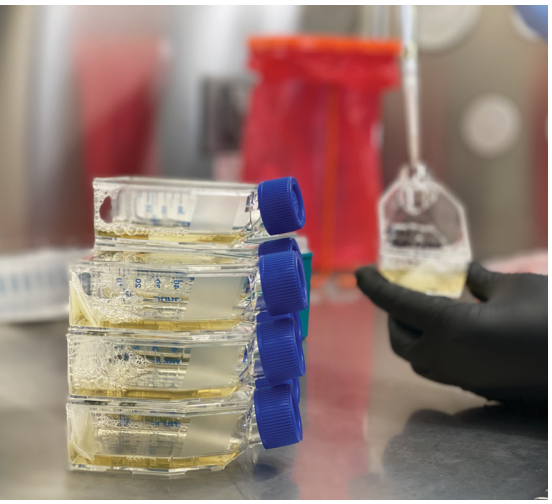
phigenics®
Independent Water Management

Healthcare | Hospitality | Commercial | Government | Manufacturing

PVT VIABLE™

Viability Identification Assay By *Legionella* Enrichment

Featuring LegiPlex™



PVT VIABLE™ detects viable *Legionella* bacteria found in building water systems in as little as 72 hours. By combining traditional culture techniques with **LegiPlex™** this new method results in our fastest turnaround time and highest sensitivity to date. This innovation also detects *Legionella* bacteria that are unable to form colonies in the conventional ISO spread plate method (Viable But Non-Culturable; VBNC). False-negative results in the conventional culture method are widely recognized[1] as a serious problem because VBNC cells have been proven to be potentially infective and pathogenic[2].

FASTER

Our proprietary method allows for viability results to be reported 3-4 days after sampling as compared to 10-14 days with the traditional culture methods.

MORE ACCURATE

PVT VIABLE™ is a highly sensitive diagnostic with a limit of detection of 1 viable cell/1mL, with an option for a limit of detections of 1 viable cell/100mL. With increased accuracy and the ability to detect VBNC *Legionella*, PVT VIABLE™ provides the most defensible results.

MORE COMPREHENSIVE

The LegiPlex™ PCR identifies the type of viable *Legionella* detected as *Legionella pneumohpila* serogroup 1, *Legionella pneumophila* serogroup 2-15, and *Legionella* genus.

FOR MORE INFORMATION, VISIT:

PHIGENICS.COM/TESTING

PVT VIABLE™ — Featuring LegiPlex™

LegiPlex™ is a multiplex real-time polymerase chain reaction (PCR) developed in-house by Phigenics. This molecular method detects and differentiates *Legionella pneumophila* serogroup 1, *Legionella pneumophila* serogroup 2-15, and *Legionella* genus with a limit of detection of 5 genomic units per reaction. **LegiPlex**™ is a key part of PVT VIABLE™ and has been validated in compliance for limit of detection and specificity with the ISO Technical Specification 12869:2019 for environmental *Legionella* real-time PCRs.

Benefits

- ✓ PVT VIABLE™ provides viability results 3-4 days after sampling
- ✓ Water Management Teams can start their validation response 6-7 days sooner than the traditional ISO 11731 method allows
- ✓ VBNC cells are detected by PVT VIABLE™
- ✓ LegiPlex™ allows the type of viable *Legionella* to be reported

Sample Report

Phigenics Validation Test VIABLE™ Report Summary

Method Used: PVT VIABLE™ featuring LegiPlex™ PCR

***Legionella* Caution** — Indicates *Legionella* was detected.

NO Concern (No Shading) — Indicates results meet validation criteria.

PASL Number	Date Received	Date Analyzed	Collector	Location Identification	Category (Potable/ Non-Potable)	PVT VIABLE™
10000	2018/01/01	2018/01/12	J. Smith	Sink #1 Hot	Potable	*L. pneumophila* sg 1
10001	2018/01/01	2018/01/12	J. Smith	Sink #2 Cold	Potable	Not Detected
10002	2018/01/01	2018/01/12	J. Smith	Sink #3 Hot	Potable	Not Detected
10003	2018/01/01	2018/01/12	J. Smith	Sink #4 Cold	Potable	Not Detected
10004	2018/01/01	2018/01/12	J. Smith	Shower #1 Hot	Potable	*L. pneumophila* sg 2-15
10005	2018/01/01	2018/01/12	J. Smith	Shower #2 Cold	Potable	Not Detected
10006	2018/01/01	2018/01/12	J. Smith	Shower #3 Hot	Potable	Not Detected
10007	2018/01/01	2018/01/12	J. Smith	Shower #4 Cold	Potable	*Legionella* genus
10008	2018/01/01	2018/01/12	J. Smith	Ice Machine #1	Potable	*Legionella* genus
10009	2018/01/01	2018/01/12	J. Smith	Ice Machine #2	Potable	Not Detected
10010	2018/01/01	2018/01/12	J. Smith	Drinking Fountain #1	Potable	Not Detected
10011	2018/01/01	2018/01/12	J. Smith	Drinking Fountain #2	Potable	*L. pneumophila* sg 1
10012	2018/01/01	2018/01/12	J. Smith	Misting System	Non-Potable	Not Detected
10013	2018/01/01	2018/01/12	J. Smith	Cooling Tower #1	Non-Potable	*L. pneumophila* sg 2-15
10014	2018/01/01	2018/01/12	J. Smith	Cooling Tower #2	Non-Potable	Not Detected
10015	2018/01/01	2018/01/12	J. Smith	Cooling Tower #3	Non-Potable	*L. pneumophila* sg 1

[1]Pinto, D., Santos, M. A., & Chambel, L. (2015). Thirty years of viable but nonculturable state research: Unsolved molecular mechanisms. Critical Reviews in Microbiology, 41(1), 61–76. https://doi.org/10.3109/1040841X.2013.794127

[2] Epalle, T., Girardot, F., Allegra, S., Maurice-Blanc, C., Garraud, O., & Riffard, S. (2014). Viable but Not Culturable Forms of *Legionella pneumophila* Generated After Heat Shock Treatment Are Infectious for Macrophage-Like and Alveolar Epithelial Cells After Resuscitation on Acanthamoeba polyphaga. Microbial Ecology, 69(1), 215–224. https://doi.org/10.1007/s00248-014-0470-x

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