

TMV 039 – BISMUTH SULPHITE AGAR (VEG.)

INTENDED USE

For selective isolation of *Salmonellae* from faeces, urine, sewage and other materials.

PRODUCT SUMMARY AND EXPLANATION

This medium is prepared by using Veg special peptone and Veg 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 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 Veg 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 (H₂S) 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 Veg Agar may be contaminated with other viable organisms; therefore, isolated colonies should be subcultured on to a less selective medium.

COMPOSITION

Ingredients	Gms / Ltr
Veg. Peptone	10.000
Veg. extract	5.000
Dextrose	5.000
Disodium phosphate	4.000
Ferrous sulphate	0.300
Bismuth sulphite indicator	8.000
Brilliant green	0.025
Agar	20.000

PRINCIPLE

Veg special peptone and Veg extract provide nitrogen, vitamins and minerals. Dextrose acts as an energy source. Ferrous sulphate is used for detection of hydrogen sulfide (H₂S) production. Disodium phosphate buffers the medium.

INSTRUCTION FOR USE

- Dissolve 52.33 grams in 1000 ml purified/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 into sterile Petri plates.



QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Greenish yellow coloured, homogeneous, free flowing powder.
Appearance of prepared medium	: Greenish yellow coloured, opaque gel with flocculent precipitate, forms in petri plates.
pH (at 25°C)	: 7.7±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
<i>Enterobacter aerogenese</i>	13048	50-100	None-poor	0-10%	Brown-green (depends on the inoculum density)	35-37°C	40-48 Hours
<i>Enterococcus faecalis</i>	29212	50-100	Inhibited	0%	-	35-37°C	40-48 Hours
<i>Escherichia coli</i>	25922	50-100	Poor-fair	10-30%	Brown-green (depends on the inoculum density)	35-37°C	40-48 Hours
<i>Salmonella Enteritidis</i>	13076	50-100	Luxuriant	>=70%	Black with metallic sheen	35-37°C	40-48 Hours
<i>Salmonella Typhi</i>	6539	50-100	Luxuriant	>=70%	Black with metallic sheen	35-37°C	40-48 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Luxuriant	>=70%	Black with metallic sheen	35-37°C	40-48 Hours
<i>Shigella flexneri</i>	12022	50-100	None-poor	0-10%	Brown	35-37°C	40-48 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.













DISPOSAL



After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

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 Tenenbaum 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.

 Good Manufacturing Practices Certified	 For In Vitro Diagnostic Use	 Quantity	 Lot / Batch Number	 Catalogue Number	 Manufacturer
 Temperature Unit	 Authorized Representative <small>MedNet GmbH Barkstrasse 10, 48163 Münster, Germany</small>	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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