



## HiCrome™ E. coli Agar

M1295

### Intended Use:

Recommended for the detection and enumeration of *Escherichia coli* in foods without further confirmation on membrane filter or by indole reagent. It can also be used to isolate and cultivate *E.coli* from clinical samples.

### Composition\*\*

Ingredients	Gms / Litre
Tryptone	14.000
Peptone, special	5.000
Bile salts mixture	1.500
Disodium hydrogen phosphate	1.000
Sodium dihydrogen phosphate	0.600
Sodium chloride	2.400
X-Glucuronide	0.075
Agar	12.000
Final pH ( at 25°C)	7.2±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 36.57 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

### Principle And Interpretation

HiCrome™ E.coli Agar is based on Tryptone Bile Agar to detect *Escherichia coli* in foods (1), where recovery of *E.coli* is faster, more reliable and accurate. Most of the *E.coli* strains can be differentiated from other coliforms by the presence of enzyme glucuronidase, which is highly specific for *E.coli* (3). The chromogenic agent X-glucuronide used in this medium helps to detect glucuronidase activity of *E.coli*. *E.coli* cells absorb X-glucuronide and the intracellular glucuronidase enzyme splits the bond between the chromophore and the glucuronide. The released chromophore gives bluish green colouration to the *E.coli* colonies. This medium is recommended for isolation of *E.coli* from water, food and clinical samples.

Tryptone and peptone special provides carbon, nitrogen compounds, long chain amino acids, vitamins and other essential growth nutrients to the organisms. Bile salts mixture inhibits gram-positive organisms. Sodium chloride and phosphates maintain osmotic balance and buffering action respectively.

The surface of the plated medium is dried before use. Dilute food samples 1:5 or 1:10 with 0.1% (w/v) sterile Peptone Water (M028) and homogenize in a blender or a stomacher. Pipette 0.5 ml or 1.0 ml of the homogenized food sample on to the plate and spread with sterile glass spreader. Incubate the plates at 30°C for 4 hours and then at 44°C for 18 hours.

### Type of specimen

Clinical samples - faeces, Water samples, Food 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.(2)

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (6).

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.  $\beta$ -glucuronidase is present in 97% of *E.coli* strains, however few *E.coli* may be negative. 2. Certain species of *Salmonella* are  $\beta$ -glucuronidase positive. 3. Some species may show poor growth due to nutritional variations.

## 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 1.2% Agar gel.

#### Colour and Clarity of prepared medium

Light yellow coloured, clear to slightly opalescent gel forms in Petri plates

#### Reaction

Reaction of 3.66% w/v aqueous solution at 25°C. pH : 7.2±0.2

#### pH

7.00-7.40

#### Cultural Response

Cultural characteristics observed after an incubation at 44°C for 18-24 hours.

Organism	Growth	Inoculum (CFU)	Recovery	Colour of Colony
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	inhibited	$\geq 10^3$	0%	
<i>Escherichia coli</i> ATCC 25922 (00013*)	luxuriant	50-100	$\geq 50\%$	bluish green
<i>Salmonella Enteritidis</i> ATCC 13076 (00030*)	luxuriant	50-100	$\geq 50\%$	colourless

Key : \*Corresponding WDCM numbers.

## Storage and Shelf Life

Store dehydrated powder and prepared medium on receipt at 2-8°C. Use before expiry period 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. Use before expiry date on the label. 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

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In vitro diagnostic medical device



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Storage temperature



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