder non-pneumonic infection.

Diagnostic delay may also result in increased mortality rates among the elderly and patients with severe underlying disease. Although culture is considered the "gold standard" for detection of *Legionella*, its growth is slow and fastidious. Therefore other strategies to ensure a rapid diagnosis have been developed. Among them, several PCR assays targeting the 16S and 5S rRNA genes, and the *macrophage infectivity potentiator gene (mip)* have been reported.

VIASURE *Legionella* Real Time PCR Detection Kit is designed for the diagnosis of *Legionella* and *Legionella pneumophila* in clinical samples. After DNA isolation, the identification of *Legionella* is performed by the amplification of a conserved region of the 23S rRNA and *Legionella pneumophila* of the *mip* gene using specific primers and a fluorescent-labelled probes.

Analytical sensitivity

VIASURE Legionella + Legionella pneumophila Real Time PCR Detection Kit has a detection limit of ≥ 10 DNA copies per reaction (figures 1 and 2).

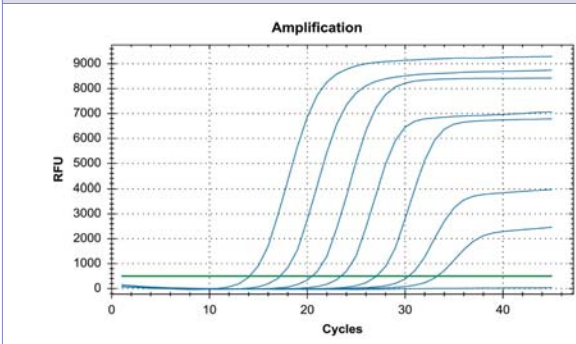


Figure 1. Dilution series of Legionella (10<sup>7</sup>–10<sup>1</sup> copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (FAM channel).

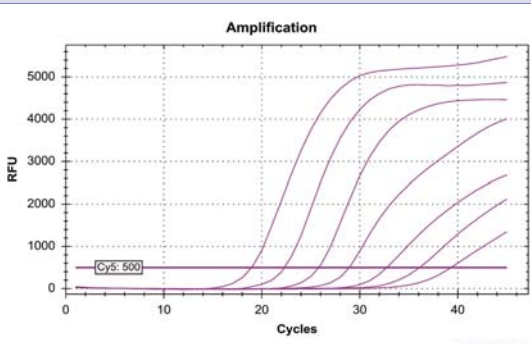


Figure 2. Dilution series of Legionella pneumophila (10<sup>7</sup>–10<sup>1</sup> copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (Cy5 channel).

Components

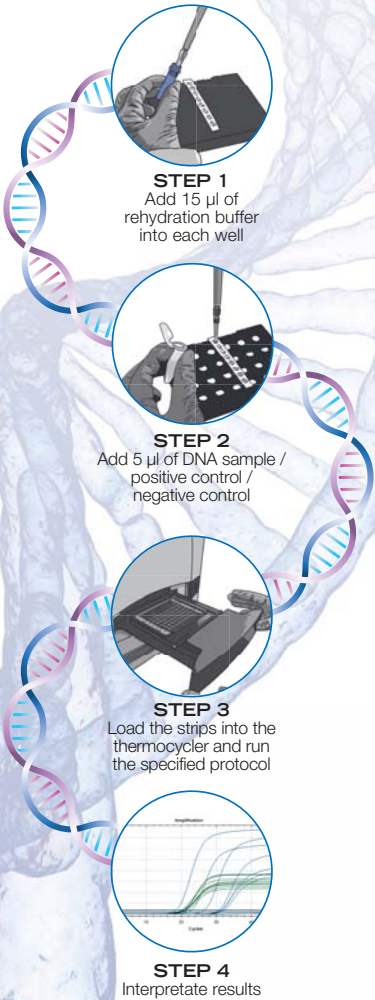
Reagent/Material	Description	Quantity
Legionella + Legionella pneumophila 8-well strips	A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and Internal control in stabilized format	6/12 x 8-well strip
Legionella + Legionella pneumophila 96-well plate	A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and Internal control in stabilized format	1 plate
Rehydration Buffer	Solution to reconstitute the stabilized product	1 vial x 1,8 mL
Legionella + Legionella pneumophila Positive Control	Non-infectious synthetic lyophilized cDNA	1 vial
Negative Control	Non template control	1 vial x 1 mL
Water RNase/DNase free	Water RNase/DNase free	1 vial x 1 mL
Tear-off 8-cap strips	Optical caps for sealing wells during thermal cycling	6/12 x 8-cap strip
Shell Frame Grid	Shell Frame Grid	1 or 2

Kit References

Reference	Description
VS-LSP106L	Viasure Legionella + Legionella pneumophila Real Time PCR Detection Kit 6 x 8-well strips, low profile
VS-LSP106H	Viasure Legionella + Legionella pneumophila Real Time PCR Detection Kit 6 x 8-well strips, high profile
VS-LSP112L	Viasure Legionella + Legionella pneumophila Real Time PCR Detection Kit 12 x 8-well strips, low profile
VS-LSP112H	Viasure Legionella + Legionella pneumophila Real Time PCR Detection Kit 12 x 8-well strips, high profile
VS-LSP113L	Viasure Legionella + Legionella pneumophila Real Time PCR Detection Kit 96-well plate, low profile
VS-LSP113H	Viasure Legionella + Legionella pneumophila Real Time PCR Detection Kit 96-well plate, high profile

Work Flow

One-step rehydration of wells and add your extracted DNA



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