



PRODUCT SPECIFICATION SHEET

Yeast Lactose Agar (DM1013)

Intended Use

Yeast Lactose Agar (DM1013) is recommended for cultivation of soil microorganisms, especially *Rhizobium* species.

Product Summary and Explanation

Bacteria of the genus *Rhizobium* in association with legumes (plants that bear seeds in pods) are capable of symbiotic nitrogen fixation. They infect the root system of the legumes and further via an infection thread invade the host plant cells. Thus, some cells of the plant are infected causing cell enlargement and an increased rate of cell division, leading to the formation of abnormal growth (nodules) on the root system. The legume, the bacteria and the nodule together constitute the nitrogen fixing system. The bacteria make nitrogen available to the plant, and in turn the bacteria derive nutrients from the tissues of the plant.⁽¹⁾ Yeast Lactose Agar⁽²⁾ is used for cultivation of soil microorganisms especially *Rhizobium* species.⁽³⁾

Principles of the Procedure

Yeast Lactose Agar contains yeast extract which provides amino acids, including vitamin B complex and necessary growth factors. It also poises the oxidation-reduction potential of medium in the range favourable for Rhizobia and serves as hydrogen donor in respiratory process.⁽⁴⁾ Lactose is the fermentable carbohydrate and energy source. Magnesium provides cations essential for the growth of Rhizobia.

Formula / Liter

Ingredients	Gms / Liter
Yeast extract	1.00
Lactose	10.00
Dipotassium hydrogen phosphate	0.50
Magnesium sulphate	0.20
Sodium chloride	0.10
Agar	15.00
Final pH : 6.8 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 26.8 grams of the medium in one litre distilled water.
2. Heat to boiling to dissolve the medium completely. Dispense as desired.
3. Sterilize by steaming for 30 minutes on two consecutive days.
4. Confirm sterility by leaving it at room temperature (30 ± 2°C) for 3-4 days.
5. Alternatively the medium can be sterilized by autoclaving at 121°C, 15 psi pressure, for 15 minutes.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Light yellow coloured opalescent gel forms in Petri plates
Reaction of 2.68% Solution	pH : 6.8 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel



PRODUCT SPECIFICATION SHEET

Expected Cultural Response: Cultural characteristics observed after an incubation at 25-30°C for upto 2-5 days.

Sr. No.	Organisms	Results to be achieved
		Growth
1.	<i>Rhizobium japonicum</i> ATCC 10324	good-luxuriant
2.	<i>Rhizobium meliloti</i> ATCC 9930	good-luxuriant

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for standard test procedures.

Results

Refer to appropriate references for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Yeast Lactose Agar

Product Code : DM1013

Available Pack sizes : 500gm

References

1. Pelczar M. J. Jr., Reid R. D., Chan E.C. S., 1977, Microbiology, Tata McGraw-Hill Publishing Company Ltd, New Delhi.
2. Bernaerts M. J. and De Ley J., 1963, Nature, Lond, 197, 406-407.
3. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth. Oxford and IBH Publishing Co.
4. Allen E. K. and Allen O. N., 1950, Bact. Revs., 14:273.

Further Information

For further information please contact your local MICROMASTER Representative.



MICROMASTER LABORATORIES PRIVATE LIMITED

Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall', Thane (W) - 400607. M.S. INDIA.
Ph: +91-9320126789/9833630009/9819991103
Email: sales@micromasterlab.com

DM1013PSS, QAD/FR/024,Rev.00





PRODUCT SPECIFICATION SHEET

Disclaimer :

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

