

## TBX Agar (i23616)

Selective agar for the detection and enumeration of *Escherichia coli* in foodstuffs, animal feed and water.

Industry: Food

## Principles & Uses

Tryptone Bile X-Glucuronide Agar (TBX), formulated following ISO 16649-2, is an essential medium for distinguishing most *E. coli* species from other *coliforms*. It features the enzyme  $\beta$ -D-glucuronidase, which plays a pivotal role in this differentiation. When *E. coli* is present, it absorbs the chromogenic substrate X- $\beta$ -D-glucuronide, leading to a specific reaction. The enzyme  $\beta$ -glucuronidase cleaves the bond between the chromophore and  $\beta$ -D-glucuronide, imparting blue-green coloration to *E. coli* colonies. The growth of accompanying Gram-positive flora is effectively suppressed due to the inclusion of bile salts and the high incubation temperature at 44°C.

This medium is used for enumerating  $\beta$ -glucuronidase-positive *E. coli* in food and animal feed products. It's worth noting that specific culture media are required for certain *E. coli* strains, such as *E. coli* O157, which either lack  $\beta$ -D-glucuronidase or cannot grow at the elevated temperature of 44°C.

## Composition (gr/L)

Peptone 20, bile salts No. 3 1.5, X- $\beta$ -D-glucuronide 0.075, agar-agar 15.

Final pH at 25°C 7.2  $\pm$  0.2

## Preparation from dehydrated Powder

Suspend 36.6 g of the medium in one Liter of purified water. Autoclave at 121°C for 15 minutes.

## Quality Control

Dehydrated Appearance: Light beige, free-flowing, homogeneous.

Prepared Appearance: Light amber, slightly opalescent.

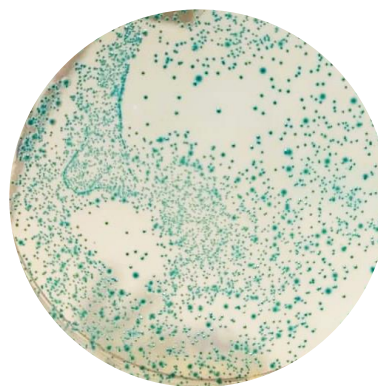
Reaction of 3.66% Solution at 25°C: pH 7.2  $\pm$  0.2

## Cultural Response

Cultural response was observed after 18-48 hours of incubation at 44  $\pm$  2°C.

Organism (ATCC*)	Growth	Colony color
<i>Escherichia coli</i> (25922)	Good	<i>Escherichia coli</i>
<i>Escherichia coli</i> (8739)	Good	<i>Escherichia coli</i>
<i>Enterococcus faecalis</i> (29212)	Inhibited	-
<i>Citrobacter freundii</i> (8090)	Good	White to green-beige colonies

\*ATCC is a registered trade mark of the American Type Culture Collection.



*E. coli* with blue-green colonies.

## Storage

Store dehydrated medium and prepared medium at 2-8 °C.