Chrysoidin Agar with MUG (Oxgall Chrysoidin Agar with MUG) M1820

Intended Use:

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 non-clinical specimens

Composition**

Ingredients	Gms / Litre
Bio Peptones	12.000
Yeast extract	5.000
Sodium chloride	5.000
Bile	8.000
Sodium thiosulphate	1.000
Bromothymol blue	0.120
Ferric Ammonium citrate	2.000
Urea	1.000
Chrysoidine Y	0.0125
4-Methylumbelliferyl-β-D-glucuronide (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 purified / distilled water containing 20ml glycerol. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15minutes. Cool to 45-50°C. 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 carbon, nitrogen compounds, long chain amino acids, vitamin B complex and other essential nutrients. Bile 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.

Type of specimen

Clinical samples - Urine; Water samples.

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).
For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards(3).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Some strains of *E. coli*, however, are MUG-negative and do not fluoresce under UV light.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

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

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony	Fluorescence
Staphylococcus aureus subsp.*aureus ATCC 25923 (00034*)*	>=10^4	inhibition	0%		
Escherichia coli ATCC 25922 (00013*)	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* (00031*)	50-100	luxuriant	>=50%	yellowish to green (black center)	negative reaction
Shigella flexneri ATCC 12022 (00126*)	50-100	good	40-50%	green to blue-green colonies	negative reaction
Pseudomonas aeruginosa ATCC 27853 (00025*)	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 subsp. *aureusATCC 6538* (00032*)	>=10^4	inhibited	0%		
Enterococcus faecalis ATCC 29212 (00087*)	50-100	none-poor	10-20%	yellow (small)	negative reaction

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Reference

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.

2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

4. 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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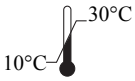
IVD — In vitro diagnostic medical device

CE Marking



Storage temperature

Do not use if package is damaged

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