Granulated® HIMEDIA®

Technical Data

Tryptone Soya Yeast Extract Agar, Granulated®

GM1214

Intended Use:

Recommended for confirmation of *Listeria* in Henry's light. The composition and performance criteria of this media is as per the specification laid down in ISO 11290-1:2017, ISO 11290-2:2017 and .ISO 11133:2014 (E) /Amd.: 2020.

Composition**

ISO specification - Tryptone Soya Yeast Extract Agar

Ingredients	g / L
Enzymatic digest of casein	17.000
Papaic digest of soyabean meal	3.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	2.500
Dextrose (Glucose)	2.500
Yeast extract	6.000
Agar	15.000
Final pH (at 25°C)	7.3±0.2

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**Formula adjusted, standardized to suit performance parameters

Equivalent to Enzymatic digest of casein ##Equivalent to Papaic digest of soyabean meal

Directions

Suspend 51.0 gram in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Tryptone Soya Yeast Extract Agar is formulated as per APHA (1) and FDA BAM (2) for the isolation and cultivation of *L. monocytogenes* from foods. ISO Committee (3-6) has recommended this medium for confirmation of *Listeria* species and can also be used for the cultivation and maintenance of a wide variety of heterotrophic microorganisms (6).

Tryptone and soya peptone provide amino acids and other complex nitrogenous substances. Dextrose is the energy source. Dipotassium hydrogen phosphate buffers the medium. Yeast extract is the rich source of vitamin B complex.

Type of specimen

Food samples

Specimen Collection and Handling:

For food and animal feeds, environmental samples follow appropriate techniques for handling specimens as per established guidelines (1-6). After use, contaminated materials must be sterilized by autoclaving before discarding.

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. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

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.

Productivity :

Cultural characteristics observed after an incubation at 25 ± 1°C for 21 ± 3 hours in microaerobic conditions.
Recovery rate is considered as 100% for bacteria growth on previously approved lot.

Quality Control

Appearance

Cream to yellow coloured granular media.

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 5.1% 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 25°± 1C for 21± 3 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Productivity			
Listeria monocytogenes ATCC 13932 (00021*)	50-100	good-luxuriant	>=70%
Listeria monocytogenes ATCC 35152 (00109*)	50-100	good-luxuriant	>=70%

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°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 (6,7).

Reference

1. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
2. BAM Chapter 10: Detection of *Listeria monocytogenes* in Foods and Environmental Samples, and Enumeration of *Listeria* monocytogenes in Foods, 2022.
3. Microbiology of the food chain — Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. - Part 1 , Detection method ; ISO 11290-1:2017.
4. 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.
5. Microbiology of food,animal feeding stuffs and water- Preparation, production,storage and performance testing of culture media, EN ISO 11133:2014 (E) /Amd.: 2020
6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
7. 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