E. coli O157:H7 Cromogenic Agar Base

Cat. 1588

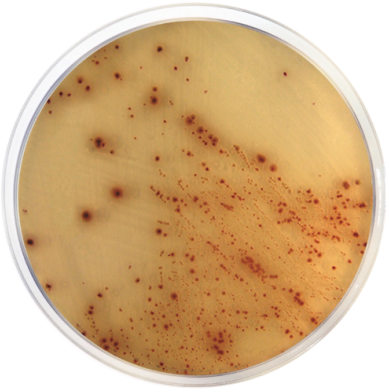
Selective and differential medium for the detection of E.coli O157:H7.

Practical information

Aplications	Categories
Detection	Escherichia coli O157

Industry: Clinical / Food

CE
IVD



Principles and uses

E. coli O157:H7 Cromogenic Agar Base is used for the detection of E.coli O157:H7.

E. coli O157:H7 has become a widespread public health issue as it is responsible for hemorrhagic colitis, characterized by a bleeding diarrhea with acute abdominal pain. E.coli O157:H7 produce several cytotoxins, neurotoxins, and enterotoxins, including Shiga toxin. Incorrect antibiotic treatment may increase the risk of haemolytic uraemic syndrome development, a potentially fatal complication of this form of colitis.

E. coli O157:H7 has a bovine reservoir, infection can occur after ingestion of undercooked beef or unpasteurized milk. The organism can also be transmitted by the fecal-oral route.

Peptone Mixture provides nitrogen, vitamins, minerals and amino acids essential for growth. Chromogenic mixture allows to easily detect the presence of E.coli O157:H7 by colony coloration that grows pale pink. Potassium tellurite and cefixime are highly selective for E. coli O157:H7 and inhibit most contaminating bacteria including other E.coli strains and coliforms. Bacteriological agar is the solidifying agent.

Formula in g/L

Bacteriological agar	15	Chromogenic mixture	2,8
Peptone mixture	20		

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 18,9 grams of the medium in 500 ml of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 10 minutes. Cool to 45-50 ºC and aseptically add one vial of the Cefixime Tellurite Supplement (Cat. 6064). Homogenize gently and dispense into Petri dishes.

Instructions for use

For clinical diagnosis, the type of sample is feces.
- Inoculate on the surface making parallel grooves with the handle or swab.
- Incubate in aerobic conditions at 35±2 °C for 18-24 hours.
- Reading and interpretation of the results.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)

w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,1±0,2

Microbiological test

Inoculation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification	Characteristic reaction
Klebsiella aerogenes ATCC 13048	Total inhibition	
Salmonella typhimurium ATCC 14028	Total inhibition	
Enterococcus faecalis ATCC 19433	Total inhibition	
Escherichia coli ATCC 25922	Total inhibition	
Staphylococcus aureus ATCC 25923	Total inhibition	
Escherichia coli 0157:H7 ATCC 43895	Good growth	Pale pink colonies
Escherichia coli ATCC 8739	Total inhibition	

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Bibliography

Doyle, M.P. and J.L. Schoeni. 1987. Applied Environmental Microbiology 53:2394-2396.
J. G Wells et al, 1991. Isolation of Escherichia coli serotype O157:H7 and other Shiga-like-toxin-producing E. coli from dairy cattle.