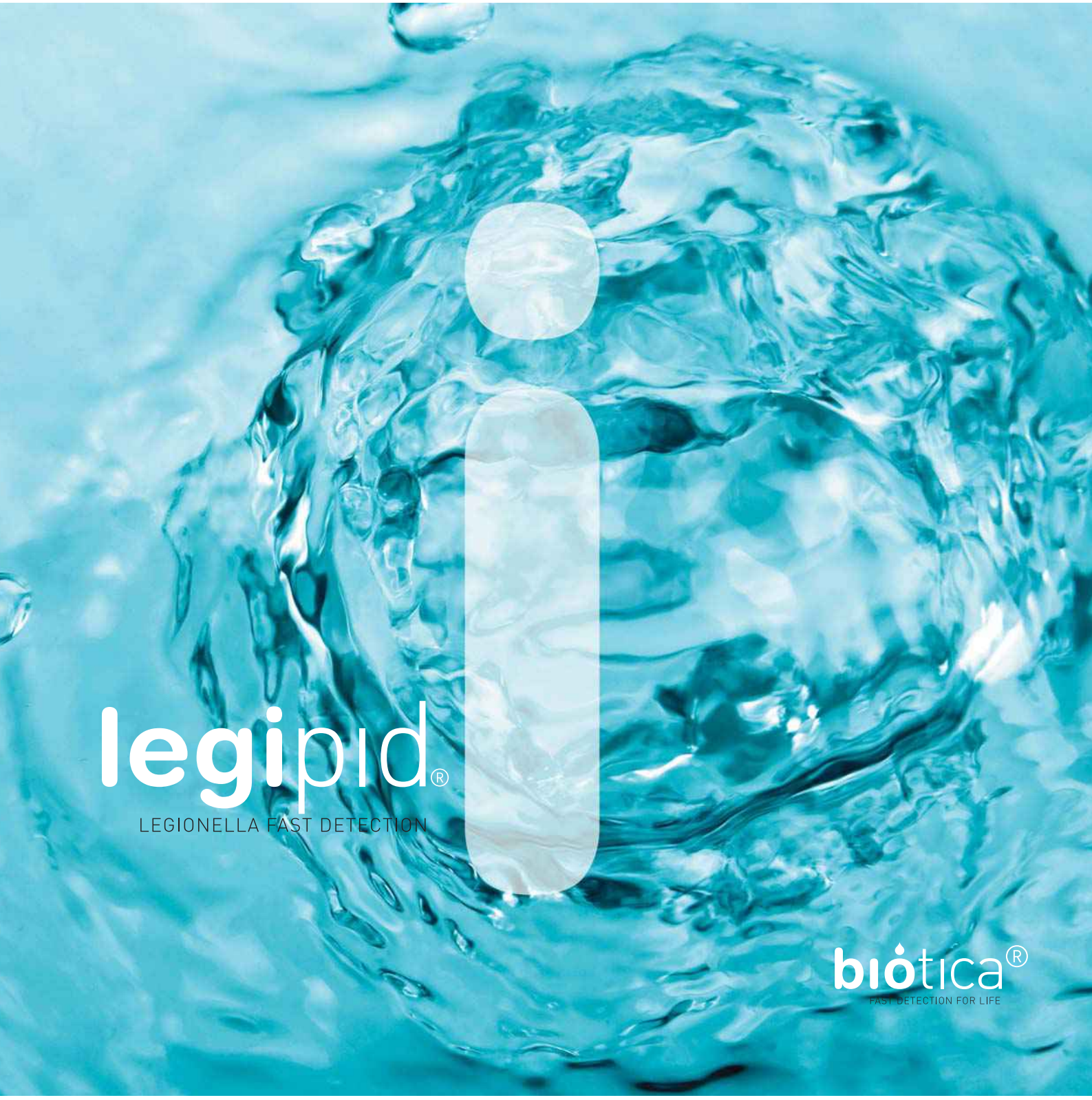
legipid®
LEGIONELLA FAST DETECTION
biotica®
FAST DETECTION FOR LIFE

Biótica offers innovative immuno-magnetic particle technologies for the fast detection and quantification of microorganisms. The microbial target is captured by the immuno-magnetic particles and separated from the rest of the water sample to be analyzed by a simple enzyme-immunoassay (CEIA).

Biótica manufactures **Legipid**® *Legionella* Fast Detection, an AOAC-RI approved test, validated by comparison against the culture method (ISO Standard). While culture takes 7-12 days to provide results, this test detects and quantifies viable forms of *Legionella sp.* in just 1 hour. Early results enable a better control and understanding of the real biological risk.

