



APT Broth

M227

APT Broth is recommended for the cultivation of heterofermentative lactic acid bacteria requiring high thiamine content.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	12.500
Yeast extract	7.500
Dextrose	10.000
Sodium citrate	5.000
Sodium chloride	5.000
Dipotassium phosphate	5.000
Magnesium sulphate	0.800
Manganese chloride	0.140
Ferrous sulphate	0.040
Polysorbate 80	0.200
Thiamine hydrochloride	0.001
Final pH (at 25°C)	6.7±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 46.2 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. AVOID EXCESSIVE HEATING.

Principle And Interpretation

APT (All purpose Tween 80) Broth is formulated as per Evans and Niven (1) for cultivation and maintenance of *Lactobacillus viridescens* ATCC 12706 used in the microbiological assay of thiamine. APT Broth is recommended for the cultivation of hetero fermentative lactic acidbacteria requiring high thiamine content. The composition of APT Broth is similar to APT Agar, which is formulated as recommended by APHA for the microbiological examination of cured meats, souerkraut, except agar (2). APT Broth is used for growing *Lactobacillus viridescens* ATCC 12706 and also for preparing the inoculum for thiamine assay.

Although this medium was devised for Lactobacilli, it is rich due to nutrients like casein enzymic hydrolysate, yeast extract, dextrose, polysorbate 80 and hence can support growth of commensal microflora including coliform bacteria. The metallic salts are essential for the replication of Lactobacilli or lactic Streptococci. Polysorbate 80 acts as fatty acid source.

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 4.62% w/v aqueous solution at 25°C. pH : 6.7±0.2

pH

6.50-6.90

Cultural Response

M227: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth
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Cultural Response

<i>Lactobacillus acidophilus</i> ATCC 4356	50-100	good-luxuriant
<i>Lactobacillus viridescens</i> ATCC 12706	50-100	good-luxuriant
<i>Leuconostoc mesenteroides</i> ATCC 12291	50-100	good-luxuriant
<i>Lactobacillus casei</i> ATCC 9595	50-100	good-luxuriant
<i>Lactobacillus plantarum</i> ATCC 8014	50-100	good-luxuriant

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on label.

Reference

1. Evans and Niven, 1951, J. Bact., 62:599.
2. Downes F. P and Ito K.. (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th ed., APHA, Washington D.C.

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