

I NEED TO TEST FOR LEGIONELLA, WHAT ARE MY OPTIONS?

There are many ways to test for Legionella bacteria in the water systems of buildings. This quick guide summarizes the main Legionella testing methods.

DIPSLIDES



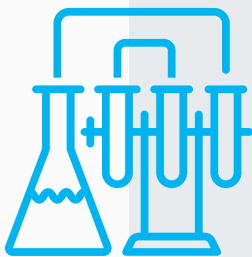
- Performed on-site by growing bacteria from a water sample on a nutrient strip.
- Takes 24-48 hours to receive test results.
- Specificity is 0% as it does not single out Legionella.
- Limit of detection is 10,000 CFU/mL.
- Detects live (pathogenic) not dead (non-pathogenic) Legionella bacteria.
- Used as a quick check, but often fails to detect contamination.

LAB CULTURE

- Water sample is shipped to a lab where it is grown on a Petri dish.
- Takes 10-14 days to receive test results.
- Specificity is 100%.
- Limit of detection is 10 CFU/mL.
- Detects live (pathogenic) not dead (non-pathogenic) Legionella bacteria.
- Bacteria degrade during shipping⁽¹⁾ and tests significantly undercount Legionella concentrations.⁽²⁾



LAB qPCR



- Water samples are shipped off to the lab. qPCR measures bacterial DNA.
- Takes 1-7 days to receive test results.
- Specificity is >99%.
- Limit of detection is 5 GU/mL.
- Cannot distinguish between live (pathogenic) and dead (non-pathogenic) Legionella bacteria.
- Bacteria degrade during shipping. Tests can over-call the amount of Legionella bacteria.

On-site qPCR

**Best
Option!**

- Inside the analyzer, DNA is extracted and copied using qPCR technology.
- Takes 45 minutes to receive test results.
- Analytical specificity is >99%.
- Limit of detection is 8 GU/mL.
- Preferentially detects live (pathogenic) not dead (non-pathogenic) Legionella bacteria.



(1) Ahmed S et al. (2019). Journal of Water and Health. 17(2): 237-253.
(2) Lucas CE, Taylor TH, Fields BS. (2011). Water Res. 45(15): 4428-4436.