TOS-MUP Agar / TOS-MUP Agar (upgrade)

Medium used for the isolation and cultivation of Bifidobacterium spp.
*Equally use with MFDS (MB-T0892K).

• CONTENTS (Liter)

Tryptone	10.0 g
Yeast Extract	1.0 g
Monopotassium Phosphate	3.0 g
Dipotassium Phosphate	4.8 g
Ammonium Sulfate	3.0 g
Magnesium Sulfate Heptahydrate	0.2 g
L-Cysteine-HCl	0.5 g
Sodium Propionate	15.0 g
TOS	10.0 g
Agar	15.0 g

Final pH = 6.7 ± 0.2 at 25°C

• PROCEDURE

Suspend 62.5 G of powder in 990 ml of distilled or deionized water. If necessary, adjust the pH to 6.3 ± 0.2. Heat to boiling until completely dissolved. Sterilize by autoclave at 115°C for 15 minutes. Cool to 45 - 50°C in water bath. Aseptically add 2 vials of MUP supplement (MB-M3006) or add more supplement as you need. Mix well. Pour into petri dishes.

MUP supplement
1 vial contents (each vial is sufficient for 500mL of medium)

Mupirocin	0.025 g

• INTERPRETATION

TOS-MUP Agar / TOS-MUP Agar (upgrade) are the medium used for the isolation and cultivation of Bifidobacterium spp. Tryptone and yeast extract provide essential sources of nitrogen and other nutrients for growth. Monopotassium phosphate and dipotassium phosphate are buffering agents. Ammonium sulfate and magnesium sulfate provide essential ions for growth. L-cysteine-HCl acts as an reducing agent to give the anaerobic condition required for Bifidobacterium spp. Sodium propionate and TOS are necessary factors for the growth of Bifidobacterium spp. but lactic acid microorganisms cannot utilize. Agar is the solidifying agent. Mupirocin inhibits the growth of most lactic acid bacteria.

• TECHNIC

Inoculate the specimen using a sterile loop to the medium. Incubate at 35 - 37°C for 48 - 72 ± 3 hours under anaerobic condition. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium
Appearance: free-flowing, homogeneous
Color: light beige
Prepared medium
Appearance: slightly opalescent
Color: light amber
Incubation conditions: 35 - 37°C / 48 - 72 ± 3 hours under anaerobic condition

Microorganism	ATCC	Inoculum CFU	Growth
Bifidobacterium longum	15707	50-100	good
Bifidobacterium breve	15701	50-100	good
Bifidobacterium lactis	5854 (KCTC)	50-100	good
Lactobacillus bulgaricus	11842	50-100	inhibited
Lactobacillus fermentum	9338	50-100	inhibited
Lactobacillus plantarum	8014	50-100	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. ISO 29981:2010 (IDF 220: 2010) Milk products -- Enumeration of presumptive bifidobacteria -- Colony count technique at 37 degrees C.
2. Rada V, Koc J. The use of mupirocin for selective enumeration of bifidobacteria in fermented milk products. Milchwissenschaft. 55: 65-67 (2000).
3. Thitaram, S, Siragusa, Hinton, 2005, Letters in Applied Microbiology, vol 41,355-360, Bifidobacterium selective isolation and enumeration from chiken ceca by an oligosaccharide- antibiotic selective agar medium.
4. Refer to the MFDS.

• PACKAGE

Cat. No : MB-T0892 TOS-MUP Agar	500 G
Cat. No : MB-T0893 TOS-MUP Agar (upgrade)	500 G