



CAE (Citrate Azide Enterococcus) Agar Base

M1310

CAE (Citrate Azide Enterococcus) Agar Base is used for the identification of Enterococci in meat, meat products, dairy products and other food stuffs.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	15.000
Yeast extract	5.000
Potassium dihydrogen phosphate	5.000
Sodium citrate	15.000
Polysorbate 80	1.000
Sodium carbonate	2.000
Sodium azide	0.400
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 58.4 grams in 990 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add contents of 1 vial of TTC Solution, 1% (FD057). Mix well and pour into sterile Petri plates.

Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.

Principle And Interpretation

Enterococci are widely distributed in the environment, principally inhabiting the human and animal gastrointestinal tract. The resistance of Enterococci to pasteurization temperatures and their adaptability to different substrates and growth conditions (low and high temperature, extreme pH and salinity) implies that they can be found either in food products manufactured from raw materials or in heat-treated food products (4). In general, Enterococci serve as a good index of sanitation and proper holding conditions.

CAE (Citrate Azide Enterococcus) Agar Base was initially formulated by Burkwall and Hartmann (1) and later modified by Reuter (2). The medium is used for the identification of enterococci in food products.

Casein enzymic hydrolysate and yeast extract serve as sources of carbon, nitrogen, amino acids, vitamins and other essential nutrients. Potassium dihydrogen phosphate has a buffering action. Sodium citrate along with sodium azide helps to inhibit the accompanying contaminating flora. Polysorbate 80 serves as the fatty acid source. Enterococci reduce the colourless 2, 3, 5 Triphenyl Tetrazolium Chloride (FD057) to form a red coloured complex, formazone, thereby imparting a red colour to the enterococcal colonies (3).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 5.84% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

M1310: Cultural characteristics observed with added TTC solution (FD057) after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Cultural Response				
<i>Enterococcus faecalis</i> ATCC 50-100 29212		good-luxuriant	>=50%	red
<i>Escherichia coli</i> ATCC 25922	>=10 ³	inhibited	0%	
<i>Staphylococcus aureus</i> ATCC 25923	>=10 ³	inhibited	0%	
<i>Streptococcus pyogenes</i> ATCC 12344	50-100	none-poor	<=10%	

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. Burkwall M. K. and Hartman P. A., 1964, Appl. Microbiol., 12:18.
2. Reuter G., 1968, Arch. f. Lebensmittethyg., 19:53.
3. Saraswat D. S. et al, J. Milk Food Techn., 26:114.
4. Foulquie Moreno M. R. , Sarantinopoulos P., Tsakalidou F., De Vuyst L, 2006, Int. J. Food Microbiol., 106 (1) :1.

Revision : 2 / 2015

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