# TMV 182 - M17 AGAR BASE (VEG.)

## INTENDED USE
For cultivation of lactic Streptococci and plaque assay of lactic bacteriophages.

## PRODUCT SUMMARY AND EXPLANATION
M17 Veg Agar Base is specially developed by using Veg peptone and Veg extract to avoid BSE/TSE risks associated with animal origin peptone. M17 Veg Agar Base is the modification of M17 Agar Base which is based on the formulation described by Terzaghi and Sandine for the cultivation and enumeration of lactic Streptococci and their bacteriophages. It is possible to study plaque morphology and lysogeny using this medium. Lactic Streptococci are nutritionally fastidious and require complex media for optimal growth. Disodium glycerophosphate maintains the pH above 5.7 as acid is produced by lactose fermentation. The maintenance of pH is very important as 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.
M17 Veg Agar is suitable for cultivation and maintenance of starter cultures for cheese and yoghurt manufacturing. This medium helps in detecting *Streptococcus* mutants which is a lactose non-fermenter.

## COMPOSITION

| Ingredients | Gms / Ltr |
|---|---|
| **Veg peptone** | 5.0 |
| **Papaic digest of soyabean meal** | 5.0 |
| **Yeast extract** | 2.5 |
| **Veg extract** | 5.0 |
| **Ascorbic acid** | 0.5 |
| **Magnesium sulphate** | 0.25 |
| **Lactose** | 5.0 |
| **Agar** | 10.0 |

## PRINCIPLE
Veg peptone, Papaic digest of soyabean meal, yeast extract, veg extract, provide carbonaceous, nitrogenous compounds, 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. Shankar and Davies reported isolation and enumeration of *Streptococcus thermophilus* from yoghurt. Disodium glycerophosphate suppresses *Lactobacillus bulgaricus*.

## INSTRUCTION FOR USE
- Dissolve 33.25 grams in 1000 ml purified/distilled water.
- Add 19 grams of Disodium ß-Glycerophosphate.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Mix well and dispense as desired.

## QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : Cream to yellow homogeneous free flowing powder
**Appearance of prepared medium** : Light yellow coloured clear to slightly opalescent gel forms in Petri plates
**pH (at 25°C)** : 7.1±0.2

## INTERPRETATION

Cultural characteristics observed after an incubation with added Disodium ß- Glycerophosphate.

| 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 bulgaricus subsp. bulgaricus* | *11842* | 50-100 | none-poor | 0-10% | 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 |

## PACKAGING:

In pack size of 500 gm bottles.

## 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.

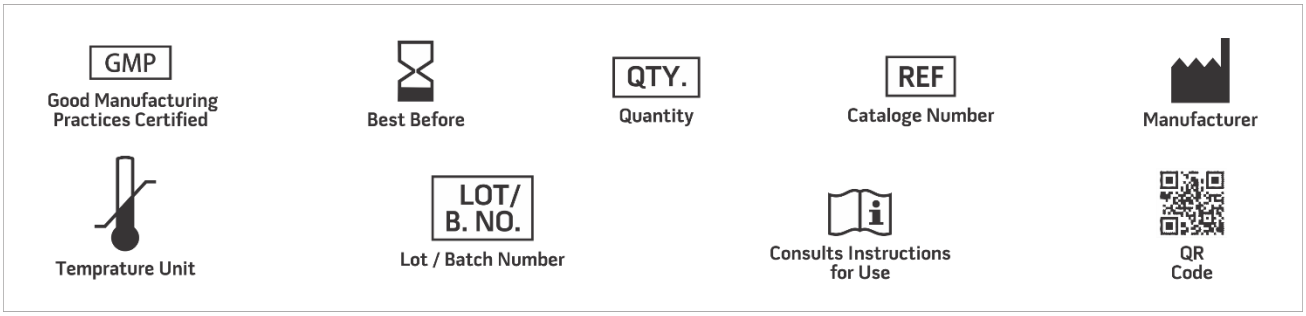
## DISPOSAL

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

## REFERENCES

1. Terzaghi B.E. and Sandine W.E., 1975, Appl. Microbiol., 29:807.
2. Anderson A.W. and Elliker P.R., 1953, J. Dairy Sci., 36:161.

3. Reiter B. and Oran J.D., 1962, J. Dairy Res., 29:63.
4. Shankar P.A. and Davies F.L., 1977, Soc. Dairy Technol., 30:28.




**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

**Revision: 08 Nov., 2019**