Limit of detection

The limit of detection (LOD) of the swab test is 200 CFU/swabbed area.

Test operating limits

The test has been evaluated for operation on samples between 10–45°C (50–113°F). A wide range of non-oxidizing biocides and biodispersants have been checked for cross reaction and interference with the test.

The test should not be used on systems treated with biguanide or tetrakis hydroxymethyl phosphonium sulfate (THPS) based biocides.

Specificity

The test has been shown to be non-reactive with the following bacteria (at 1x10^8 organisms per sample):

- *Acinetobacter calcoaceticus*
- *Aeromonas hydrophila subsp. Hydrophila*
- *Bacillus subtilis*
- *Burkholderia cepacia*
- *Citrobacter freundii*
- *Citrobacter koseri*
- *Enterobacter cloacae*
- *Escherichia coli*
- *Klebsiella oxytoca*
- *Pseudomonas aeruginosa*
- *Pseudomonas fluorescens*
- *Pseudomonas putida*
- *Pseudomonas stutzeri*
- *Ralstonia pickettii*
- *Raoultella terrigena*
- *Streptococcus pyogenes*
- *Yersinia ruckeri*

Organism	≥cfu/mL
L.p Sg-2,3,8,11,13,14	1.00E+08
L.p. Sg-4,5,6,7,9,10,15	1.00E+07
L.p. Sg-12	8.00E+06
S.aureus	2.00E+08

The Hydrosense *Legionella pneumophila* Sg-1 test has been shown to produce weak positive results with other *Legionella pneumophila* serogroups and *S.aureus* at the cfu/mL stated in the above table.

Storage

The test is intended for storage at room temperature 18–22°C (64.4–71.6°F). Do not freeze. When stored correctly, the test will continue to operate within design specification, until the specified expiration date.

Do not use the test or the recovery buffer after the date specified on the packaging of the test. Do not use any test where the foil packaging is perforated.

Disposal

The test, swab and vial cannot be reused or recycled. The packaging materials and this instruction leaflet can be recycled.

Disclaimer

Albagaia makes no warranties or representations regarding performance of the products, or that the products are merchantable or fit for a particular purpose. Albagaia expressly disclaims all other warranties and representations, express or implied, or which arise by operation of law or otherwise.

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Swab Legionella Field Test™ Kit

This kit is designed to test for Legionella from surfaces and biofilms in risk areas identified by CDC* such as:

- Domestic and industrial hot and cold water systems.
- Cooling towers and water tanks.
- Decorative fountains, hot tubs and pools.
- Sinks and showers.
- Misters, sprinklers, air washers, humidifiers and others.

*Centers for Disease Control and Prevention

Swab Legionella Field Test product code WTS-B101483

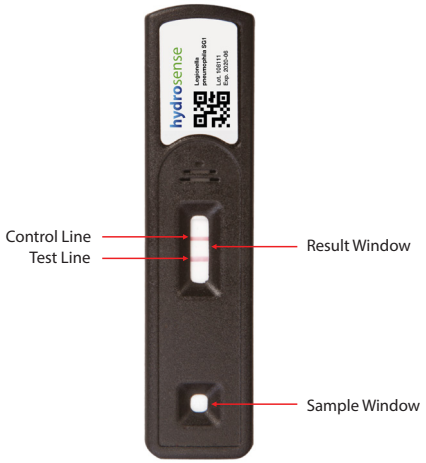
Overview

This test is used to detect the presence of *Legionella pneumophila* serogroup 1 bacteria.
The test operates via a Lateral Flow Immunochromatographic Assay (LFICA).
Each kit contains the following:

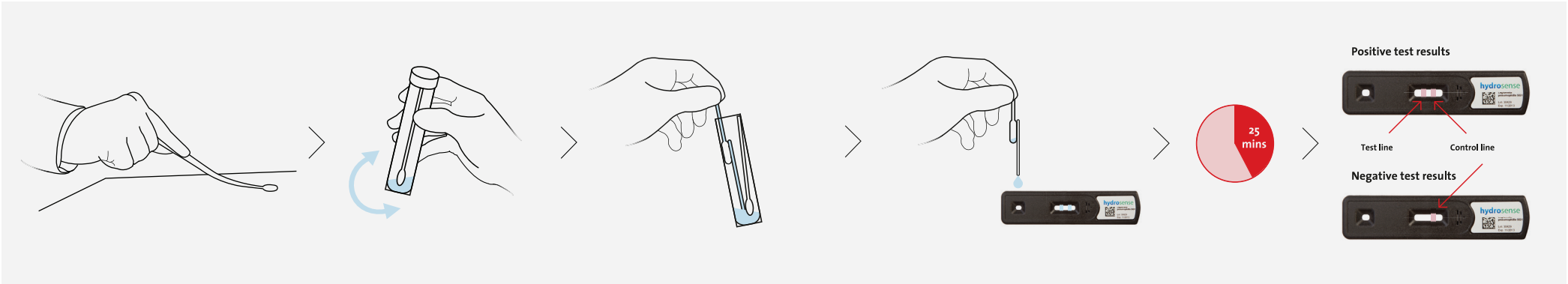
- 5 x individual foil wrapped tests, each with exact volume pipette.
- 1 x bottle of recovery buffer (50 ml).
- 5 x swabs.
- 5 x vials.

