Technical Data

Listeria Motility HiVeg® Medium

MV1215

Intended Use:

This medium is prepared by completely replacing animal based peptones with vegetable peptones. Recommended for testing motility of *Listeria monocytogenes.*

Composition**

ISO 11290 Specification - Listeria Motility Medium

Ingredients	g / L
Enzymatic digest of casein	20.000
Enzymatic digest of animal tissues	6.100
Agar	3.500
Final pH (at 25°C)	7.3±0.2

MV1215- Listeria Motility HiVeg® Medium

Ingredients	g / L
HiVeg® hydrolysate	20.000
HiVeg® peptone	6.100
Agar	3.500
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 29.6 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Allow the tubed medium to cool in an upright position.

Principle And Interpretation

Bacterial motility is one of the important determinants in making a final species identification. Bacteria move by means of flagella, the number and location of which vary among different species. Semisolid media in tubes are most commonly employed for detecting motility. Motility media have agar concentration of 0.4% or less. The motility test is interpreted by making a macroscopic examination of medium for a diffused zone of growth flaring out from the line of inoculation. *Listeria monocytogenes* requires room temperature incubation before motility develops, since in some organisms; flagellar proteins develop more rapidly at lower temperatures (room temperature) such as in *L. monocytogenes* and *Yersinia enterocolitica*. Listeria Motility Medium is formulated in accordance with ISO Committee specification (1) for the determination of motility by *L. monocytogenes.* Listeria Motility HiVeg® Medium is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks. HiVeg® hydrolysate and HiVeg® peptone serves as a source of nitrogen and carbon compounds, long chain amino acids and vitamins as source of growth nutrients.

Type of specimen

Isolated Microorganisms

Specimen Collection and Handling

The motility of *L.monocytogenes* is best demonstrated by stab inoculating two tubes of semisolid medium and incubating one at room temperature (22-30°C). Motility is better observed at room temperature (2). An umbrella-like zone of growth 2 to 5 mm below the surface of the medium is characteristic of *L. monocytogenes.* Motility at 35°C incubation is either absent or extremely sluggish.

Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Well isolated colonies must be used for detection of motility.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Semisolid, comparable with 0.35% Agar gel.

Colour and Clarity of prepared medium

Light yellow coloured, clear to slightly opalescent gel forms in tubes as butts

Reaction

Reaction of 2.96% 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 22-30°C for 48± 2hours.

Organism (ATCC)	Motility
Listeria monocytogenes ATCC 19117	positive, growth away from stabline causing turbidity
Listeria monocytogenes serovar 1 ATCC 19112	positive, growth away from stabline causing turbidity
Listeria monocytogenes serovar 4b ATCC 13932 (00021*)	positive, growth away from stabline causing turbidity
Listeria monocytogenes serovar l/2a ATCC 35152 (00109*)	positive, growth away from stabline causing turbidity
Listeria innocua ATCC 33090 (00017*)	positive, growth away from stabline causing turbidity
Listeria ivanovii subsp. ivanovii serovar 5 ATCC 19119 (00018*)	positive, growth away from stabline causing turbidity
Listeria grayi ATCC 19120	positive, growth away from stabline causing turbidity
Listeria seeligeri ATCC 35967	positive, growth away from stabline causing turbidity
Listeria welshimeri ATCC 43549	positive, growth away from stabline causing turbidity

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

1. Microbiology of the food chain — Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. - Part 2 , Enumeration method ; ISO 11290-2:2017.
2. Bailey and Scotts Diagnostic Microbiology, 1986, 7th Ed., The C.V. Mosby Co., St. Louis.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

Revision : 01/2025

Disclaimer :

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