



Lactobacillus Selection Broth Base

M1166

Lactobacillus Selection Broth Base is recommended for selective isolation, cultivation and enumeration of Lactobacilli from foods.

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
Polysorbate 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 distilled water containing 1.32 ml glacial acetic acid. Heat with frequent stirring for for 1-2 minutes to dissolve the medium completely. DO NOT AUTOCLAVE. If storage of medium is necessary, autoclave at *118°C for 15 minutes. *- 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).

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 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 Agar Base (M1180). Since these media are highly selective, they should not be used for maintenance of lactobacilli.

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

M1166: Cultural characteristics observed in presence of 3-5% Carbon dioxide(CO₂), after an incubation at 35-37°C for 48 hours.

Organism	Inoculum (CFU)	Growth
Cultural Response		
<i>Enterococcus faecalis</i> ATCC 29212	$\geq 10^3$	inhibited
<i>Lactobacillus acidophilus</i> ATCC 4356	50-100	luxuriant
<i>Lactobacillus casei</i> ATCC 9595	50-100	luxuriant
<i>Lactobacillus plantarum</i> ATCC 8014	50-100	luxuriant
<i>Proteus vulgaris</i> ATCC 13315	$\geq 10^3$	inhibited
<i>Staphylococcus aureus</i> ATCC 25923	$\geq 10^3$	inhibited
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited

Storage and Shelf Life

Store below 8°C and the prepared medium at 2 - 8°C in tightly closed container. Use before expiry date on the label.

Reference

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