



Neutral Red Chalk Lactose Agar

M984

Neutral Red Chalk Lactose Agar is used for the detection of lactic Streptococci in milk and milk products.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	3.000
Beef extract	3.000
Yeast extract	3.000
Lactose	10.000
Calcium carbonate	15.000
Neutral red	0.050
Agar	15.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 49.05 grams in 1000 ml distilled water. Heat just to boiling. Dispense as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates with intermittent shaking.

Note: Due to the presence of calcium carbonate, the prepared medium forms opalescent solution with white precipitate.

Principle And Interpretation

Lactic Streptococci are normally present in milk and are also used as starter cultures in the production of cultured dairy products (1). The natural microflora of milk is inefficient, uncontrollable, and unpredictable, or is destroyed altogether by the heat treatments given to the milk. A starter culture can provide particular characteristics in a more controlled and predictable fermentation. The primary function of lactic starters is the production of lactic acid from lactose.

Peptic digest of animal tissue, beef extract and yeast extract provide a source of nitrogen and other growth factors. Lactose is the fermentable carbohydrate. Neutral red is the pH indicator used in this medium. As it is unable to prevent diffusion of acidic or basic byproducts throughout the agar, resulting in an overall color change of the entire medium toward the acidic or basic range, calcium carbonate is often added which acts as a non-diffusible buffer. Thus the acid produced by any colony is localized around it (2).

Quality Control

Appearance

Light yellow to beige homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of Prepared medium

Pink coloured opalescent gel with white precipitate forms in Petri plates

Reaction

Reaction of 4.91% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH

6.60-7.00

Cultural Response

M984: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Streptococcus thermophilus</i> ATCC 14485	50-100	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. Seppo Salminen, Atte von Wright and Arthur Ouwehand, Lactic Acid Bacteria. Microbiological and Functional aspects, 3rd Edition, Marcel and Dekker, NY. Basel.
2. Reddy M. S., Vedamuthu E. R., Washam C. J. and Reinbold G. W., 1969 Appl. Microbiol., 18, 755.

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