

## CARBOHYDRATES UTILIZATION BROTH BASE (ISO 11290)

**CAT Nº: 1342** For the confirmation of *Listeria monocytogenes* based on carbohydrates utilization

### FORMULA IN g/l

Proteose Peptone	10.00	Bromocresol Purple	0.02
Sodium Chloride	5.00	Beef extract	1.00

**Final pH 6.8 ± 0.2 at 25°C**

### PREPARATION

Suspend 16.02 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Cool to 45-50°C and dispense into tubes of 9 ml and sterilize by autoclaving at 121°C for 15 minutes. Cool to 45-50 °C and add 1 ml of a filtered 5% solution of L-Ramnose or D-Xylose. Store at 2-8°C. The color of the prepared medium is purple.

For the carbohydrate solution preparation, dissolve 5,00 grams of the carbohydrate (D-Xilose or L- Ramnose) in 100 ml of destiled water. Sterilize by filtration technique and aseptically add 1 ml to each tube.

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

### USES

CARBOHYDRATES UTILIZATION BROTH BASE (ISO 11290) is an ISO recommended media for the confirmation of *L.monocytogenes* by the carbohydrate fermentation tests.

Beef Extract and Proteose Peptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride maintains the osmotic balance. Bromocresol Purple is the pH indicator.

This method is recommended by ISO 11290 for the confirmation of *L.monocytogenes* with the hemolysis method (BLOOD AGAR BASE Nº2 Cat. 1328) and CAMP test. Possitive reactions will turn the tubes into yellow. Negative results will keep the tube in purple colour. To confirm *L.monocytogenes* ISO 11290-2 recommends further serological tests.

### CHARACTERISTIC REACTIONS (ISO 11290)

Microorganisms	L- Ramnosa	D- Xilosa
<i>Listeria monocytogenes</i> ATCC 19117	+	-
<i>Listeria innocua</i> ATCC 33090	V	-
<i>Listeria ivanovii</i>	-	+
<i>Listeria welshimeri</i>	-	+
<i>Listeria grayi</i>	-	-

## MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of  $35 \pm 2^\circ\text{C}$  and observed after 5 days.

Microorganisms	Growth	L- Ramnosa	D- Xilosa
<i>Listeria monocytogenes</i> ATCC 19117	Good	+	-
<i>Listeria innocua</i> ATCC 33090	Good	V	-

## BIBLIOGRAPHY

Alonso, J.L. Soriano, K., Amoros I., Ferrus, M.A. 1998 Cevartitidine determination of *E. coli* and fecal coliforms in water using a chromogenic medium.

UNE-EN ISO 11290-2 : 2002 Microbiology of Food and animal feeding. Horizontal Method for the detection and enumeration of *Listeria monocytogenes*. Part 2. Enumeration method.

J.M. Farber and P.I. Peterkin 1991. *Listeria monocytogenes*, a Food-Borne pathogen.

## STORAGE

Once opened keep powdered medium closed to avoid hydration.