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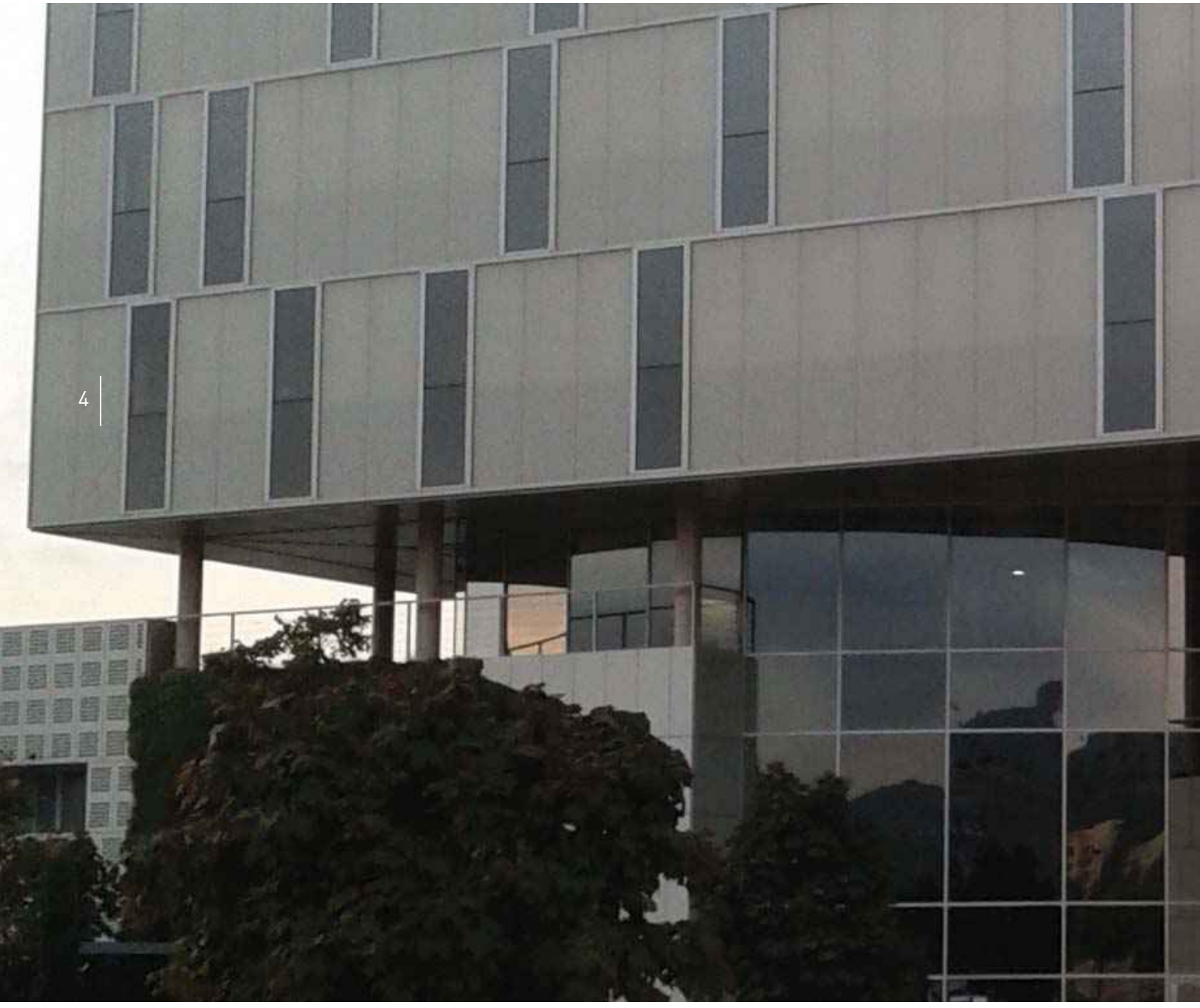

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Biótica is the first biotechnological company located in the scientific, technological and business park of the Jaime I University in Castellón, Spain. It has the best facilities for the research, development and manufacture of innovative products and techniques. Here it is possible to simulate real scenarios to design and test the products (living lab), with the direct involvement of the end user.

Biótica's products yield comprehensive solutions, which are the result of applying our intensive know-how.

