Streptococcus Lactis Differential Agar Base

M925

Streptococcus Lactis Differential Agar Base is used for differentiation of citrate-utilizing lactic streptococci - *Lactococcus lactis (Streptococcus lactis)* subspecies diacetylactis from citrate non-utilizing *Lactococcus lactis (Streptococcus lactis)* and *Lactococcus lactis (Streptococcus lactis)* subspecies *cremoris* .

Composition**

Ingredients	Gms / Litre
Nonfat (skim) milk	10.000
Peptonized milk	2.500
Dextrose	5.000
Agar	15.000
Final pH (at 25°C)	6.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 32.5 grams in 1000 ml distilled water. Heat to boiling with stirring to dissolve the medium completely. Sterilize by autoclaving at 10 lbs pressure (115°C) for 12 minutes. Cool to 45°C and aseptically add (30 minutes steam-sterilized solutions) 10 ml of 10% potassium ferricyanide and 10 ml of citrate solution containing 0.25 g ferric citrate and 0.25 gram sodium citrate. Gently mix and pour into the sterile Petri plates. Dry the plates in dark for 24 hours at 30°C.

Principle And Interpretation

The lactic group of the genus *Streptococcus* originally included the species *Streptococcus lactis* and *Streptococcus cremoris* and a subspecies of *S. lactis* , *S. lactis* subsp. *diacetylactis* . However, even in the 1970s workers were suggesting that *S. lactis* strains might be variants of *S. diacetylactis* that were unable to ferment citric acid, since citrate permease-negative strains of *S. diacetylactis* had been described. Streptococcus Lactis Differential Agar is formulated as described by Kempler and McKay (1) and is recommended for the differentiation of citrate utilizing lactic streptococci - *Lactococcus lactis (Streptococcus lactis)* subspecies *diacetylactis* from citrate non-utilizing *Lactococcus lactis (Streptococcus lactis)* and *Lactococcus lactis (Streptococcus lactis)* subspecies *cremoris* .

Non fat (skim) milk and peptonized milk in the medium provide nitrogen, vitamins and minerals necessary to support bacterial growth. Dextrose is the energy source.

Quality Control

Appearance
Off white to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Light yellow coloured opaque gel forms with white precipitate in Petri plates

Reaction
Reaction of 3.25% w/v aqueous solution at 25°C. pH : 6.6±0.2

pH
6.40-6.80

Cultural Response
M925: Cultural characteristics observed after an incubation at 30°C for 18-48 hours with added 10% Potassium ferricyanide and citrate solution.

Organism	Inoculum (CFU)	Growth	Recovery

Streptococcus cremoris ATCC 19257	50-100	good-luxuriant	>=50%
Streptococcus lactis ATCC 8000	50-100	good-luxuriant	>=50%
Streptococcus lactis subsp.diacetylactis	50-100	good-luxuriant	>=50%

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 the label.

Reference

1. Kempler G. M. and McKay L. L., 1980, Appl. Environ. Microbiol., 39:926.

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