

# TM 1639 - CHROMOGENIC UTI AGAR, MODIFIED

#### **INTENDED USE**

For enumeration and differentiation of enteric pathogens in urinary tract infections.

#### PRODUCT SUMMARY AND EXPLANATION

Chromogenic UTI Agar, Modified is formulated on the basis of work carried out by Pezzlo, Wilkie et al, Friedman et al, Murray et al, Soriano and Ponte & Merlino et al. This medium is the modification of Chromogenic UTI Agar (TM 1199), which can be used in place of MacConkey Agar for isolation and confirmation of various microorganisms. It facilitates and expedites the identification of some gram-negative bacteria and some gram-positive bacteria on the basis of different contrasted colony colours produced by reactions of genus or species specific enzymes with two chromogenic substrates.

#### **COMPOSITION**

Ingredients	Gms / Ltr			
Peptone	18.000			
Agar	15.000			
Chromogenic mixture	12.440			
Meat extract	6.000			
Tryptone	4.000			

### **PRINCIPLE**

Presence of rich source of phenylalanine and tryptophan from peptone and tryptone provides an indication of tryptophan deaminase activity, revealed with TDA Reagent indicating the presence of Proteus species, Morganella species and Providencia species, which appear brown. One chromogenic substrate is cleaved by ß-glucosidase possessed by Enterococci resulting in formation of blue colonies. E. coli produce purple-magenta colonies due to the enzyme ß-Dgalactosidase which cleaves the other chromogenic substrate. Further confirmation of E. coli can be done by performing indole test using DMACA Reagent (TS 207). Also, some strains of Enterobacter cloacae lacking ß-glucosidase show pinkcolonies indistinguishable from E. coli. The DMACA reagent for indole test (should be performed on filter paper) distinguishes between E.coli and Enterobacter, and also between Proteus mirabilis and other species. Coliforms produce purple colour colonies due to cleavage of both the chromogenic substrates. Peptone, Meat extract and tryptone provides nitrogenous, carbonaceous compounds and other essential growth nutrients.

#### **INSTRUCTION FOR USE**

- Dissolve 55.44 grams in 1000 ml distilled water.
- Gently heat to boiling with swirling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
- Cool to 45-50°C.
- Mix well and pour into sterile Petri plates.

# **QUALITY CONTROL SPECIFICATIONS**

**Appearance of Powder** Cream to yellow colour, homogeneous free flowing powder

Appearance of prepared medium Light amber colour, clear to slightly opalescent gel

pH (at 25°C) 7.2± 0.2

# INTERPRETATION













Culture characteristics observed after incubation. Recovery rate is considered 100% for bacteria growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Recovery	Reaction with TDA reagent	Reaction with DMACA reagent	Incub.* Temp	Incub.* period
Escherichia coli	25922	50-100	Luxuriant	Pink- purple colonies	>=70%	Negative reaction	Positive reaction#	35 ± 2°C	18-24 Hours
Enterococcus faecalis	29212	50-100	Luxuriant	Small blue colonies	>=70%	Negative reaction	Negative reaction	35 ± 2°C	18-24 Hours
Klebsiella pneumoniae	13883	50-100	Luxuriant	blue to purple, mucoid	>=70%	Negative reaction	Negative reaction	35 ± 2°C	18-24 Hours
Proteus mirabilis	12453	50-100	luxuriant	light brown	>=70%	Positive reaction##	Negative reaction	35 ± 2°C	18-24 Hours
Pseudomonas aeruginosa	27853	50-100	luxuriant	colourless (slightly green pigment may be observed)	>=70%	Negative reaction	Negative reaction	35 ± 2°C	18-24 Hours
Staphylococcus aureus	25923	50-100	luxuriant	golden yellow	>=70%	Negative reaction	Negative reaction	35 ± 2°C	18-24 Hours

<sup># =</sup> Formation of blue purple colour around growth

Incub\*=Incubation

## **PACKAGING**

In pack size of 100gm & 500gm bottles.

#### **STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

**Product Deterioration:** Do not use if powder show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

### **DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

#### **REFERENCES**

- 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. Friedman M.P. et al. (1991), Journal of Clinical Microbiology, 29:2385-2389.
- 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.** Merlino et al. (1995), Abstr. Austr. Microbiol., 16(4):17-3.
- 5. Murray P., Traynor P. and Hopson D., (1992), Journal of Clinical Microbiology, 30:1600-1601.
- **6.** Pezzlo M, (1998), Clinical Microbiology Reviews, 1:268-280
- 7. Soriano F. and Ponte C., (1992), Journal of Clinical Microbiology, 30:3033-3034.









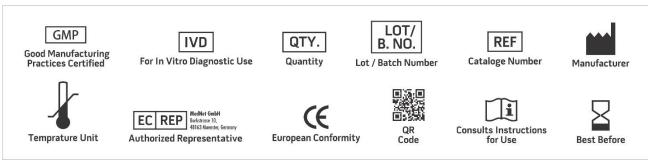


<sup>## =</sup> Development of brown colouration



### **PRODUCT DATA SHEET**

- 8. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C
- 9. Wilkie M.E., Almond M.K. and Marsh F.P., (1992), British Medical Journal, 305:1137-1141.



**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices. \*For Lab Use Only

Revision: 25 February,

2022