SYSTEM CERTIFICATION
ISO 9001
SGS
ACREDITADO POR ENAC

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Legionella

Legionella is a strong survivor in artificial water systems. It reaches buildings and facilities through water supply and distribution networks. It can develop and multiply itself quickly reaching dangerous concentrations. Next, if channeled through aerosols, it has a high likelihood of infecting humans.

Timely action in risk facilities is crucial to avoid high and sustained concentrations of the bacteria.

In order to make possible these timely actions, **Legipid®** has transformed the way in which *Legionella* sp. is tested. Prevention improves using **Legipid®**.

In the aerosols generated by a shower head of a hospital or a hotel, in a car wash or in an industrial cooling system, there might be small droplets brimming with the bacteria. This is how it reaches us, through inhalation. *Legionella sp.* can travel great distances. Cases of infection have been reported in a radius of up to 10 km away from the source. Near or far, if *Legionella* reaches our lungs it will behave in a very similar way, either colonizing or invading. In a few days time, pneumonia will be developed. Legionellosis is a systemic infectious disease that primarily affects the lungs and has a mortality rate between 5% and 30%.

Of the total cases reported, 95-98% can be attributed to *Legionella pneumophila*. This disease is a hot topic in the field of Public Health, since its average mortality rate is 12%-15% and it can easily reach 30-50% in patients with weak immune systems or who do not receive antibiotics promptly.

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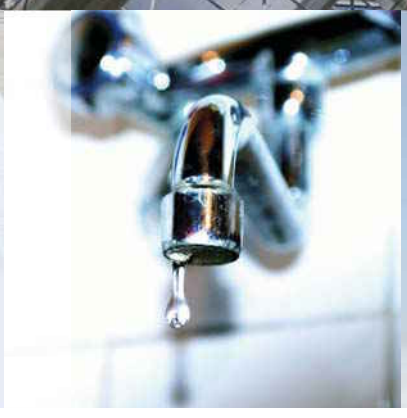

High-risk facilities

60% of the time a person spends at work and at home takes place in the surroundings of different high risk facilities or equipments. Legionellosis is a worldwide health issue. Each year, 6,000 cases are registered in Europe and between 8,000 and 18,000 people are hospitalized in the USA. Mortality rate figures range every year from 6% to 15%, but this is deemed to be an underestimation, since many countries are unable to provide mortality figures.

High risk facilities include:

- Cooling towers and evaporative condensers
- Hot water systems with water tanks and return circuits
- Heated water systems with recirculation through high speed water jets or air injection
- Industrial humidifiers
- Internal systems for cold water intended for human consumption (pipes, water tanks, cisterns or mobile tanks). Hot water systems without a return circuit
- Evaporative cooling equipment which sprays water
- Humidifiers
- Ornamental fountains
- Sprinkler water systems in urban environments
- Fire extinguishing systems that use water
- Outdoor aerosol equipment that use water
- Other devices that store water and produce aerosols
- Respiratory therapy equipment
- Respirators
- Nebulisers
- Other

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Legipid® *Legionella* Fast Detection

The **Legipid**® *Legionella* Fast Detection test is a validated technique for the detection and quantification of *Legionella sp.* in water samples in just 1 hour. It has been internationally certified by AOAC Research Institute.

Legipid® takes a proactive approach, making possible quicker responses and earlier corrective actions.

PERFORMANCE TESTED
AOAC
RESEARCH INSTITUTE
LICENSE NUMBER 111101

Contact us to receive validation documents:

- Validation by ISO 17025 laboratories
- Intercollaborative study
- AOAC Certification (by ISO 11731 comparison)

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Legipid® Performance Figures

"Laboratories shall retain validation data on commercial test systems (kits) used in the laboratory. These validation data may be obtained through collaborative testing and from validation data submitted by the manufacturers and subjected to third party evaluation (e.g. AOAC)"

"Document EA - 4/10. Accreditation in Microbiological Laboratories"

- Sensitivity 98%
- Specifivity 93%
- Visual detection limit 93 CFU
- Time to result 1h
- Limit of detection (for quantification) 40 CFU
- Limit of quantification 60 CFU

Contact us to receive validation documents:

Rodríguez G, Bedrina B, Jiménez M: Validation of the Legipid® Bioalarm *Legionella* Assay. J AOAC Int 2012, 95:1440–1451.

Bedrina et al.: Fast immunosensing technique to detect *Legionella pneumophila* in different natural and anthropogenic environments: comparative and collaborative trials. BMC Microbiology 2013 13:88

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Why Legipid®?

Speed.
Legionella can reach infectious levels in just 2-3 days. **Legipid®** yields results in just one hour, compared to the 10-15 days required by the traditional method.

