Lactobacillus Selection Broth Base

M1166

Intended Use:

Recommended for the selective isolation, cultivation and enumeration of Lactobacilli from food.

Composition**

Ingredients	g / L
Tryptone	10.000
Yeast extract	5.000
Dextrose (Glucose)	20.000
Sodium acetate	25.000
Potassium dihydrogen phosphate	6.000
Ammonium citrate	2.000
Polysorbate 80 (Tween 80)	1.000
Magnesium sulphate	0.575
Manganese sulphate	0.120
Ferrous sulphate	0.034
Final pH (at 25°C)	5.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 69.73 grams in 1000 ml purified / distilled water containing 1.32 ml glacial acetic acid. Heat with frequent stirring for 1-2 minutes to dissolve the medium completely. DO NOT AUTOCLAVE. Dispense in sterile tubes or flasks as desired. If storage of medium is necessary, autoclave at Δ118°C for 15 minutes. Δ- corresponds to 12 lbs pressure.

Principle And Interpretation

Lactobacilli grow in a variety of habitats, wherever high levels of soluble carbohydrate, protein background products, vitamins and a low oxygen tension occur (1). These sites include the oral cavity, the intestinal tract (2,3), the vagina (4), food products (5) and dairy products (6).

Lactobacillus Selection Broth Base, developed by Rogosa et al (7, 8) is recommended for the isolation and enumeration of lactobacilli. Lactobacillus Selection Medium was demonstrated to be more suitable for growth of lactobacilli than Tomato Juice Medium traditionally used to isolate lactobacilli. Lactobacilli Selection Media can be further enriched by addition of tomato juice (9).

Tryptone and yeast extract serve as sources of nitrogen, carbon and 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 obtained due to the presence of ammonium citrate and sodium acetate. These inhibit the accompanying microbial and fungal flora and also restrict swarming of colonies (10). The low acidic pH of the medium obtained by addition of glacial acetic acid is inhibitory to several bacterial species. Sulphates provide essential ions. Growth from Lactobacillus Selection Broth Base can be isolated on Lactobacillus Selection HiVeg™ Agar Base (MV1180) Since these media are highly selective, they should not be used for maintenance of lactobacilli.

Type of specimen

Food and dairy samples.

Specimen Collection and Handling

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (5,6).
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.The Bacterias sustaining low pH, may grow on this media.
2.Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
3.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

Yellow coloured, clear solution in tubes

Reaction

Reaction of 6.97% w/v aqueous solution at 25°C. pH : 5.4±0.2

pH

5.20-5.60

Cultural Response

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
Enterococcus faecalis ATCC 29212 (00087*)	>=10^4	inhibited
Lactobacillus acidophilus ATCC 4356 (00098*)	50-100	luxuriant
Lactobacillus rhamnosus ATCC 9595	50-100	luxuriant
$Lactiplantibacillus plantarum ATCC 8014	50-100	luxuriant
## Proteus hauseri ATCC 13315	>=10^4	inhibited
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	>=10^4	inhibited
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited

Key : (*) Corresponding WDCM numbers, (##) Formerly known as *Proteus vulgaris* ,
($)Formerly known as *Lactobacillus plantarum*

Storage and Shelf Life

Store dehydrated 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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (11,12).

Reference

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