

Technical Information

Listeria Enrichment MiVeg Broth, Modified

Product Code : VM1888

Application:- Listeria Enrichment MiVeg Broth, Modified is used for selective enrichment of *Listeria* species.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate No. 1	10.0
Yeast extract	5.0
MiVeg extract	5.0
Sodium chloride	20.0
Disodium hydrogen phosphate	9.6
Monopotassium hydrogen phosphate	1.35
Esculin	1.0
Nalidixic acid	0.02
Acriflavin hydrochloride (Trypaflavin)	0.012
Final pH (at 25°C)	7.4 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Listeria Enrichment MiVeg Broth, Modified is prepared by adding vegetables peptones in place of animal based peptone thus making the medium free from BSE/TSE risks. This medium is used for selective enrichment of *Listeria* species from milk, milk products and other foods.

MiVeg hydrolysate No.1, yeast extract and Miveg extract supplies all the essential nutrients like carbon and nitrogenous compounds including vitamins, amino acids and trace ingredients needed for the optimum growth of microbes. Phosphates buffers the medium while sodium chloride maintains osmotic equilibrium. Nalidixic acid and Acriflavin inhibits the growth of gram-negative and gram-positive organisms respectively (1, 2, 3) except *Listeria* species. For enrichment, 25 g or 25 ml sample is added to 225 ml medium in a stomacher bag. Homogenize the material if required. Incubate at 30°C for upto 7 days and then it is subcultured onto Listeria Selective MiVeg Agar (VM1567) after 1, 2 and 7 days.

Methodology

Suspend 52 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Light yellow coloured, may have slight greenish tinge, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Yellow coloured, clear to slightly opalescent solution with a bluish tinge.

Reaction

Reaction of 5.2% w/v aqueous solution is pH 7.4 ± 0.2 at 25°C.

pH Range

7.2 - 7.6

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth
<i>Escherichia coli</i> (25922)	$2 \times 10^3 - 10^4$	inhibited
<i>Listeria monocytogenes</i> (19111)	$10^2 - 10^3$	luxuriant
<i>Listeria monocytogenes</i> (19112)	$10^2 - 10^3$	luxuriant
<i>Listeria monocytogenes</i> (19117)	$10^2 - 10^3$	luxuriant
<i>Listeria monocytogenes</i> (19118)	$10^2 - 10^3$	luxuriant
<i>Staphylococcus aureus</i> (25923)	$2 \times 10^3 - 10^4$	inhibited

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 day.



**VM1888 Listeria Enrichment MiVeg
Broth, Modified**

1. Control
2. *Listeria monocytogenes*
3. *Escherichia coli*
4. *Staphylococcus aureus*

Further Reading

1. Lovette J., Francis D.W. and Hunt J.M., 1987, J. Food Prot., 50:188
2. Lee W.K. and McClain D., 1986, Appl. Environ. Microbiol., 52:1215
3. McClain D. and Lee W.H., 1988, J. Assoc. Off. Anal. Chem., 71:660.

Disclaimer :

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