Strategy.
Legionella is not distributed uniformly throughout the entire water circuit and can be found in very different concentrations depending on the point tested. With **Legipid®**, you can accomplish a representative sampling of the entire facility.

Simplicity.
As simple as following the step-by-step instructions delivered with the kit. You'll do the test and you'll obtain a useful and reliable result.

Certified method:
Legipid® is the only quick test for *Legionella sp.* in the world that has been certified by the AOAC Research Institute.

Economic.
The Kit contains everything that's needed to perform the test. Fewer staff and equipment requirements and a competitive price place this kit as the ideal method for ensuring prevention in your facilities.

Handling.
Working in batches, you'll be able to conduct up to 20 tests in 1 hour.

Legipid® can be used both in field and in the lab

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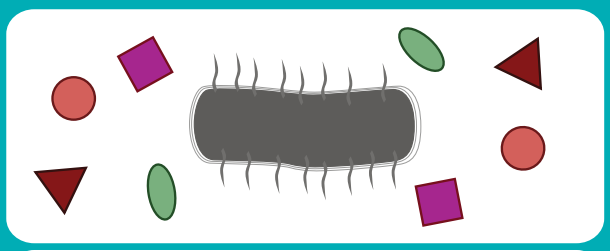
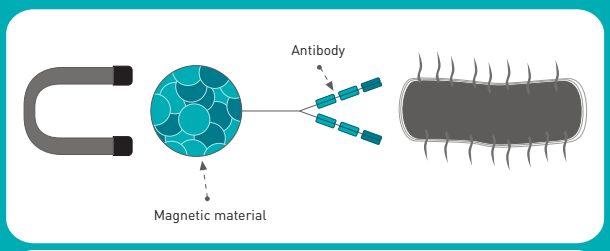
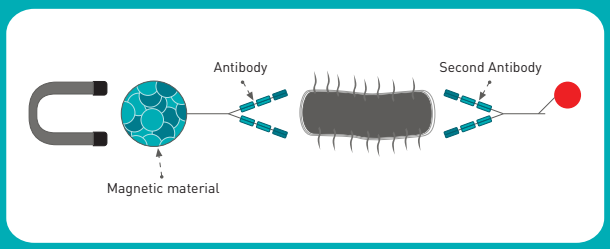
How does Legipid® work?



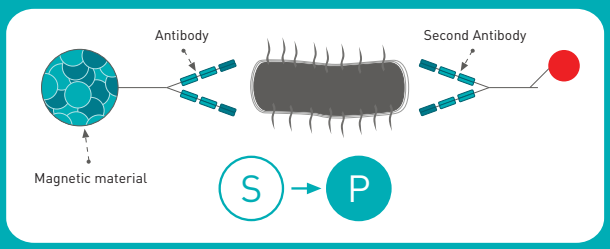
Sampling



Capturing step



Marking step



Detection step

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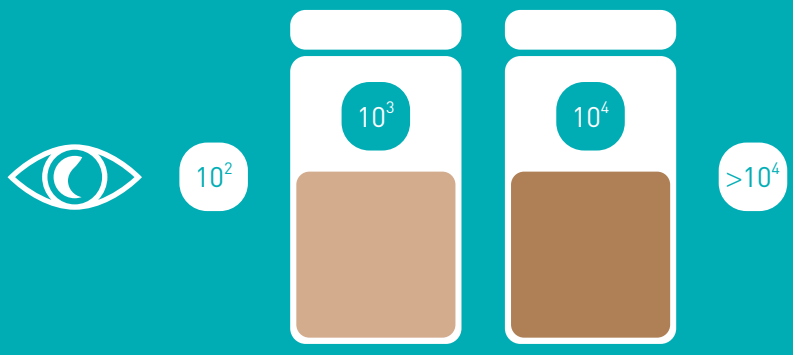
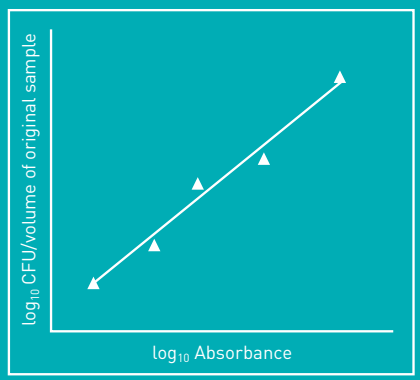
Interpretation of results

You can interpret the result using our color chart (semi-quantitative) or using an optical reader (quantitative)

Visual



Optical

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Users of Legipid®

Industries

Commercial Labs

Medical clinics

Public Health Labs

Hospitals

Hotels, spas, jacuzzis, swimming-pools

Recreational areas, sport facilities (golf, etc.)

