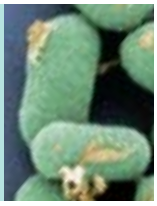
FAST AND RELIABLE IDENTIFICATION OF LISTERIA SPECIES



The presence of *Listeria* in foods can have devastating consequences and so *Listeria* identification is one of the most important tasks performed by food testing laboratories. The following case study describes how a large contract laboratory, International Laboratory Services (ILS) Limited, ensures accurate and reliable results when confirming the presence of *Listeria* in food and environmental samples.

An emphasis on quality

With over 30 years' experience in the food industry, ILS places a great emphasis on quality and strives to deliver a service of the highest standard. Receiving UKAS accreditation in 1991, the company continues to expand the range of tests they offer so that they now have one of the largest UKAS scopes in the UK.

The busy food microbiology department employs 60 staff and processes 5000-7000 samples every week, operating 18 hours a day, 7 days a week to ensure a fast and efficient service. The services offered include microbial quality determination, pathogen testing with species identification, environmental hygiene monitoring, shelf-life determination and water testing.

Steph Shearing, Senior Technician at ILS.

OXOID

MICROBACT

IDENTIFICATION KITS

The ILS Pathogen Laboratory performs around 200 tests every day on food samples and environmental swabs, some of which are positive for *Listeria*. The implications of a positive result are significant and so the accuracy and reliability of the identification method used are extremely important. Following preliminary tests, identification of *Listeria* at ILS is achieved using Oxoid's Microbact™ Listeria 12L kit.

Listeria identification

Microbact™ Listeria 12L is a standardised micro-substrate system for identifying *Listeria* species. A range of analytes (11 carbohydrate utilisation tests and a rapid haemolysis test) are provided in a strip of 12 wells. Following addition of suspect colonies (catalase-positive, oxidase-negative, motile at 25˚C, non-motile at 37˚C, short Gram-positive bacilli), to the suspension medium and a short incubation period, identification is achieved according to pH change and substrate utilisation. The carbohydrate utilisation test results are indicated by a distinct colour change. For the haemolysis test, if the cells settle in the bottom of the well, the test is negative. If lysis occurs, the test is positive. The substrates include those recommended by recognised international standard methods for the identification of *Listeria* species (e.g. ISO TC 34/SCS N307 and FDA Bacteriological Analytical Manual).

The colour changes and settling pattern are easily visualised and are interpreted by using the Microbact™ Identification Package. This simple and convenient method allows the definitive identification of all important *Listeria* species, including *L. monocytogenes* and *L. innocua*.

Performance in the field

The value of an identification method to ILS depends on its accuracy and also how well it fits into their rigorous and demanding testing regime.

The laboratory was attracted to the Microbact™ Listeria 12L kit because of the clear and unambiguous reactions and because it included a test for haemolysis. Senior Technician, Steph Shearing, commented, "The results with Microbact™ Listeria 12L are more clear cut than those of other biochemical systems we have used."

"Furthermore, the reliability of the method is good, which is also important to us. The results are consistent and our internal QA is always correct." In addition, Microbact™ Listeria 12L was found to be very easy to use. "We particularly like the lid to the well strips which prevents evaporation of the test solutions in the incubator," Steph continued. "Previously we had to place our tests in plastic bags. We also find that the strips

are very stable. As a result, they don't fall over if they are knocked and there are fewer spillages."

Microbact™ Listeria 12L does not require prior subculturing on blood agar, since it includes a haemolysin test. Neither does it require a CAMP test or the addition of any developing reagents. The simple test format copes well with the substantial workload of a large contract laboratory like ILS, but it is equally suited to smaller laboratories where they may wish to perform single or small batch *Listeria* identifications.

For further information about Microbact™ Listeria 12L and other products for the fast, accurate and reliable identification of Listeria species and other food-borne pathogens, please speak to your local Oxoid representative, visit www.oxoid.com or tick 3 on the reply paid card. REPLY 3