

## **CM 20440 - CHROMOGENIC E. COLI AGAR (CHROMOGENIC TRYPTONE BILE GLUCURONIDE AGAR) (TBX AGAR) (ISO 16649-1:2001/16649-2:2001/16649-3:2015)**

### INTENDED USE

For enumeration of Escherichia coli from food samples, animal feed and water samples.

### PRODUCT SUMMARY AND EXPLANATION

TBX Agar is based on Tryptone Bile Agar. Tryptone Bile Agar was originally formulated to improve on earlier methods used to detect Escherichia coli in foods in terms of speed, reliability, better recovery from frozen samples and the detection of poor lactose fermenters.

TBX medium builds on these advantages through the addition of a chromogenic agent - X-glucuronide - which detects glucuronidase activity. This is the same enzyme detected by MUG reagent, and has been shown to be highly specific for E. coli. However, approximately 3-4% of E. coli are glucuronidase negative, notably E. coli O157 strains.

Most E. coli strains can be differentiated from other coliforms by the presence of the enzyme glucuronidase. The chromogen in TBX Agar is 5-bromo-4-chloro-3-indolyl-beta-D-glucuronide (X-glucuronide), and is targeted by this enzyme. E. coli cells are able to absorb this complex intact and intracellular glucuronidase splits the bond between the chromophore and the glucuronide. The released chromophore is coloured and builds up within the cells, causing E. coli colonies to be coloured blue/green.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone	20.000
Agar	15.000
Bile salts	1.500
X-β-D-Glucuronide	0.075

### PRINCIPLE

The chromogenic agent X- Glucuronide used in this medium helps to detect glucuronidase activity. Escherichia coli cells absorb x-glucuronide and the intracellular glucuronidase splits the bond between the chromophore and the glucuronide. The released chromophore gives coloration to the colonies. The peptone provides the essential growth nutrients to the organisms. Bile salts mixture inhibits gram-positive organisms and agar acts as a solidifying agent.

### INSTRUCTION FOR USE

Dissolve 36.57 g in 1000 ml distilled water.

Gently heat in a boiling water bath or in flowing steam until the medium is completely dissolved.

Autoclave at 15 psi (121°C) for 15 min.

Cool to 45-50°C in water bath, mix gently and pour into sterile petri dishes.

### QUALITY CONTROL SPECIFICATIONS

Appearance of powder : Cream to yellow colour, homogeneous free flowing powder



Appearance of prepared medium : Light yellow colour, clear to slightly opalescent gel  
pH (at 25°C) : 7.2± 0.2

### INTERPRETATION

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

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Recovery	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Bluish green	>=50%	44°C	18-24 Hours
Salmonella enteritidis	13076	50-100	Luxuriant	Colourless	>=50%	44°C	18-24 Hours
Staphylococcus aureus	25923	≥ 1000	Inhibited	Inhibited	0%	44°C	18-24 Hours

### 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. Gross R.J. and Rowe B. (1985) J. Hyg. Lond. 95. 531-550.
2. Anderson J.M. and Baird-Parker A.C. (1975) J. Appl. Bact. 39. 111-117.
3. Feng P.C.S. and Hartman P.A. (1982) Appl. Environ. Microbiol. 43. 1320-1329.
4. Hansen W. and Yourassowsky E. (1984) J. Clin. Microbiol. 20. 1177-1179.
5. Ratnam S., March S.B., Almed R., Bezanson G.S. and Kasatiya S. (1988) J. Clin. Microbiol. 26. 2006-2012.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

\*For Lab Use Only