Companies providing *Legionella* testing in water samples

Companies monitoring critical points

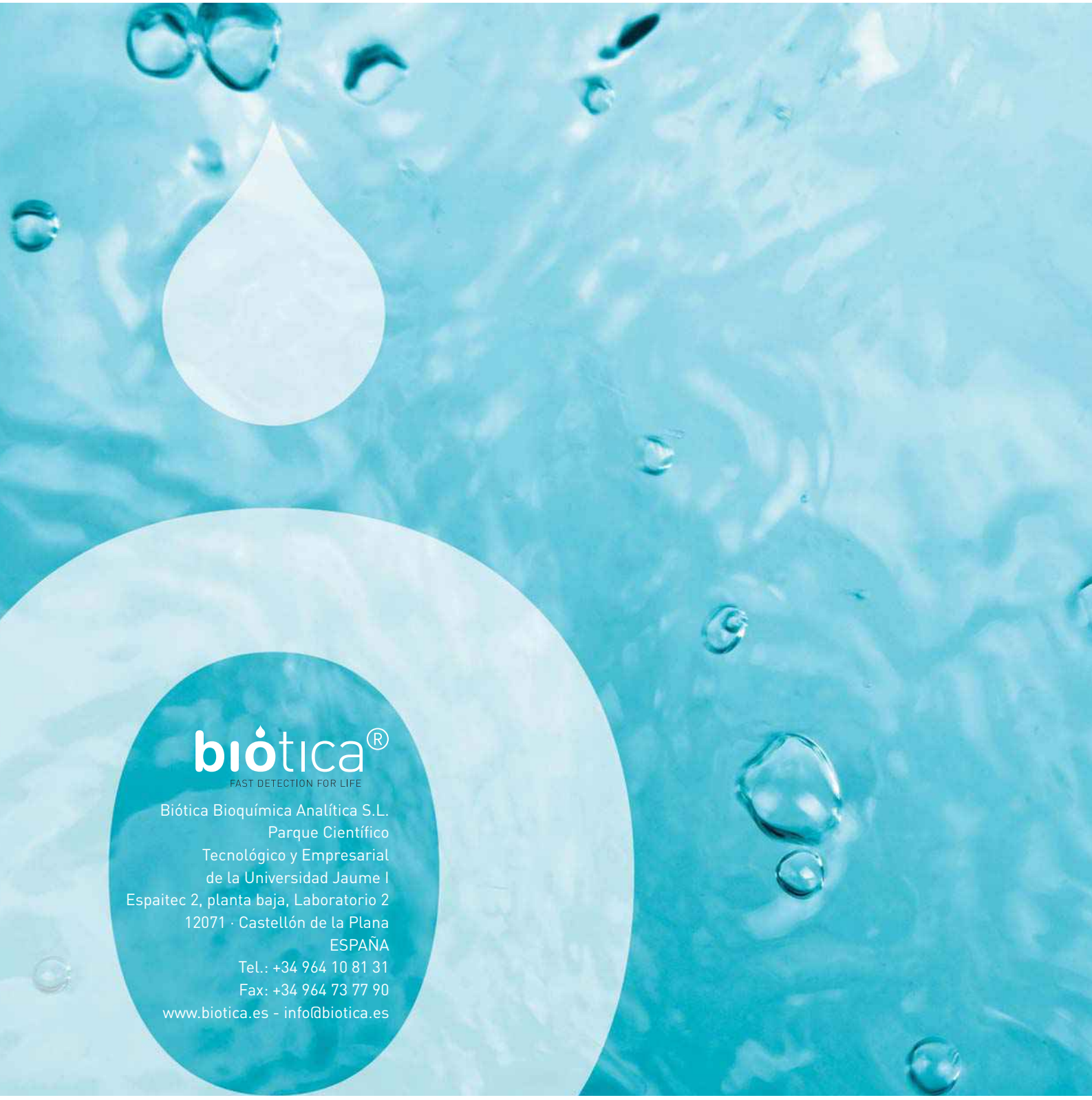
Companies providing cleaning & disinfecting water services

Companies providing *Legionella* managing plans and risk assessment

Providers of water treatment services and process improvement services

Providers of chemicals and equipment for industrial applications

Manufacturers of equipment for microbiological laboratories



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