

Listeria Selective Enrichment Broth, Granulated

GM1865

Listeria Selective Enrichment Broth, granulated is used for the selective enrichment of *Listeria* species in accordance with FDA/IDF-FIL.

Composition**

Ingredients	Gms / Litre
Peptone from casein	17.000
Peptone from soyameal	3.000
Glucose	2.500
Sodium chloride	5.000
Dipotassium hydrogen phosphate	2.500
Yeast extract	6.000
Acriflavine	0.010
Cycloheximide	0.050
Nalidixic acid	0.040
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 36.1 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Only *Listeria monocytogenes* among the *Listeria* species is reported to cause infection in humans. In human adults, *L. monocytogenes* primarily causes meningitis, encephalitis or septicemia. The tropism of *L. monocytogenes* for the central nervous system leads to severe disease, often with high mortality or with neurologic disorders among survivors (1).

This media is formulated as described in, FDA, BAM Manual (2). Listeria Selective Enrichment Broth is used for selective enrichment of *Listeria* species from milk, milk products and other foods.

This medium contains peptone from casein, soya peptone which provide essential nutrients like carbon and nitrogenous compounds including vitamins, amino acids and trace ingredients. Glucose serves as an energy source. Phosphates provide buffering action to the medium while sodium chloride maintains osmotic equilibrium. Nalidixic acid and acriflavin inhibit the growth of gram-negative and gram-positive organisms respectively (3,4,5) except *Listeria* species.

Quality Control

Appearance

Cream to yellow coloured granular medium

Colour and Clarity of prepared medium

Yellow coloured, clear to slightly opalescent solution having a bluish tinge

Reaction

Reaction of 3.6 % w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

Cultural characteristics observed after an incubation at 30-35°C for upto 48 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth
Cultural Response <i>Listeria innocua</i> ATCC 33090	50-100	good

<i>Listeria ivanovii</i> ATCC 19119	50-100	luxuriant
<i>Listeria monocytogenes</i> ATCC 19111	50-100	luxuriant
<i>Listeria monocytogenes</i> ATCC 19112	50-100	luxuriant
<i>Listeria monocytogenes</i> ATCC 19117	50-100	luxuriant
<i>Listeria monocytogenes</i> ATCC 19118	50-100	luxuriant
<i>Staphylococcus aureus</i> ATCC 25923	50-100	fair

Storage and Shelf Life

Store dehydrated and prepared medium at 2-8°C. Use before expiry date on the label.

Reference

- 1.Murray P. R, Baron E, J., Jorgensen J. H., Pfaller M. A., Tenover F. C., Tenover F. C., (Eds.), 2007, Manual of Clinical Microbiology, 9th Ed., ASM, Washington, D.C.
- 2.FDA, Bacteriological Analytical Manual, 8th Ed.(1985). Chapter 10.
- 3.Lovette J., Francis D. W. and Hunt J. M., 1987, J. Food Prot., 50:188
- 4.Lee W. H. and McClain D., 1986, Appl. Environ. Microbiol., 52:1215
- 5.McClain D. and Lee W. H., 1988, J. Assoc. Off. Anal. Chem., 71:660.

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