

## TMV 751 – L. S. DIFFERENTIAL MEDIUM BASE (LACTOBACILLUS STREPTOCOCCUS DIFFERENTIAL MEDIUM BASE) (VEG.)

### INTENDED USE

For differentiation of Lactobacilli and Streptococci on the basis of colony morphology, TTC reduction and casein reaction.

### PRODUCT SUMMARY AND EXPLANATION

L. S. (Lactobacillus Streptococcus) Differential Medium Base (Veg) has Veg hydrolysate and Veg extract, of vegetable source in place of Casein enzymic hydrolysate and Beef extract respectively. This medium is therefore BSE/TSE risk free associated with animal based peptones. L.S. (Lactobacillus Streptococcus) Differential Medium Base (Veg) is the modification of L.S. Differential Medium Base developed by Eloy and Lacrosse for isolation and differentiation of Lactobacilli and Streptococci in yoghurt. Yoghurt is manufactured by controlled fermentation of milk held at 43°C using a starter culture of *Streptococcus thermophilus* and *Lactobacillus bulgaricus*. These two organisms have a complementary relationship. The Streptococci grow first and reduce redox potential and enables Lactobacilli to multiply which in turn produce growth stimulatory products for Streptococci and characteristic flavors associated with mature yoghurt.

### COMPOSITION

Ingredients	Gms / Ltr
Veg hydrolysate	10.000
Papaic digest of soyabean meal	5.000
Veg extract	5.000
Yeast extract	5.000
Dextrose	20.000
Sodium chloride	5.000
L-Cysteine hydrochloride	0.300
Agar	15.000

### PRINCIPLE

This medium consists of Veg hydrolysate, L-cysteine hydrochloride, papaic digest of soyabean meal, Veg extract and yeast extract which act as sources of carbon, nitrogen, vitamins and minerals. Sodium chloride helps in maintaining osmotic balance. Test samples of yoghurt or starter cultures are added to melted and cooled L.S. Differential Medium Base. These are mixed thoroughly and plates are poured. The plates are incubated at 43°C for 48 hours.

### INSTRUCTION FOR USE

- Dissolve 65.3 grams in 890 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 50°C and aseptically add the following sterile solutions previously kept warm at 50°C just prior to use;
  - (1) 100 ml of 10% w/v aqueous solution of antibiotic-free skim milk powder sterilized at 15 psi pressure (121°C) for 5 minutes.
  - (2) 10 ml of 2, 3, 5-Triphenyl-Tetrazolium Chloride (T.T.C.) Solution.
- Mix well and pour into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS

<b>Appearance of Powder</b>	: Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.
<b>Appearance of prepared medium</b>	: Light yellow coloured opalescent gel forms in Petri plates.
<b>pH (at 25°C)</b>	: 6.1 ± 0.2

### INTERPRETATION

Cultural characteristics observed with added antibiotic free skim milk powder and 1% T.T.C solution, after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Colony characteristics	Incubation Temperature	Incubation Period
<i>Lactobacillus bulgaricus</i>	41842	50-100	Red, rhizoidal, surrounded by opaque zone	43-45 °C	48 Hours
<i>Streptococcus thermophilus</i>	14485	50-100	Red, smooth, surrounded by clear zone	43-45 °C	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. Eloy C. and Lacrosse R., 1976, Bull. Rech. Agron Gembloux, 11(1-2):83.
2. Davis J.G., Ashton T.F. and McCaskill M., 1971, Dairy Ind., 36:569.
3. Pette J.W. and Lolkema H., 1950, Neth. Milk Dairy J., 4:261.
4. Stocklin P., 1969, Cultured Dairy Prod. J., 4 (3), 6.
5. Sellars R.L. and Babel F. J., 1970, "Cultures for the Manufacture of Dairy Products", Chr. Hansens's Laboratory, Inc., Milwaukee, Wis.

 Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

**\*For Lab Use Only**  
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