

## Coliform HiVeg™ Broth w/ SLS

MV1826

### Intended Use:

Recommended as a medium for detection of *E. coli* and other *Enterobacteriaceae* in water samples.

### Composition\*\*

Ingredients	g / L
HiVeg™ special peptone	3.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	3.000
Potassium dihydrogen phosphate	1.700
Sodium puruvate	1.000
L-Tryptophan	1.000
Sodium lauryl sulphate (SLS)	0.100
Chromogenic mixture	0.300
Final pH ( at 25°C)	6.8±0.2

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

### Directions

Suspend 15.10 grams in 1000 ml purified/distilled water. Heat if necessary 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 dispense as desired.

### Principle And Interpretation

Coliform HiVeg™ Broth w/ SLS is a selective medium recommended for the simultaneous detection of *Escherichia coli* and total coliforms in water and food samples (1)

Coliform HiVeg™ Broth w/ SLS is prepared by completely replacing animal peptones with vegetable peptone to avoid BSE/TSE risks. HiVeg™ special peptone supplies the essential growth nutrients to the organisms. The phosphates in the medium buffers the medium. Sodium chloride maintains the osmotic balance. Sodium lauryl sulphate inhibits the gram positive organisms. L-Tryptophan in the medium improves the indole reaction. The enzyme  $\beta$ -glucuronidase produced by *E.coli* cleaves X-glucuronide thus imparting blue colour to the medium (2,3,4). Formation of cherry red colour after addition of few drops (0.5ml) of Kovac's reagent (R008) to the medium indicates the presence of *E.coli*.

### Type of specimen

Water samples

### Specimen Collection and Handling

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards(5).

After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions

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. 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

#### Colour and Clarity of prepared medium

Cream, clear to slightly opalescent solution, may have slight precipitate.

#### Reaction

Reaction of 1.51% w/v aqueous solution at 25°C. pH : 6.8±0.2

#### pH

6.60-7.00

#### Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Colour of Medium
<i>Shigella flexneri</i> ATCC 12022 (00126*)	50-100	luxuriant	colourless
<i>Staphylococcus aureus</i> subsp <i>aureus</i> ATCC 25923 (00034*)	≥10 <sup>4</sup>	inhibited	
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	≥10 <sup>4</sup>	inhibited	
<i>Citrobacter freundii</i> ATCC 8090	50-100	luxuriant	coloreless
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant	blue
<i>Salmonella</i> Enteritidis ATCC 13076 (00030*)	50-100	good	colourless
<i>Escherichia coli</i> ATCC 35218	50-100	luxuriant	blue
<i>Klebsiella pneumoniae</i> ATCC 13883 (00097*)	50-100	luxuriant	coloureless
<i>Staphylococcus aureus</i> ATCC 6538 (00032*)	≥10 <sup>4</sup>	inhibited	

Key : \*Corresponding WDCM numbers.

### Storage and Shelf Life

Store between 15-25°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date 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. 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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).

### Reference

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5. Lipps WC, Braun-Howland EB, Baxter TE, eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.

6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
7. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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**Disclaimer :**

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