



NEW Legionella RT-PCR

Legionellae are common contaminants of artificial water systems, including air-conditioning systems, cooling towers, and jacuzzis where conditions may be optimal for growth and proliferation. Once aerosolized, the bacteria can enter the human respiratory tract and cause disease manifesting as Legionnaires' disease, a severe form of pneumonia, or Pontiac fever, a self-limiting flu-like illness. Symptoms include fever, chills, muscle aches, headaches, cough, nausea and diarrhea. Onset occurs between 2 and 10 days after exposure.

Health Departments reported nearly 10,000 cases of Legionnaires' disease in the US in 2018¹. However, because Legionnaires' disease is likely underdiagnosed, this number may underestimate the true incidence. About one in 10 people who gets sick from Legionnaires' disease will die².

Many labs use rapid urine antigen tests for *L. pneumophila*. However, this test is intended for the detection of serogroup 1 (sg1) and may miss a diagnosis of Legionnaires' disease caused other serogroups or other *Legionella* spp.

The new WSLH assay allows simultaneous detection and differentiation of *Legionella* spp., *Legionella pneumophila*, and *Legionella pneumophila* sg1 from clinical specimens. The assay targets the *ssrA* (*Legionella* species) gene, the *mip* (*L. pneumophila*) gene, and the recently identified *wzm* gene, specific for *L. pneumophila* sg1. This protocol was adapted from a CDC protocol. It has been validated for use at WSLH. It has not been cleared by the U.S. Food and Drug Administration.

Test Information:

- **Test name:** Legionella Real-time PCR
- **Test code:** MP00441
- **Test method:** Real-time amplified probe based PCR
- **Acceptable specimen types:** sputum, BAL, and isolates
- **Specimen handling:** Isolates can be stored at ambient temperatures; avoid freezing. Primary specimens can be stored at 2-8C until transport and transported with a cool pack. Primary specimens **must be tested within 3 days** of collection per CDC guidance. If specimens will not be tested for 3 or more days, they should be stored at -20°C until ready for shipment and shipped on dry ice.
- **Turn-around time:** 1-3 days
- **Possible Results:**
 - *Legionella* DNA detected
 - *Legionella pneumophila* DNA detected
 - *Legionella pneumophila* serogroup 1 detected DNA
 - No *Legionella* DNA detected
 - No *Legionella pneumophila* DNA detected
 - No *Legionella pneumophila* serogroup 1 DNA detected
- **CPT code:** 87541, 2x 87798
- **Price:** \$150

References:

1. [Reported cases of notifiable diseases, by region and area – United States and U.S. territories, 2016.](#)
2. Dooling KL, Toews KA, Hicks LA, et al. [Active Bacterial Core surveillance for legionellosis—United States, 2011–2013.](#) *MMWR Morb Mortal Wkly Rep.* 2015;64(42):1190–3.

