Streptococcus Lactis Differential Agar Base

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**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonfat (skim) milk</td>
<td>10.000</td>
</tr>
<tr>
<td>Peptonized milk</td>
<td>2.500</td>
</tr>
<tr>
<td>Dextrose</td>
<td>5.000</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.6±0.2</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
</tr>
</thead>
</table>

Please refer disclaimer Overleaf.
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