

70641 HiCrome (TM) MS.0157 Agar

Isolation and differentiation of *E. coli*, e.g. *E. coli* 0157:H7 and coliforms in water and food samples.

Composition:

Ingredients	Grams/Litre
Peptone special	10.00
Sorbitol	4.00
Bile salt mixture	1.00
Chromogenic mixture	0.731
Agar	12.00
Final pH (at 25 °C)	6.8 ± 0.2

Store below 8°C. use before expiry date on the label.

Directions:

Suspend 27.8g in 1 litre distilled water. Boil gently to dissolve the medium completely. **DO NOT AUTOCLAVE**. Cool to 50°C. Mix well and pour into sterile petri plates. This medium can be made more selective by adding aseptically 0.25 ml of sterile 1% Potassium tellurite solution (Fluka 17774) to 1 litre molten and cooled medium (50°C).

Principle and Interpretation:

March and Ratnam (1) reported the inability of *E. coli* 0157 to ferment sorbitol while developing Sorbitol Mac Conkey medium. Subsequently Thomson et al (2) observed the absence of β -glucuronidase activity in *E. coli* 0157 from a variety of sample by direct culture. *E. coli* 0157:H7 gives colourless colonies because of non-fermentation of sorbitol and absence of β -glucuronidase activity, whereas other strains of *E. coli* having β -glucuronidase activity and fermenting sorbitol appear as steel blue coloured colonies. In absence of tellurite various non *E. coli* 0157 may have same colony colour. Addition of tellurite makes medium much more specific and selective. Final confirmation and analysis require identification as *E. coli* by biochemical tests and characterisation of 0157 and verotoxin properties.

The medium can be inoculated either by pour plate technique or by spreading the sample on the surface of plated medium. Membran filter technique can also be used.

Cultural characteristics after 24 hours at 37°C.

Organisms (ATCC)	Growth	Colour of colony
<i>Escherichia coli</i> (25922)	+++	steel blue
<i>Escherichia coli</i> 0157:H7	+++	colourless
<i>Klebsiella pneumoniae</i> (13883)	+	pink, mucoid
<i>Salmonella enteritidis</i> (13076)	+	pink
<i>Pseudomonas aeruginosa</i> (27853)	+++	light pink
<i>Staphylococcus aureus</i> (25923)	-	-
<i>Bacillus subtilis</i> (6633)	-	-

References:

1. March S.B., and Ratnam S. (1986), J. Clin. Microbiol. 23, 869-872.
2. Thomson (1990), J. Clin. Microbiol. 29, 2165-2168.