

## MICROBACT™ LISTERIA 12L

A self-contained, manual identification system for the rapid identification of *Listeria* species.

### FAST

Accurate identifications in as little as 4 hours.

### SIMPLE

No prior subculturing on blood agar, no CAMP test and no developing reagents required.

### EASY TO READ AND INTERPRET

Distinct colour changes and settling pattern are read visually and interpreted easily using the Microbact™ Identification Package.

### COMPREHENSIVE

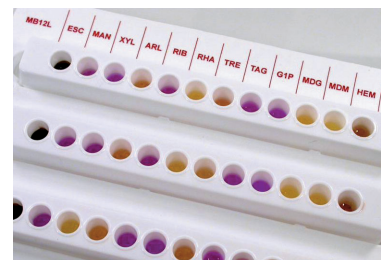
Allows the definitive identification of all *Listeria* species, including *Listeria monocytogenes* and *L. innocua*.

### FLEXIBLE

Ideal for use with chromogenic or selective media, in clinical or food laboratory settings.

### RELIABLE

Substrates include all those recommended in recognised international standard methods, including FDA BAM and ISO.



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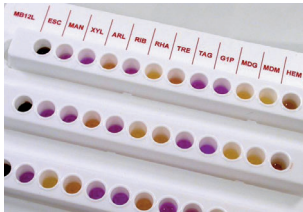
# MICROBACT

IDENTIFICATION KITS



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## MICROBACT™ LISTERIA 12L (MB1128A)

### KIT CONTENTS:

Each kit contains sufficient materials to perform 20 identifications.

20 Microbact™ Listeria 12L Test Strips

20 Microbact™ Listeria 12L Suspending Medium Vials (3ml)

Haemolysin Reagent

Holding Tray

Technical Product Insert

Report Forms

### ADDITIONAL ITEMS REQUIRED:

Microbact™ Identification Package (Windows®) MB1244A

## TESTING FOR LISTERIA

*Listeria* spp. are widespread in the environment and have been isolated from many different foods and animals. *Listeria monocytogenes* is the principal causative agent of human listeriosis. In severe cases, it can cause septicaemia, meningitis, encephalitis and, in pregnant women, intrauterine infections that may lead to spontaneous abortion or stillbirth. Contaminated foods are the primary sources of *L. monocytogenes* transmission in both sporadic and outbreak cases<sup>1,2,3</sup>. Its ability to grow at low temperatures and its tolerance to freezing, drying and heat, make this a resilient bacterium.

## PRINCIPLE

Microbact™ Listeria 12L is a complete, self-contained biochemical based identification system for the definitive identification of *Listeria* species. Each strip incorporates 12 analytes – 11 carbohydrate utilisation tests and 1 rapid micro-haemolysis test. Organism identification is based on pH change and substrate utilisation as established by published reference methodologies<sup>4,5</sup>.

Suspect colonies (catalase-positive, oxidase-negative, motile at 25°C, non-motile at 37°C, short Gram-positive bacilli) are suspended in the Suspending Medium provided and incubated according to the size of the inoculum. The Carbohydrate Utilisation Test results are read as distinct colour changes. To read the Haemolysin Test result: if the cells settle in the bottom of the well, the test is negative. If lysis occurs, the test is positive. Results are interpreted using the Microbact™ Identification Package.

## PROCEDURE

1. Pick 4 to 5 suspect colonies and suspend in Listeria Suspending Medium.
2. Place Test Strip in Holding Tray and remove lid.
3. Place 4 drops of bacterial suspension into each well.
4. Add 1 drop of Haemolysin Reagent to well 12.
5. Replace lid and incubate at 35°C ± 2°C for 4 hours.
6. Record results on report forms and interpret using the Microbact™ Identification Package.

## IMPORTANT

- Allow Haemolysin Reagent to reach room temperature before use.
- The test can be used with a single suspect colony and incubated for 18-24 hours.
- A purity check should be performed by inoculating a purity plate with 1 drop of bacterial suspension. This should be incubated at 35°C ± 2°C for 24 hours.
- If reactions cannot be interpreted with confidence after 4 hours, replace strip in incubator and read after further incubation.

**References:** 1. WHO Working Group. Foodborne Listeriosis. BullWHO (1988) 66: 421-428. 2. Brackett, R.E. Presence and persistence of *Listeria monocytogenes* in food and water. *Food Technol* (1988) 42: 162. 3. Kerr, K.G., Dealler, S.F. and Lacey, R.W. *Listeria* in cook-chill food. *Lancet* (1988). 2: 37-38 4. USDA, FSIS Method for the isolation and identification of *Listeria monocytogenes* from processed meat and poultry products. 5. AS 1766.1.15(INT)-1991, TC 34/SC5 N307, FDA Bacteriological Analytical Manual, 7th edition (1992), 141-162.



DEDICATED TO MICROBIOLOGY

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## MICROBACT™ GRAM-NEGATIVE

### 12A, 12B, 12E & 24E

A range of simple, standardised systems for the rapid identification of Gram-negative bacteria.

#### FAST

Most results available overnight.

#### SIMPLE

Simple test strip or microplate format.

#### EASY TO READ AND INTERPRET

Results are clearly visible as distinct colour reactions that can be interpreted using the Microbact™ Identification Package.

#### COMPREHENSIVE

Identifies >100 Gram-negative bacteria, more unusual Enterobacteriaceae and oxidase-positive Gram-negative bacteria.

