



Product Data Sheet

M17 BROTH

Product No. GB-DCM-00365-1A

INTENDED USE

M17 broth is based on the formulation described by Terzaghi and Sandine for the cultivation and enumeration of lactic Streptococci and their bacteriophages. M17 Broth is a modification of M16 Medium. Lactic Streptococci are nutritionally fastidious and require complex media for optimal growth. Disodium glycerophosphate maintains the pH above 5.7. The maintenance of pH is very important as the lower pH results in injury and reduced recovery of lactic Streptococci. Glycerophosphate does not form precipitate with calcium which is needed for the plaque assay of lactic bacteriophages.

PRODUCT SUMMARY

Staphylococcus aureus sometimes referred to as “Staph” is a common bacterium found on the skin of healthy people. It is responsible for infections ranging from superficial to systemic. Staphylococcus aureus resistant to the antibiotic methicillin are referred to as Methicillin Resistant Staphylococcus aureus (MRSA). Initially staphylococcal infections were treated using penicillin. But over the years, resistance to penicillin developed, so methicillin was the next drug of choice. Unfortunately, certain strains (MRSA) have now developed resistance to methicillin also. Patients with breaks in their skin due to wounds, indwelling catheters or burns are those with certain risk of developing MRSA infection. Symptoms in serious cases may include fever, lethargy and headache. MRSA can cause UTI, pneumonia, toxic shock syndrome and even death. Spread of MRSA infections can be controlled to a great extent by maintaining personal hygiene after interaction with an MRSA infected person. Methicillin-resistant strains of Staphylococcus aureus (MRSA) were recognized in 1980s as a major clinical and epidemiological problem. MRSA strains were heterogeneous in their expression of resistance to β -lactam agents, in that large differences in the degree of resistance were seen among the individual cells in a population. The basis of methicillin resistance is the production of an additional penicillin-binding protein mediated by the *mec A* gene, an additional gene found in methicillin-resistant Staphylococci. MeReSa Agar Base was developed to detect the presence of the *mec A* gene in *S. aureus* i.e. methicillin-resistant *S. aureus*.

PRINCIPLE

Peptone, soya peptone, tryptone, yeast extract and Beef Extract provide carbonaceous, nitrogenous compounds, long chain amino acids, vitamin B complex and other essential growth factors. Lactose is the fermentable carbohydrate and ascorbic acid is stimulatory for the growth of lactic Streptococci. Magnesium sulphate provides essential ions to the organisms. Disodium- β -glycerophosphate maintains the pH above 5. The maintenance of pH is very important as lower pH results in injury and reduced recovery of lactic Streptococci. Shankar and Davies reported isolation and enumeration of Streptococcus thermophilus from yoghurt. Disodium glycerophosphate suppresses Lactobacillus bulgaricus.



Product Specifications

Ingredients	Gms / Ltr
Peptone	2.500
Tryptone	2.500
Soya peptone	5.000
Yeast extract	2.500
Beef Extract	5.000
Lactose	5.000
Ascorbic acid	0.500
Disodium - β - glycerophosphate	19.000
Magnesium sulphate	0.250

INSTRUCTION FOR USE

- Dissolve 42.25 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes or flasks or as desired. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.

Appearance of prepared medium : Light yellow coloured clear to slightly opalescent solution in tubes.

pH (at 25°C) : 7.1 ± 0.2

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Enterococcus faecalis	29212	50-100	Good-luxuriant	>=50 %	35-37°C	24-48 Hours
Lactobacillus delbrueckii subsp. bulgaricus	11842	50-100	none-poor	>=50 %	35-37°C	24-48 Hours
Lactobacillus leichmannii	4797	50-100	Good-luxuriant	>=50 %	35-37°C	24-48 Hours
Lactobacillus plantarum	8014	50-100	Good-luxuriant	>=50 %	35-37°C	24-48 Hours
Streptococcus thermophilus	14485	50-100	Good-luxuriant	>=50 %	35-37°C	24-48 Hours

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

This product is for research use only.