

## Orange Serum Medium (without Membrane Filter)

MF014

For detection and enumeration of acid tolerant microorganisms.

### Composition\*\*

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	3.000
Dextrose	4.000
Dipotassium phosphate	2.500
Orange serum (Solids from 200 ml)	9.000

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

The test sample should be filtered through a sterile membrane filter having pore size of 0.22 $\mu$  / 0.45 $\mu$ . Rehydrate the nutrient pad with 2.0-2.5 ml sterile distilled / purified water. After filtration, remove the membrane filter aseptically using sterile forceps. Place the membrane filter on rehydrated nutrient pad. Incubate the inoculated nutrient. Interpret the results qualitatively by observing the presence or absence of growth and quantitatively by counting the number of colonies on the surface of the membrane filter and calculating CFU/ml.

### Principle And Interpretation

Field of Application: Beverages and food. DriFilter Membrane Nutrient Pad Medium is ready to use sterile culture media in the form of a 50 mm biological inert absorbent pads impregnated with Orange Serum medium, then dried and sterilized in 55 mm petri plate. They eliminate the need of laborious media preparation and autoclaving procedures. The nutrient pads are to be just rewetted with sterile distilled water and are ready to use. Use of nutrient pads allows larger sample volumes to be tested at a time. Interpretation of results is directly by counting the CFUs and also quantifies the microbial load present in the sample. Orange Serum Medium is recommended by APHA (1) for cultivation of Lactobacilli and other aciduric organisms. Orange Serum Medium was originally developed by Murdock et al (2) and Hays (3) for examining citrus concentrates. Hays and Reister further used this medium for studying the spoilage of orange juice (4). Orange Serum Broth is used to initiate growth of saprophytic, pathogenic fungi in small samples (5). Casein enzymic hydrolysate provides essential nitrogenous nutrients while dextrose serves as the fermentable carbohydrate and energy source. Yeast extract supplies B- complex vitamins, which stimulate growth. Orange serum provides an optimal environment for the recovery of acid tolerant microorganisms from citrus fruit products.

### Quality Control

#### Appearance

Dry filter membrane pad of 50mm diameter

#### Colour

Pale coloured nutrient pad

#### Sterility test

Passes release criteria

#### Cultural response

Cultural characteristics was observed after an incubation at 35 - 37°C for 40 - 48 hours.

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Organism	Growth	Colour of colony
<i>Lactobacillus acidophilus</i> ATCC 4356	Luxuriant	Colourless
<i>Lactobacillus fermentum</i> ATCC 9338	Luxuriant	Colourless
<i>Leuconostoc mesenteroides</i> ATCC 12291	Luxuriant	Colourless
<i>Saccharomyces cerevisiae</i> ATCC 9763	Luxuriant	Colourless

### Storage and Shelf Life

Store between 10-30°C. Use before expiry date on the label.

### Reference

1.Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C. 2.Murdock P. I., Folinazzo J. F., and Troy V. S., 1951, Food Technol., 6:181. 3.Hays G. L., 1951, Proc. Florida State Hortic. Soc., 54:135. 4.Hays G. L. and Reister D. W., 1952, Food Technol., 6:186. 5.MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1 Williams and Wilkins, Baltimore



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