GTC Agar Base M922

GTC Agar Base is used for recovery of Enterococci from food within 18 hours.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	15.000
Papaic digest of soyabean meal	5.000
Sodium chloride	5.000
Monopotassium phosphate	5.000
Dextrose	1.000
Esculin	1.000
Thallous acetate	0.500
Ferric citrate	0.500
Polysorbate 80	0.750
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 24.37 grams in 500 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 55°C and aseptically add rehydrated contents of 1 vial of GTC Supplement (FD044) and 10 ml of sterile 10% Sodium Bicarbonate Solution (FD080) just before use. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Enterococci are gram-positive cocci causing a multitude of infections in humans such as urinary tract infections, bacterial endocarditis, diverticulitis and meningitis. Until 1984, members of Enterococci were classified as Group D Streptococci (15). Group D Streptococci are prevalent in the faecal material of humans and other animals (2-5). Numerous media have been proposed for the isolation of Group D Streptococci which employed sodium azide as a selective agent at concentrations ranging from 0.01 to 0.04% (6, 7). Sodium azide when used as an inhibitor of non-enterococcal group bacteria have several disadvantages (13, 14). However, favourable results were obtained when gentamicin was used as a selective agent for Group D Streptococci (8,9). GTC Agar Base described by Hartmann and Donnely employedgentamicin and thallus acetate as inhibitors of non-enterococcal bacteria while allowing selective isolation of all faecal streptococci (1).

Casein enzymic hydrolysate and papaic digest of soyabean meal provide nitrogenous nutrients to the organisms. Dextrose serves as easily metabolizable carbon source. Streptococci hydrolyze esculin to esculetin and dextrose. Esculetin and ferric ammonium citrate forms dark brown to black complex, imparting dark brown colour to the colony (10). Gentamicin and thallus acetate are the major selective agents in GTC Agar Base. Addition of sodium bicarbonate, polysorbate 80 and monopotassium phosphate stimulates the growth of Group D Streptococci (11, 12).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light yellow coloured, slightly opalescent gel forms in Petri plates, with slightly bluish tinge

Reaction

Reaction of 4.87% w/v aqueous solution at 25°C. pH : 7.3±0.2

Cultural Response

M922: Cultural characteristics observed with added GTC Supplement (FD044) and sterile 10% Sodium bicarbonate solution (FD080) after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Esculin hydrolysis		

Escherichia coli ATCC 25922	>=10^3	inhibited	0%			
Enterococcus faecalis ATCC 29212	50-100	good-luxuriant	>=50%	positive reaction, black zone around the colony		
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%			

Reference

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Storage and Shelf Life

Store below 30°C and prepared medium at 2-8°C. Use before expiry period on the label.