

Bismuth Sulfite Agar (MFDS)



Medium used for the isolation and identification of *Salmonella* spp., particularly *Salmonella typhimurium* from food and clinical specimens.

• CONTENTS (Liter)

Peptone	10.0 g
Beef Extract	5.0 g
Dextrose	5.0 g
Disodium Phosphate	4.0 g
Ferrous Sulfate	12.0 g
Bismuth Sulfite Indicator	8.0 g
Brilliant Green	0.025 g
Agar	20.0 g
Final pH = 7.2 ± 0.2 at 25°C	

• PROCEDURE

Suspend 64.03 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. DO NOT AUTOCLAVE. Cool to 45 - 50°C in water bath. Mix well. Pour into petri dishes. Evenly disperse the precipitate when dividing. Prepared medium should be used within 4 days.

• INTERPRETATION

Bismuth Sulfite Agar (MFDS) is a medium used for the isolation and identification of *Salmonella* spp., particularly *Salmonella typhimurium* from food and clinical specimens. Peptone and beef extract provide sources of nitrogen, carbon, and vitamins required for the growth of organisms. Dextrose is the carbohydrate. Disodium phosphate is the buffering agent. Ferrous sulfate is used for the determination of H₂S production. Bismuth sulfite indicator and brilliant green are the selective agents for the inhibition of Gram-positive bacteria and coliforms. Agar is the solidifying agent.

• TECHNIC

Inoculate the specimen using a sterile loop to the medium. Incubate at 36 ± 1°C for 20 - 24 hours. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium

Appearance: free-flowing, homogeneous

Color: light green

Prepared medium

Appearance: opaque with slight precipitates

Color: pale green

Incubation conditions: 36 ± 1°C / 20 - 24 hours

Microorganism	ATCC	Inoculum CFU	Growth	Characteristics
<i>Salmonella enteritidis</i>	NCCP 12236	10 ² -10 ³	good	black colonies with sheen
<i>Salmonella typhimurium</i>	14028	10 ² -10 ³	good	black colonies with sheen
<i>Escherichia coli</i>	25922	≥10 ³	partially inhibited	green to brown colonies
<i>Enterococcus faecalis</i>	29212	≥10 ³	inhibited	-

• STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label. Store prepared medium at 2 - 8°C. Prepared medium should be used within 4 days.

• REFERENCES

1. American Public Health Association: Compendium of methos for Microbiological Examination of Foods. 3rd ed., 1992.
2. McCoy, J.H.: The isolation of Salmonellae. J.Appl.Bact., 25; 213-224 (1962).
3. Unites States Pharmacopoeia XXIII, Chapter "Microbial Limit Tests", 1995.
4. Wilson, W.J., a Blair, E.M. McV.: Further experience of the bismuth sulfite media in the isolation of Bacillus typhosus and Bacillus paratyphosus B from faeces, sewage and water. J.Hyg. 31; 138-161 (1931).
5. Refer to the MFDS.

• PACKAGE

Cat. No : MB-B1301K Bismuth Sulfite Agar (MFDS)	500 G
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