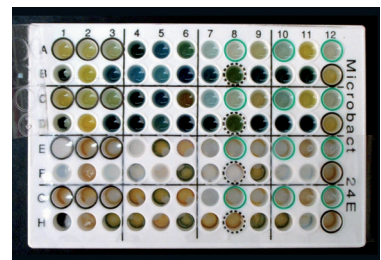
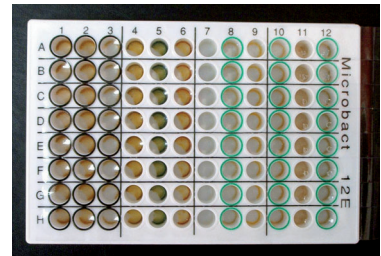
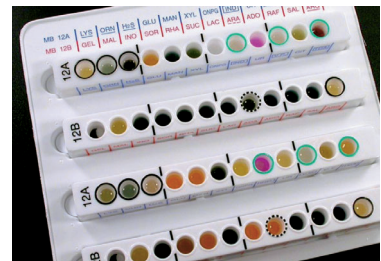
#### FLEXIBLE

Use single strips or combine systems for more complex identifications.

Ideal for use in clinical or food microbiology laboratories.

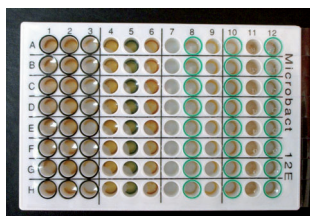
#### RELIABLE

A comprehensive range of biochemical tests based on published reference methodologies.<sup>1-4</sup>



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## TESTING FOR GRAM-NEGATIVE BACTERIA

Gram-negative bacteria are of significant concern in both clinical infections and food contamination. Identification of the causative agent is crucial in the clinical setting to identify the cause of infection and to establish an appropriate treatment regime. In the food industry, biochemical identification can help to trace the source of contamination.

### PRINCIPLE

Each kit contains 12 (12A, 12B & 12E) or 24 (24E) miniature biochemical tests. Organism identification is based on pH change and substrate utilisation. Clinical use only: Microbact™ Gram-negative 12A (strip format) and 12E (microplate format) may be used alone for the identification of oxidase-negative, nitrate-positive glucose fermenters (comprising 15 genera) and is useful for screening pathogenic Enterobacteriaceae from enteric and urine specimens.

Microbact™ Gram-negative 12B can be used in conjunction with 12A for the identification of oxidase-positive, nitrate-negative, glucose non-fermenters (miscellaneous Gram-negative bacteria - MGNB) and Enterobacteriaceae. Microbact™ Gram-negative 24E is a combination of the tests in 12A(or12E) and 12B in microplate format.

### PROCEDURE

For full details on how to use each Microbact™ Gram-negative system, please refer to the Technical Product Insert.

1. Obtain an 18-24 hour pure culture of the organism to be identified.
2. Perform an oxidase test to determine which kit(s) to use.
3. Select 1 to 3 isolated colonies and emulsify in saline.
4. Place Test Strip or Microplate in holding tray and peel back seal.
5. Add 4 drops bacterial suspension to each well.
6. Add 2 drops Mineral Oil (MB1093A) to black wells.
7. Replace seal and incubate at 35°C ± 2°C for 18-24 hours.
8. Remove from incubator and add appropriate reagents (Table 1).
9. Record results on report forms and interpret using the Microbact™ Identification Package.

### IMPORTANT

- A purity check should be performed by inoculating a purity plate with 1 drop of bacterial suspension. This should be incubated at 35°C ± 2°C for 24 hours.
- Well 1 (12B) or well 13 (24E) must be read at 24-48 hours for Enterobacteriaceae and at 48 hours for MGNB.
- Well 12 (12B) or well 24 (24E) is interpreted differently at 24 hours and 48 hours. See Technical Product Insert for details.
- A nitrate reduction test can be performed in well 7 (12A/E, 24E) AFTER reading the ONPG reaction.
- Performance should be monitored by testing appropriate control strains.

TABLE 1

Addition of reagents to Microbact™ Gram-negative Identification systems

System	Well	Reagent	Quantity	Time to read
12A (12E) or 24E	8	Indole	2 drops	2 mins
12A (12E) or 24E	10	VPI & VPII	1 drop each	15-30 mins
12A (12E) or 24E	12	TDA	1 drop	Immediately

### MICROBACT™ GRAM-NEGATIVE IDENTIFICATION SYSTEMS

#### KIT CONTENTS:

Microbact™ Gram-negative System	Product code	Number of Tests
12A	MB1132A	60
12B	MB1133A	60
12E	MB1130A	80
24E	MB1131A	40
12A	MB1076A	120
12B	MB1077A	120
12E	MB1073A	160
24E	MB1074A	80

Holding Tray

Technical Product Insert

Organism Identification Report Forms, including Colour Interpretation Chart

#### ADDITIONAL ITEMS REQUIRED:

Mineral Oil MB1093A, Oxidase Strips MB0266A, Microbact™ Identification Package (Windows®) MB1244A, Indole Reagent MB0209A, VPI Reagent MB0181A, VPII Reagent MB0184A, TDA Reagent MB0180A, NIT A Reagent MB0186A, NIT B Reagent MB0187A. The 6 reagents above are also available as Reagent Set D MB1082A.

**References:** 1. Farmer, J.J. et al (1985) J. Clin. Micro. 21(1): 46-76 2. Burke, V., Robinson, J., Atkinson, H.M. and Gracey, M. (Jan 1982) J. Clin. Micro. 48-52 3. Cowen, S.T. and Steel, K.J. (1977) Manual for the Identification of Medical Bacteria, 2nd edition, Cambridge University Press. 4. Balows, A., Hausler, W.J., Herrmann, K.L., Isenger, J.D. and Shadomy, H.J. (eds) (1991) Manual of Clinical Microbiology, 5th edition, American Society of Microbiology, Washington



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