Oxgall Chrysoidin Agar with MUG

M1820

Oxgall Chrysoidin Agar with MUG is a semi-selective medium recommended for the isolation and differentiation of *Enterobacteriaceae* and several other Gram negative rods. It can also be used for the identification of *E. coli* from clinical and nonclinical specimens

Composition**

Ingredients	Gms / Litre
Bio Peptones	12.000
Yeast extract	5.000
Sodium chloride	5.000
Ox gall	8.000
Sodium thiosulphate	1.000
Bromothymol blue	0.120
Ferric Ammonium citrate	2.000
Urea	1.000
Chrysoidin	0.0125
MUG	0.100
Agar	14.000
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 48.23 grams in 1000 ml distilled water containing 20ml glycerol. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15minutes. Mix well and pour in sterile Petri plates.

Principle And Interpretation

Oxgall Chrysoidin Agar with MUG is based on the formulation by Ziesche et. al. (1). It is a partially selective differential medium recommended for isolation and differentiation of *Enterobacteriaceae* and several other Gram negative rods. . Due to several biochemical reactions, it allows the morphological and color-based differentiation of a larger variety of bacterial colonies.

Peptones and yeast extract serves as source of carbohydrate, nitrogen and essential nutrients. Ox gall is a selective agent to inhibit Gram positive bacteria except enterococci. Thiosulfate along with ferric ammonium citrate is the indicator system for the hydrogen sulfide production (blackening of colonies). Bromothymol blue is a pH indicator. Glycerol serves as a carbohydrate whih imparts yellow colour to the medium on acid production. When urea is degraded by urease, alkaline products are released giving green to blue green coloration to the medium. 4-Methylumbelliferyl β–D Glucuronide (MUG) is converted into 4-methylumbelliferone by β– D glucuronidase forming pathogens, which fluoresces under UV light (360- 370 nm). *E.coli* produces β- D glucuronidase.

If urines are applied, a defined volume or a dilution of the specimen should be spread over the whole surface of the plate. Incubate the inoculated plates for 18 to 24 hours at 35-37° C.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.4% Agar gel

Colour and Clarity of prepared medium

Green coloured Slightly opalescent gel forms in Petri plates

Reaction

Reaction of 4.82% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH
7.30-7.70

Cultural Response
M1820: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony	Fluorescence
Cultural Response					
Staphylococcus aureus ATCC 25923	>=10^3	inhibition	0%		
Escherichia coli ATCC 25922	50-100	luxuriant	>=50%	yellow to greenish (occasionally orange to brownish)	positive reaction
Proteus mirabilis ATCC 43071	50-100	luxuriant	>=50%	yellowish to green (black center)	negative reaction
Salmonella Typhimurium ATCC 14028	50-100	luxuriant	>=50%	yellowish to green (black center)	negative reaction
Shigella flexneri ATCC 12022	50-100	good	40-50%	green to blue-green colonies	negative reaction
Pseudomonas aeruginosa ATCC 27853	50-100	poor	>=50%	green to blue-green	negative reaction
Citrobacter freundii ATCC 8090	50-100	luxuriant	>=50%	yellow colonies, (partly with black center)	negative reaction
Staphylococcus aureus ATCC 6538	>=10^3	inhibited	0%		
Enterococcus faecalis ATCC 29212	50-100	none-poor	10-20%	yellow (small) reaction	negative

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.Ziesche , K., Reissbrodt, R. & Rische, H. (1985). Der Galle- Chrysoidin-Glycerol(GCG)-Na$ hrboden in seiner Anwendung zur Diagnostik gramnegativer Bakterien, besonders der Enterobacteriaceae. Z Gesamte Hygiene 31 (9), 516-518.

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