The product is intended for use as part of an overall water treatment, management and risk reduction approach and, as all testing methods including lab culture testing, should NOT be used as the sole method for assessing risks associated with *Legionella* bacteria.

This test is intended for analysis of biofilm samples only. This product is NOT intended for clinical or medical diagnostic use.



Test procedure



For optimum results the test should be performed at room temperature. The foil wrapping should NOT be opened until immediately prior to running the test. If the foil is opened and the test is NOT performed within 60 minutes, discard the test.

Step 1. Prepare vials

Open the bottle of the recover buffer provided and put 2 ml of liquid into an empty vial.

Step 2. Collect biofilm sample

Identify an appropriate location from which to obtain a biofilm sample. Large systems may need to be sampled and tested at multiple locations. The recommended minimum area to swab is 10 cm^2. If the surface to be sampled is dry then pre-moisten the swab by dipping it in the pre-filled vial. Wipe the swab across the area to be tested.

Avoid generating aerosols when collecting or handling samples.

Transfer the swab containing sample to the re-suspension vial and snap off the handle .

Step 2. Recover the bacteria

Screw on the lid and shake the vial from side to side for at least 20 seconds or until the swab has released the biofilm sample into the recovery buffer.

Step 3. Add sample to the test strip

Remove the test strip from its foil wrapping, and place it on a flat surface. Before use, the test should have two pale blue lines across the result window.

Take the pipette from the foil wrapping.

Place the open end of the pipette into the solution in the pre-filled vial, then squeeze and release the **top** bulb. This should draw the sample all the way up the long tube and may place a small amount of sample in the bottom bulb. This is excess and can be ignored. Avoid getting air bubbles in the tube. The pipette filling process may be repeated if necessary to remove air bubbles.

Incorrect use of the pipette can cause flooding of the test (too much sample added) or failure to run (insufficient sample added). See the YouTube video for further instructions: http://bit.ly/HydrosensePipette

Place the pipette over the small sample window at one end of the strip, and then squeeze the top pipette bulb again. This will dispense the correct amount of sample onto the test strip.

RECORD THE TIME. Allow the test to develop at room temperature for 25 minutes. Leave the test strip sitting on a flat surface during development.

Step 4. Interpreting the results

After 25 minutes, examine the test strip in good lighting. The free Hydrosense smartphone app can be used to read the test accurately and record test results. If the test is not read within 30 minutes of adding the sample, it should be discarded and a new test should be run.

The test should show one of the following results in the large result window on the test strip:

- Two RED lines across the result window. The red line closest to the sample window may be very faint (pale pink). Any distinct line, no matter how faint should be considered to be a POSITIVE result.

OR

- One RED line across the result window at the end furthest from the sample window. This is a NEGATIVE result.

Positive Results

A positive test result indicates that *Legionella pneumophila* serogroup 1 was present in the sample above the detection limit.
If a positive result is observed, consult your risk management plan or seek advice from a water management specialist immediately.

Negative Results

A negative result indicates that *Legionella pneumophila* serogroup 1 was not detected and the concentration was below the detection limit of the test.

Invalid Tests

In the unlikely event that a test does not show any red lines, or if it only shows a line at the end closest to the sample window, or if the line furthest from the sample window is very faint, then the test result is invalid. Repeat the test.

Performance Factors

The test does not differentiate between viable and non-viable organisms. The test will detect dangerous viable but non-culturable bacteria, which cannot be detected by traditional laboratory techniques. A positive result does not necessarily mean that viable bacteria are present.

A negative result does not mean that the system is completely free from risks associated with *Legionella* bacteria.

The test only detects *Legionella pneumophila* serogroup 1.

You can visit www.hydrosense-legionella.com, contact your supplier or email hydrosense@albagaia.com to troubleshoot the test.