Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Lactic Bacteria Differential MiVeg Broth

Product Code : VM2086

Application:- Lactic Bacteria Differential MiVeg Broth is used for differentiation of homofermentative and heterofermentative lactic acid bacteria.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	10.00
Papaic digest of soyabean meal	1.50
MiVeg acid hydrolysate	3.00
Yeast extract	1.00
Fructose	2.50
Monopotassium phosphate	2.50
Bromo cresol green	0.055
Final pH (at 25°C)	7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Lactic Bacteria Differential MiVeg Broth is prepared by adding MiVeg hydrolysate and MiVeg acid hydrolysate instead of Casein enzymic hydrolysate and Casein acid hydrolysate respectively thereby making the medium BSE/TSE risks free. This medium is the modification of Lactic Bacteria Differential Broth which was formulated as per McDonald et al (1) used for differentiation of homofermentative *Lactobacilli* and heterofermentative *Streptococci*. Both *Lactobacilli* and *Streptococci* are used as starter cultures in food and dairy industry. *Lactobacilli* grows best at low redox potential condition which can be achieved by first growing *Streptococci,* which in turn produces certain metabolites and lowers the redox potential thereby enables *Lactobacilli* to grow. *Lactobacilli* synthesize certain products that stimulates the growth of *Streptococci*.
MiVeg acid hydrolysates, Papaic digest of soyabean meal and yeast extract provides essential nutrients required for the growth of lactic acid bacteria. Fructose is the fermentable carbohydrate. Bromo cresol green act as a pH indicator in the medium.
Heterofermentative lactic acid bacteria produce CO_2, lactic acid, acetic acid, ethanol and mannitol whereas homofermentative produce only lactic acid from fructose and is indicated by the yellow colour formation. Heterofermentative lactic acid bacteria

Methodology

Suspend 20.5 grams of powder media in 1000 ml distilled water then add 1 gm of polysorbate 80. Mix well and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Bluish grey coloured, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Blue coloured, clear solution in tubes.

Reaction

Reaction of 2.05% w/v aqueous solution is pH 7.0 ± 0.2 at 25°C.

pH Range

6.8-7.2

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth
Lactobacillus casei (9595)	10^2-10^3	luxuriant
Lactobacillus plantarum (8014)	10^2-10^3	luxuriant
Streptococcus thermophilus (14485)*	10^2-10^3	luxuriant
Streptococcus cremoris (19257)**	10^2-10^3	luxuriant

Key : * = incubated at 45°C
** = incubated at 30°C

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 day.

Further Reading

1. McDonald L.C., McFecters R.F., Daeschel M.A. and Fleming H.P., 1987, Appl. Environ. Microbiol., 53:1382.

Disclaimer :

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