Bismuth Sulphite HiVeg™ Agar MV027

Bismuth Sulphite HiVeg Agar is recommended for the selective isolation of *Salmonellae* from faeces, urine, sewage and other materials.

Composition ** :

Ingredients	Grams/Litre
HiVeg peptone	10.0
HiVeg extract	5.0
Dextrose	5.0
Disodium phosphate	4.0
Ferrous sulphate	0.3
Bismuth sulphite indicator	8.0
Brilliant green	0.025
Agar	20.0

Final pH (at 25°C) 7.7 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 52.33 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT STERILIZE IN AUTOCLAVE or by fractional sterilization since overheating may destroy the selectivity of the medium. The sensitivity of the medium depends largely upon uniform dispersion of precipitated Bismuth Sulphite in the final gel which should be dispersed before pouring the plates.

Principle and Interpretation :

This medium is prepared by using HiVeg special peptone and HiVeg extract which is free of BSE/TSE risks. Bismuth Sulphite Agar is the modification of Wilson and Blair formula, which is recommended by various Associations (1, 2, 3, 4, 5) for the isolation and preliminary identification of *Salmonella* serotype Typhi and other *Salmonellae* from pathological materials, sewage, water, food and other products. Present medium is the modification of Bismuth Sulphite Agar where all animal based peptones are replaced with HiVeg peptones. Bismuth Sulphite Agar was stable, sensitive and found to be superior to Wilson's original medium. Brilliant green and bismuth sulphite incorporated into the medium inhibit the intestinal gram-negative and gram-positive bacteria. *Salmonella* serotype Typhi, *Salmonella* serotype Enteritidis and *Salmonella* serotype Typhimurium typically grow as black colonies with a surrounding metallic sheen resulting from hydrogen sulfide (H_2S) production and reduction of sulphite to black ferric sulphide.
Salmonella serotype Paratyphi A grow as light green colonies. Also this medium favours use of larger inoculum as compared to other selective media, as it has unique inhibitory action towards gram-positive and coliform organisms. The medium may be inhibitory to some strains of *Salmonella* species and therefore should not be used as the sole selective medium for these organisms. *Shigella* species are mostly inhibited on this medium and also some *Salmonellae* like *Salmonella* serotype Sendai, *Salmonella* serotype Berta, *Salmonella* serotype Gallinarum, *Salmonella* serotype Abortus-equi are inhibited. Colonies on Bismuth Sulphite HiVeg Agar may be contaminated with other viable organisms; therefore, isolated colonies should be subcultured on to a less selective medium (6).
HiVeg special peptone and HiVeg extract provide nitrogen, vitamins and minerals. Dextrose acts as an energy source. Ferrous sulphate is used for detection of hydrogen sulfide (H_2S) production. Disodium phosphate buffers the medium.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV027 HiVeg peptone HiVeg extract	**M027** Peptic digest of animal tissue Beef extract

Recommended for	:	Selective isolation and identification of *Salmonella* species
Reconstitution	:	52.33 g/l
Quantity on preparation (500g)	:	9.55 L
(100g)	:	1.91 L
pH (25°C)	:	7.7 ± 0.2
Supplement	:	None
Sterilization	:	Boiling. (DO NOT AUTOCLAVE)

Storage : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

Quality Control :

Appearance of powder
Greenish yellow coloured, homogeneous, free flowing powder.
Gelling
Firm, comparable with 2.0% Agar gel.
Colour and Clarity
Greenish yellow coloured, opaque gel with flocculent precipitate, forms in petri plates.
Reaction
Reaction of 5.23% w/v aqueous solution is pH 7.7 ± 0.2 at 25°C.
Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 40 - 48 hours.

Organisms (ATCC)	Inoculum	Growth (CFU)	Recovery	Colour of Colony
Enterobacter aerogenese (13048)	10^2 -10^3	none-poor	<10%	brown-green*
Enterococcus faecalis (29212)	10^2 -10^3	inhibited	0%	-
Escherichia coli (25922)	10^2 -10^3	poor-fair	<20%	brown-green*
Salmonella serotype Enteritidis (13076)	10^2 -10^3	luxuriant	>50%	black with metallic sheen
Salmonella serotype Typhi (19430)	10^2 -10^3	luxuriant	>50%	black with metallic sheen
Salmonella serotype Typhimurium (14028)	10^2 -10^3	luxuriant	>50%	black or greenish-grey#
Shigella flexneri (12022)	10^2 -10^3	none-poor	<10%	brown

Key : * = Depends on inoculum density.
= may have sheen

Continued ...

◉ Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.

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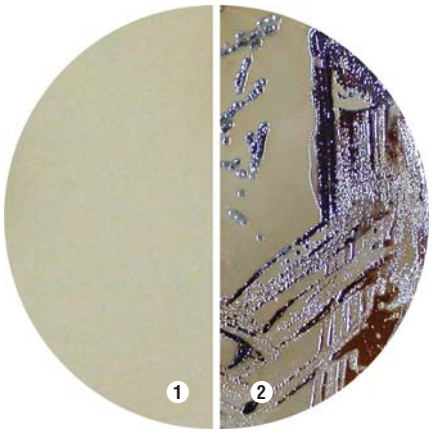

MV027 Bismuth Sulphite HiVeg Agar
1. Control
2. *Salmonella* serotype Typhimurium

References :

1. Washington J. A., 1981, Laboratory Procedures in Clinical Microbiology, Springer - verlag, New York.
2. Eaton A.D., Clesceri L.S. and Greenberg A.E., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st ed, APHA, Washington, DC.
3. Bacteriological Analytical Manual, 1980, U.S. Food and Drug Administration (FDA), Washington, D.C.
4. Murray PR, Baron, Pfaller and Yolken 2003, In Manual of Clinical Microbiology 8th ed., (Eds.), ASM, Washington, DC.
5. Vanderzant C. and Splittstoesser D. (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd ed., APHA, Washington, D.C.
6. MacFaddin J.F., 2000(Ed). Biochemical Tests for identification of Medical Bacteria, 3rd Edition, Lippincott, Williams & Wilkins, Newyork.