

TSB (Tryptic Soy Broth) Modified (MFDS)



Medium used for the isolation and cultivation of Enterohemorrhagic *Escherichia coli* O157:H7 in foods.

• CONTENTS (Liter)

Peptone from Casein	17.0 g
Peptone from Soymeal	3.0 g
Sodium Chloride	1.5 g
Bile Salts No.3	2.5 g
D(+)-Glucose	2.5 g
Dipotassium Phosphate	4.0 g
Final pH = 7.3 ± 0.2 at 25°C	

• PROCEDURE

Suspend 30.5 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45 - 50°C in water bath. Aseptically add 4 mL of Novobiocin supplement (MB-N1821). Aseptically add more novobiocin supplement if you want more selective. Mix well. Pour into tubes.

Novobiocin supplement

1 vial contents	
Novobiocin	0.01 g

• INTERPRETATION

TSB (Tryptic Soy Broth) Modified (MFDS) is a medium used for the isolation and cultivation of Enterohemorrhagic *Escherichia coli* O157:H7 in foods. Peptone from casein, peptone from soymeal provide nitrogen, carbon, vitamins and minerals. Sodium chloride maintains the osmotic balance. Bile salts No.3 and novobiocin supplement inhibit the growth of Gram-positive bacteria. D(+)-Glucose is the carbohydrate. Dipotassium phosphate is the buffering agent.

• TECHNIC

Inoculate the specimen using a sterile needle to the medium. Incubate at 35 ± 2°C for 18 - 24 hours. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium

Appearance: free-flowing, homogeneous

Color: light beige

Prepared medium

Appearance: clear

Color: light amber

Incubation conditions: $35 \pm 2^{\circ}\text{C}$ / 18 - 24 hours

Microorganism	ATCC	Inoculum CFU	Growth
<i>Escherichia coli</i> O157:H7	NCCP 15739	50-100	good
<i>Escherichia coli</i>	25922	50-100	good
<i>Enterococcus faecalis</i>	29212	$\geq 10^3$	partially inhibited
<i>Staphylococcus aureus</i>	25923	$\geq 10^3$	partially 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.

• REFERENCES

1. U.S. FDA. Center for Food Safety & Applied Nutrition. 2001. Food pathogenic microorganisms and natural toxins handbook. *Escherichia coli* O157:H7. College Park, MD.
2. Hill, W.E., A. R. Datta, P. Feng, K. A. Lampel, and W. L. Payne. 1998. FDA Bacteriological analytical manual, 8th ed. Identification of Foodborne Bacterial Pathogens by Gene Probes. AOAC International, Gaithersburg, MD
3. DIN Deutsches Institut für Normung e.V., Nachweis von *Escherichia coli* 0157 in Lebensmitteln, DIN 10167.
4. FDA Bacteriological Analytical Manual, 8th Edition/1995, Chapter 4. *Escherichia coli* and the Coliform Bacteria, page 4.20: Isolation Methods for Enterohemorrhagic *E. coli* (EHEC).
5. S.D. Weagant, J.L. Bryant, K.G. Jinneman, An improved rapid technique for isolation of *Escherichia coli* O157:H7 from foods, *J. Food Prot.*, 58; 7-12 (1995)
6. Refer to the MFDS.

• PACKAGE

Cat. No : MB-T0789K TSB (Tryptic Soy Broth) Modified (MFDS)	500 G
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