



Technical Data

Rapid HiColiform HiVeg Broth

MV1453

Rapid HiColiform HiVeg™ Broth is used for detection and confirmation of *Escherichia coli* and total coliforms from water samples, using a combination of chromogenic and fluorogenic substrates.

Composition**

Ingredients	Gms / Litre
HiVeg special peptone	5.000
Sodium chloride	5.000
Sorbitol	1.000
Dipotassium hydrogen phosphate	2.700
Potassium dihydrogen phosphate	2.000
Sodium lauryl sulphate	0.100
Chromogenic substrate	0.080
Fluorogenic substrate	0.050
IPTG (Isopropyl-b-D-thiogalactopyranoside)	0.100
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 16.03 grams in 1000 ml distilled water. For double strength broth use 32.06 grams of MV1453 in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

Principle And Interpretation

Rapid HiColiform HiVeg™ Broth is prepared by completely replacing animal based peptones with veg peptones. It is a modification of Rapid HiColiform Broth which is a modification of LMX Broth described by Manafi and Kneifel (2). This medium is useful for the detection and confirmation of *Escherichia coli* and total coliforms in water samples on the basis of chromogenic and fluorogenic substrates (1-6).

The fluorogenic substrate is split by enzyme β -D-glucuronidase specifically found in *Escherichia coli*. The reaction is indicated by the development of a blue fluorescence under UV light. The presence of total coliforms is indicated by blue-green colouration due to the cleavage of the chromogenic substrate. IPTG amplifies enzyme synthesis and increases the activity of β -D-galactosidase. To confirm presence of *E. coli* overlay the medium with Kovacs reagent. The layer turns red within 2 minutes in case of positive reaction.

HiVeg Special Peptone, (rich in tryptophan content), provides essential growth nutrients and is useful for the simultaneous detection of indole production. Sorbitol provides the carbon source. The phosphate salts provide buffering action for rapid growth of coliforms. Sodium lauryl sulphate makes the medium selective by inhibiting accompanying microflora, especially the gram-positive organisms.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured clear solution without any precipitate

Reaction

Reaction of 1.60% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH

6.60-7.00

Cultural Response

Please refer disclaimer Overleaf.

MV1453: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth	Colour of Medium	Fluorescence (under uv)	Indole production
Cultural Response <i>Enterobacter aerogenes</i> ATCC 13048	50-100	luxuriant	blue-green	Negative	Negative, no colour development / cloudy ring
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	blue-green	Positive	Positive, red ring at the interface of the medium

Storage and Shelf Life

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

Reference

- 1.Hahn G. and Wittrock E., (1991), Acta Microbiologica Hungarica 38(3-4):265-271.
- 2.Manafi. M. and Kneifel W., (1989), Zbl. Hygiene and Umweltmedizin ,,189:225-234.
- 3.Manafi M., (1990), Forum Stadte-Hygiene 41:181-184.
- 4.Manafi M., (1991), Ernährung / Nutrition, 15, Nr. 10.
- 5.Manafi M. and Kneifel W., (1991), Acta Microbiologica Hungarica 33(3-4):293-304.
- 6.Manafi M., Kneifel B. and Bascon S., (1991), Microbiol. Rev., 55:335-348.

Revision : 1 / 2011



Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.