HiCrome ECD HiVeg Agar w/ MUG

MV1488

Hicrome ECD HiVeg Agar w/ MUG is recommended for the detection of *Escherichia coli* in water and food samples by using a combination of chromogenic and fluorogenic substrate.

Composition**

Ingredients	Gms / Litre
HiVeg hydrolysate	20.000
Synthetic detergent	1.500
Tryptophan	1.000
Lactose	5.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	4.000
Potassium dihydrogen phosphate	1.500
Flurogenic substrate	0.070
Chromogenic substrate	0.100
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 53.17 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour in sterile Petri plates.

Principle And Interpretation

HiCrome ECD HiVeg Agar w/ MUG is prepared by completely replacing animal based peptones with vegetable peptones thereby making the medium BSE/TSE risk free. HiCrome ECD HiVeg Agar w/ MUG is a slight modification of HiCrome ECD Agar w/ MUG and is recommended for rapid detection of *Escherichia coli* by using a combination of chromogenic and fluorogenic substrates. The presence of *Escherichia coli* is indicated by blue coloured colony formation due to cleavage of chromogenic substrate. Fluorogenic substrate permits rapid detection of *Escherichia coli* when medium is observed for fluorescence using UV light (1,2). Fluorogenic substrate also detects anaerogenic strains, which may not be detected in conventional procedure (1). It is hydrolysed by enzyme beta-D-glucuronidase, possessed by *Escherichia coli* to yield a fluorescent end product. The reaction is indicated by a blue fluorescence under UV light.

HiVeg hydrolysate provides essential nutrients. Lactose is the fermentable carbohydrate. Sodium chloride maintains osmotic equilibrium. The medium has a strong buffering system to control the pH in the presence of fermentive action. Synthetic detergent inhibits gram-positive bacteria especially Bacillus species and faecal Streptococci.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Light amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 5.32% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH
6.80-7.20

Cultural Response
MV1488: Cultural characteristics observed after an incubation at 43 - 45°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony	Fluorescence (under uv)	Indole
Enterococcus faecalis ATCC 29212	>=10^3	inhibited	0%			
Escherichia coli ATCC 25922	50-100	good	>50%	bluish-green	Positive	Positive, red ring at the interface of the medium
Klebsiella pneumoniae ATCC 13883	50-100	good	>50%	colourless	Negative	Negative, no colour development / cloudy ring
Pseudomonas aeruginosa ATCC 27853	50-100	good	>50%	colourless	Negative	Negative, no colour development / cloudy ring
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0			

Storage and Shelf Life

Store dehydrated powder and prepared medium at 2-8°C in tightly closed container. Use before expiry period on the label.

Reference

1.Feng PCS and Hartman PAS, (1982), Appl. Environ. Microbiol. 43:132.
2.Robinson (1984), Appl. Environ. Microbiol., 48:285.

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