LMDA Agar

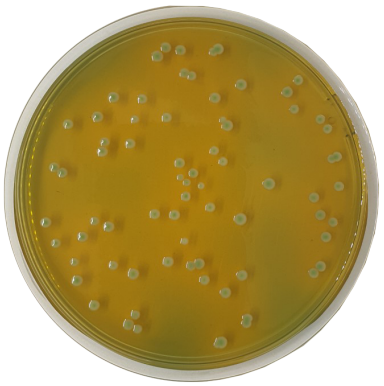
Cat. 1084

Multi differential agar that has the capacity to differentiate among a great variety of bacteria, including bacteria found in the beer.

Practical information

Aplications	Categories
Differentiation	Microorganisms of the brewing industry

Industry: Alcoholic beverages



Principles and uses

LMDA Agar is a nutrient medium that detects most organisms commonly found in the brewery.

Beer is not a very appropriate medium for the development of bacteria due to its characteristics, such as the low quantity of available nutrients, the presence of alcohol, carbon dioxide and sulphur dioxide, as well as low conservation temperatures. Beer filtration and pasteurization phases also contribute to the stabilization of the product against microorganisms.

The number of genera and species which usually contaminate it is limited. As is the case with wild yeasts, the contaminating bacteria cause turbidity and generate anomalous smells.

Acid producing bacteria can be identified by the presence of a clear zone around the colonies. Further identification is facilitated by the characteristic color reactions. cycloheximide can be added to the medium to inhibit the growth of culture yeast. If you wish to detect yeasts, don't add cycloheximide and incubate under the same conditions (time and temp) in aerobic conditions.

Formula in g/L

Glucose	10	Bacteriological agar	15
Bromocresol green	0,022	Calcium carbonate	5
Calcium patothenate	2	Citric Acid	1,1
Dipotassium phosphate	0,5	Ferrous sulfate	0,01
Magnesium sulfate	0,2	Manganase sulfate	0,01
Monopotassium phosphate	0,5	Peptonized milk	20
Sodium chloride	0,01	Tomato juice	20
Tween 80	0,5	Yeast extract	10

Preparation

Suspend 84,8 grams of the medium in one litre of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 °C for 15 minutes. If desired, add 0,007 grams of cycloheximide.

Instructions for use

- Inoculate and incubate at 30 ºC in anaerobic conditions during 4-7 days.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
Slight precipitate	Fine powder	Beige	Bluish green	5,5±0,2

Microbiological test

Incubation conditions: (30 ºC, anaerobic conditions / 4-7 days).

Microrganisms	Specification	Characteristic reaction
Pediococcus damnosusi ATCC 29358	Good growth	Change in the color of the medium from green to brownish yellow. Green small in size colonies.
Pediococcus acidilactici ATCC 8042	Good growth	Change in the color of the medium from green to brownish-yellow. Greyish green colonies.
Lactobacillus brevis ATCC 8287	Good growth	Light color change in the color of the medium from green to brownish-yellow. Greyish blue colonies.
Lactobacillus fermentum ATCC 9338	Good growth	Change in the color of the medium from green to brownish yellow. Greenish white colonies with green center.

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Bibliography

Beer Spoilage Bacteria and hop Resistance Kanta Sakamoto and Wil N. Konings
Max Louise and H. W. Scgoenlein, compilation of Culture Media.