Technical Information

Lactobacillus Selection Oxgall Agar Base (LBS Oxgall Agar)

Product Code: DM 2165

Application: - Lactobacillus Selection Oxgall Agar is recommended for the selective isolation, cultivation and enumeration of Lactobacilli.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Dextrose	20.000
Sodium acetate	25.000
Monopotassium hydrogen phosphate	6.000
Ammonium citrate	2.000
Oxgall	1.500
Polysorbate 80	1.000
Magnesium sulphate	0.575
Manganese sulphate	0.120
Ferrous sulphate	0.034
Agar	15.000
Final pH (at 25°C)	5.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Lactobacilli grow in a variety of habitats, wherever high levels of soluble carbohydrate, protein background products, vitamins and a low oxygen tension are available [1]. These conditions are found in oral cavity, intestinal tract [2, 3], vagina [4], food products and dairy products [5-6]. Lactobacillus Selection Oxgall Agar Base, formulated by Gilliland and Speck [8] is recommended by APHA for the isolation and enumeration of lactobacilli [5]. Lactobacillus Selection Oxgall Agar Base and Lactobacillus Selection Agar Base have similar composition with the only difference being the additional oxgall added to the former [5]. Casein enzymic hydrolysate and yeast extract serve as sources of essential nutrients. Dextrose is the carbohydrate and energy source. Polysorbate 80 serves as an additional source of growth factors and fatty acids required for metabolism of Lactobacillus species. Selectivity of the medium is due to the presence of ammonium citrate and sodium acetate that inhibit the growth of accompanying microbial and fungal flora and also restrict swarming of colonies [7]. The low acidic pH of the medium obtained by addition of glacial acetic acid is inhibitory to several bacterial species. Sulphates provide essential ions. Lactobacillius Selection Oxgall Agar Base is made more selective for bile-resistant lactobacilli by incorporating 0.15% oxgall.

Methodology

Suspend 86.23 grams of powder media in 1000 ml distilled water containing 1.32 ml glacial acetic acid. Shake well & heat to boiling with frequent stirring for 1-2 minutes to dissolve the medium completely. DO NOT AUTOCLAVE. If storage of medium is necessary sterilize by autoclaving at 118°C for 15 minutes.

Quality Control

Physical Appearance
Cream to yellow homogeneous free flowing powder

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 8.62% w/v aqueous solution at 25°C. pH : 5.4±0.2

pH Range 5.20-5.60

Cultural Response/Characteristics
DM 2165: Cultural characteristics observed in presence of 3-5% Carbon dioxide(CO_2) after an incubation at 35-37°C for 48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Lactobacillus acidophilus ATCC 4356	50-100	Luxuriant	>=50%
Lactobacillus plantarum ATCC 8014	50-100	Luxuriant	>=50%
Escherichia coli ATCC 25922	>=10^3	Inhibited	0%
Staphylococcus aureus ATCC 25923	>=10^3	Inhibited	0%
Lactobacillus casei ATCC 9595	50-100	Luxuriant	>=50%
Enterococcus faecalis ATCC 29212	>=10^3	Inhibited	0%
Proteus vulgaris ATCC 13315	>=10^3	Inhibited	0%

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Balows A., Truper H. G., Dworkin M., Harder W., Schleifer K. H., (Eds.), The Prokaryotes, 2nd Edi, 1992, Springer-Verlag 2.Wiseman R. F, Sarles W. B, Benton D. A, Harper A. E and Elvehjem C.A., 1956, J. Bacteriol., 72:723. 3.Ellis R. F. and Sarles W. B., 1958, J. Bacteriol., 75:272.
4.Rogosa M. and Sharpe M. E., 1960, J. Gen. Microbiol., 23:197
5. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
6. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
7. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
8. Gilliland S. E., Speck M. L., and Morgan C. G., 1975, Appl. Microbiol., 30:541.

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- User must ensure suitability of the product(s) in their application prior to use.
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