



Linden grain Medium, Modified

M2135

Intended Use:

Recommended for detection of yeasts, moulds & bacteria in beverages.

Composition**

Ingredients	g / L
Dextrose (Glucose)	20.000
Yeast extract	3.500
Peptone	2.000
Ammonium sulphate	2.000
Potassium dihydrogen phosphate	1.000
Magnesium sulphate	1.000
Final pH (at 25°C)	4.1-4.50

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 29.50 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Linden Grain Medium is for media fill process simulation for beverage bottling. Media fill is the performance of an aseptic manufacturing procedure using a sterile microbiological growth medium in place of the drug solution. It is a part of validation of an aseptic manufacturing (1). The medium allows the growth of the contaminant flora in the environment, indicated by turbid growth in the broth

Peptone provides nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and other essential nutrients. Yeast extract supplies Vitamin B complex. Glucose is the carbohydrate source. Ammonium sulphate and magnesium sulphate acts as nitrogen source. Phosphate buffers the medium.

Type of specimen

Beverages

Specimen Collection and Handling

For beverages samples follow appropriate techniques for handling specimens as per established guidelines (1). 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.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light amber coloured clear solution in tubes

Reaction

pH of 2.95% w/v aqueous solution at 25°C.

pH

4.1 -4.50

Cultural Response

Cultural characteristics was observed after an incubation at 20-25°C for ..

Organism	Growth	Incubation period
<i>Geosmithia putterillii</i> ATCC 10487	good-luxuriant	3-5 days
<i>Cladosporium cladosporioides</i> ATCC 38494	good-luxuriant	3-5 days
<i>Zygosaccharomyces fermentati</i> ATCC 34891	good-luxuriant	3-5 days
<i>Bacillus subtilis</i> ATCC 6051	none	1 day

Storage and Shelf Life

Store between 2-8°C in a tightly closed container and the prepared medium at 2-8°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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

Reference

1. U.S. Department of Health and Human services Food & Drug Administration, Centre for drug evaluations and Research, April 2012
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
3. 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 : 00 / 2025

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory,diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.