



Technical Bulletin

Legionella Testing by Urine Antigen & *Legionella* Culture

TO: Medical Staff and Clients

FROM: Dr. Amy Woron, PhD, MPH
V.P. - Technical Director (Microbiology/Molecular)

Tori Enomoto, M(ASCP) Dr. Wesley Kim, MD Dr. Ana Ortega-Lopez, MD
Manager, DLS Microbiology Medical Director DLS Medical Director QMC Punchbowl,
and QMC West North Hawaii and Molokai

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SUBJECT: **Optimal *Legionella* testing consists of specialized respiratory culture and rapid urine antigen**

Legionella species can be found in many types of environmental sources associated with water and can pose a serious risk to vulnerable patients. Legionellosis can present with pneumonia (Legionnaire's Disease) or without pulmonary involvement (Pontiac Fever). *Legionella pneumophila* causes 80-90% of legionellosis with serogroup 1 accounting for >70% of disease. *Legionella pneumophila* serogroups 2-15 and other 25 or more *Legionella* species cause the other 30% of disease.

Optimal testing for legionellosis requires BOTH specialized culture (Test Code 111) of lower respiratory specimen (e.g., expectorated sputum, induced sputum, bronchial washing, transtracheal aspirate, lung biopsy) AND rapid testing for a soluble antigen that is present in urine as early as 3 days after onset of symptoms. Performing urine antigen alone, which only detects *Legionella pneumophila* serogroup 1, has the potential to miss 30% of true cases caused by the other serogroups and species. Furthermore, the antigen may be shed in the urine for up to a year after infection, so should be evaluated along with other clinical and laboratory evidence. Lastly, the urine does not contain viable *Legionella pneumophila* serogroup 1 bacteria and is NOT a suitable specimen for culture.

Whenever possible and practical, submit a *Legionella* Culture request (Test Code 111) on a respiratory specimen in conjunction with the *Legionella* antigen on urine.

Testing is performed at the DLS Central Microbiology Laboratory.

Test code:	5123	Test name:	<u>Legionella Antigen, Urine</u>
Preferred container:	Urine cup	Optimal volume:	1 mL
Turn Around Time:	1 day		
Specimen stability:	Ambient: 24 Hours, Refrigerated: 14 Days, Frozen: 30 Days		

Test code:	111	Test name:	<u>Legionella Culture</u>
Preferred Specimen:	Lower Respiratory	Optimal volume:	5 mL fluid or 1 g tissue
Turn Around Time:	Up to 2 weeks		
Specimen stability:	Ambient: 24 Hours, Refrigerated: 1 Week		

Please refer any questions to Tori Enomoto, Manager - DLS Microbiology Laboratory at 808- 441-5470, or DLS Client Services at 808-589-5101.