Brilliant Green HiVeg™ Agar Base w/ Phosphates

MV971

Intended Use:

Recommended for selective isolation and identification of *Salmonellae* from mixed flora while inhibiting *Escherichia coli, Proteus* and *Pseudomonas* species.

Composition**

Ingredients	g / L
HiVeg™ peptone	10.000
HiVeg™ extract	5.000
Yeast extract	3.000
Lactose	10.000
Saccharose (Sucrose)	10.000
Disodium hydrogen phosphate	1.000
Sodium dihydrogen phosphate	0.600
Phenol red	0.090
Brilliant green	0.0047
Agar	12.000
Final pH (at 25°C)	6.9±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25.84 grams in 500 ml purified/distilled water. Heat with occasional agitation and bring just to the boil to dissolve the medium completely. **DO NOT AUTOCLAVE.** For more selectivity and maximum recovery aseptically add the rehydrated contents of 1 vial of S Selective Supplement (FD068). Mix well before pouring into sterile Petri plates.

Principle And Interpretation

Salmonella species cause many types of infections, from mild self-limiting gastroenteritis to life threatening typhoid fever. The most common form of *Salmonella* disease is self-limiting gastroenteritis with fever lasting less than 2 days and diarrhoea lasting less than 7 days (1).

Brilliant Green Agar Base w/phosphates is formulated as per the recommendation of Rijks Institute Voorde Volksgezondheld (National Institute for Public Health), Utrecht (2,3). It is also recommended by the ISO Committee (4,5,6), because of its improved performance with respect to recovery of smaller numbers of *Salmonella* species, inhibition of *Escherichia coli, Proteus* species and *Pseudomonas* species (7). Brilliant Green HiVeg™ Agar Base w/ Phosphates is prepared by completely replacing animal based peptone with vegetable peptones to avoid BSE/TSE risks associate with animal peptones. The medium contains HiVeg™ peptone, HiVeg™ extract and yeast extract as sources of carbon, nitrogen, vitamins, amino acids and essential nutrients. The two sugars namely lactose and sucrose serve as energy sources. Fermentation of lactose and / or sucrose in the medium results in the formation of acidic pH which is detected by phenol red indicator. Phosphates (M971) buffer the medium. Brilliant green helps to inhibit the contaminating microflora. The medium can further supplemented with sulphacetamide (1g/l) and sodium mandelate (0.25g/l) to inhibit contaminating microorganisms when the sample is suspected to contain large number of competing organisms along with *Salmonella* species (8). Brilliant Green Agar w/Phosphates being highly selective is recommended to be used along with a less inhibitory medium to improve the chances of recovery. Often cultures are enriched in (Selenite Cystine HiVeg™ Broth (MV025) or Tetrathionate HiVeg™ Broth Base w/o Iodine & BG (MV032). These enriched cultures are then isolated simultaneously on Brilliant Green HiVeg™ Agar Base, Modified (MV016/MV971), SS HiVeg™ Agar (MV108), Bismuth Sulphite HiVeg™ Agar (MV027) and MacConkey HiVeg™ Agar (MV081).

Type of specimen

Food and dairy samples; Water samples

Specimen Collection and Handling

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (9,10,11). For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (12). 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 specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Though this medium is selective for *Salmonella* other species of *Enterobacteriaceae* may grow.
2. Further confirmation has to be carried out on presumptive *Salmonella* isolates.

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

Light yellow to pink homogeneous free flowing powder

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium

Greenish brown coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 5.2% w/v aqueous solution at 25°C. pH : 6.9±0.2

pH

6.70-7.10

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited	0%	
^*Proteus hauseri* ATCC 13315	50-100	none-poor	<=10%	red
Pseudomonas aeruginosa ATCC 10145 (00024*)	50-100	none-poor	<=10%	red
Salmonella Enteritidis ATCC 13076 (00030*)	50-100	luxuriant	>=50%	bright red
Salmonella Typhimurium ATCC 14028 (00031*)	50-100	luxuriant	>=50%	bright red

Key : *Corresponding WDCM numbers ^- Formerly known as *Proteus vulgaris.*

Storage and Shelf Life

Store between 10-30°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 (13,14)

Reference

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Revision :05/2024