



Bifidobacteria Selective Count Agar Base (BSC Propionate Agar Base)

M1734

Bifidobacteria Selective Count Agar Base is recommended for enumeration of presumptive Bifidobacteria by colony count technique from milk products.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	1.000
Potassium dihydrogen phosphate	3.000
Dipotassium hydrogen phosphate	4.800
Ammonium sulphate	3.000
Magnesium sulphate heptahydrate	0.200
L-Cysteine hydrochloride, monohydrate	0.500
Sodium propionate	15.000
Galactooligosaccharide	10.000
Agar	15.000
Final pH (at 25°C)	6.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 62.02 grams of dehydrated media in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at (115±3°C) for 15 minutes. For selective isolation of Bifidobacteria add contents of 2 vials of Bifido Selective Supplement A (FD250). Mix carefully to avoid the formation of air bubbles and dispense as desired.

Note: This medium being sensitive to heat, excessive heat treatment may therefore indicatively influence the properties of the medium. For more selectivity Glacial acetic acid (Bifido Selective Supplement B FD251) may also be added. After addition of Bifido Selective Supplement B (FD251) pH of the medium will shift to the acidic side, which does not affect the performance of the medium.

Principle And Interpretation

Bifidobacteria Selective Count Agar Base is specifically prepared for selective enumeration of Bifidobacteria in fermented milks and fermented milk drinks living together with lactic acid bacteria.

Bifidobacteria Selective Count Agar Base contains highly purified Galactooligosaccharides, which is one of the most excellent Bifidobacteria growth substances. Cysteine hydrochloride helps in creating reduced conditions required for the growth of Bifidobacteria. Casein enzymic hydrolysate acts as rich nitrogen source.

The antibiotic mupirocin inhibits the growth of most lactic acid bacteria commonly used in fermented and non-fermented dairy products. Freshly prepared culture media not exposed to direct sunlight is recommended (1).

Test Procedure: Before opening the sample container, clean the external surface surrounding of the area from which the test sample is to be taken, in order to remove any material that might contaminate the sample. Weigh 90 gm of diluent in each of the 250 ml pre-sterilized bottles. Close the bottles. Weigh 10 gm of the test sample directly into the bottle with the diluent at 45°C. To dissolve the test sample, swirl slowly to wet the powder. The time between ending the preparation of the primary dilution until addition of culture medium shall not exceed 15 min. Immediately after solidification of the medium, invert all Petri dishes in the anaerobic culture jar or anaerobic incubator at 37°C for 72 hrs ± 3 hrs. Count the colonies after incubation. Bifidobacterial colonies are recognized by their whitish colour and acetic acid odour. Some of the bifidobacterial strains may appear in different colony size as well as colony appearance on the same plate (1).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of Prepared medium

Yellow coloured opalescent gel forms in Petri plates

Reaction

Reaction of 6.20% w/v aqueous solution at 25°C. pH : 6.3±0.2

pH

6.10-6.50

Cultural Response

Cultural characteristics observed with added Bifido Selective Supplement A under anaerobic conditions, after an incubation at 35-37°C for 48-72 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Growth with FD250
Cultural Response			
<i>Bifidobacterium breve</i> ATCC 15100	50-100	luxuriant	Good-luxuriant
<i>Lactococcus lactis</i> ATCC 19435	50-100	good-luxuriant	inhibited
<i>Lactococcus cremoris</i> ATCC 19257	50-100	good-luxuriant	inhibited
<i>Lactobacillus acidophilus</i> ATCC 4356	50-100	good	inhibited

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

- 1.ISO/DIS 29981 IDF 220, Milk products- Enumeration of presumptive bifidobacteria- colony count technique at 37°C, 2008.
- 2.Thitaram, S, Siragusa, Hinton, 2005, Letters in Applied Microbiology, vol 41, 355-360, Bifidobacterium selective isolation and enumeration from chicken ceca by an oligosaccharide- antibiotic selective agar medium.

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