Product Specification

CulturaLab
Culturing Excellence in Microbiology

Tryptone Bile X-Glucoronide (TBX) Agar

Cat No: **111017**

Intended Use

Tryptone Bile X-Glucuronide agar is a chromogenic selective medium for the detection and enumeration of *Escherichia coli* in foods.

Principle

Tryptone Bile X-Glucuronide (TBX) Agar is derived from Tryptone Bile Salts Agar and is used for detecting and enumerating *E. coli* in food samples. It contains the chromogenic substrate x-ß-D-Glucuronide, which targets the enzyme glucuronidase—an enzyme highly specific to *E. coli*.
When *E. coli* colonies absorb x-ß-D-Glucuronide, their intracellular glucuronidase cleaves the bond between the glucuronide and the chromophore. This releases a colored chromophore that accumulates within the cells, causing *E. coli* colonies to appear blue-green and easily identifiable.
Casein peptone supplies essential nitrogen, vitamins, minerals, and amino acids for bacterial growth. Bile salts inhibit Gram-positive bacteria and suppress non-target coliforms. Bacteriological agar serves as the solidifying agent.

Storage

Recommended storage conditions: 2 to 8 °C. Avoid direct sunlight.
Recommended shipping conditions: 2 to 8 °C.

Production Standard

The formulation is prepared according to the recommendations of the current European, United States, and China Pharmacopoeia.

Precautions

1. The product may secrete water when exposed to temperature changes between low and room temperature, which is normal. Allow it to reach room temperature before use and, if possible, pre-dry it in a sterile drying oven.
2. Handle the plates with sterile gloves to prevent contamination during use.
3. Store the plates in a cool, dry place away from direct sunlight to maintain their integrity.
4. Avoid opening the plates until they are ready to be used in the sampling area to prevent airborne contamination.
5. Ensure the plates are used within their expiration date to guarantee accurate results.
6. Dispose of used plates according to biohazard waste protocols to prevent contamination and ensure safety.

Quality Control

The following were incubated at 36 ± 1 °C for 18-24 hours. The results are as follows:

Test Strains	Expected Results	Characteristic Reaction
Escherichia coli ATCC 25922	PR⩾0.5	Blue colonies
Escherichia coli ATCC 8739	PR⩾0.5	Blue colonies
Pseudomonas aeruginosa ATCC 27853	N/A	White to green-beige colonies
Citrobacter freundii ATCC 43864	N/A	White to green-beige colonies
Enterococcus faecalis ATCC 29212	Total inhibition	N/A

Product Content

Product Content	Cat No.	Size
Tryptone Bile X-glucuronide (TBX) agar	111017	10 plates/bag; 200 plates/case

Composition

Enzymatic digest of casein	20.0 g
Bile salt No. 3	1.5 g
5-bromo-4-cloro-3-indolil-ß-D-glucuronic acid	0.075 g
Bacteriological agar	15.0 g
Water	1000 mL
Final pH (at 25°C)	7.2 ± 0.2

Procedure

Enumeration of ß-glucuronidase-positive *Escherichia coli* according to ISO 16649:

- Inoculate TBX agar using either the pour plate method, surface streaking, or the membrane filtration technique.
- For membrane filtration and Most Probable Number (MPN) enumeration, a prior recovery step is required using Minerals Modified Glutamate Agar or Broth (MMGA or MMGB, Cat. 1365).
- Incubate the TBX agar plates at 44°C for 21 hours.
- Count the number of *Escherichia coli* colonies by identifying typical blue colonies indicative of ß-glucuronidase activity.

Shelf Life

Shelf life: 3 months from date of manufacture

Packaging

90mm x 10 plates per bag; 200 plates/case

Each plate filled with 20mL ± 2mL

Disposal

Please adhere to the respective regulations for the disposal of used culture medium (e.g., autoclave for 30 minutes at 121 °C)

References

1. International standard ISO 16649: Microbiology of food animal feeding stuffs. Horizontal method for the enumeration of presumptive ß-glucuronidase –positive.

Specially manufactured for:

Foster Medical Pte Ltd
76 Pioneer Road, #03-05 Mapletree Pioneer Logistics Hub, Singapore 639577

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