

Technical Information

Streptococcus Lactis Differential Agar Base

Product Code: DM 1925

Application: - 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

Principle & 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 of the view 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 according to 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 are essential to support bacterial growth. Dextrose is the energy source.

Methodology

Suspend 32.5 grams of powder media in 1000 ml distilled water. Shake well & heat 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 3 0°C.

Quality Control

Physical 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 range

6.40-6.80

Cultural Response/Characteristics

DM 1925: 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
<i>Streptococcus cremoris</i> ATCC 19257	50-100	good-luxuriant	>=50%
<i>Streptococcus lactis</i> ATCC8000	50-100	good-luxuriant	>=50%



Dehydrated Culture Media
Bases / Media Supplements

Streptococcus lactis
subsp. diacetylactis

50-100

good-luxuriant

>=50%

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: 2-8⁰ in sealable plastic bags for 2-5 days.

Further Reading

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

Disclaimer :

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