Orange Serum Agar

Intended Use
Orange Serum Agar is used for cultivation and enumeration of microorganisms associated with the spoilage of citrus products, cultivation of Lactobacilli, other Aciduric organisms and pathogenic fungi from food and clinical samples.

Summary
Fruit juices are generally acidic, with pH values ranging from approximately 2.4 for lemon juice, to 4.2 for tomato juice. The low pH of these foods is selective for yeast, moulds and a few groups of aciduric bacteria. The microorganisms of greatest significance in citrus juices are the lactic acid bacteria, primarily species of *Lactobacillus* and *Leuconostoc*, yeast and moulds. Microbial spoilage of these citrus fruit juices is most commonly due to aciduric microbes such as lactic acid bacteria and yeast. The lactic acid bacteria include *Lactobacillus fermentum, L. plantarum*, and *Leuconostoc mesenteroides*.
Orange Serum Agar is recommended by APHA for cultivation of Lactobacilli and other aciduric organisms. Orange Serum Agar was originally developed by Murdock et al., and Hays for examining citrus concentrates. Hays and Reister further used this medium for studying the spoilage of orange juice. Dehydrated agar medium containing orange serum was reported by Stevens. Orange Serum Broth is used to initiate growth of saprophytic, pathogenic fungi in small samples.

Principle
Casein enzymic hydrolysate provides essential nitrogenous, carbonaceous compounds and other essential nutrients. 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.

Formula*

Ingredients	g/L
Casein Enzymic Hydrolysate	10.0
Yeast Extract	3.0
Dextrose	4.0
Dipotassium Phosphate	2.5
Orange Serum (Solids from 200 mL)	9.0
Agar	17.0
Final pH (at 25°C)	5.5 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Food and Clinical samples

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend the 45.50 g of the powder in 1000 mL purified / distilled water and mix thoroughly.
2. Heat to boiling to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle. AVOID OVERHEATING.
4. Mix well and pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Cream to yellow coloured, homogenous, free flowing powder.
Prepared Appearance: Medium to dark amber coloured, slightly opalescent gel forms in petridishes.
Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP/IP and growth is observed after an incubation at 30°C-35°C for ≤ 2 days for bacteria and at 20°C-25°C for ≤ 3 days for fungal.

Organism (ATCC)	**Growth**
Lactobacillus fermentum (9338)	Good
Lactobacillus acidophilis (11975)	Good
Saccharomyces cerevisiae NRRL Y-567 (9763)	Good
Aspergillus brasiliensis WLRI 034(120) (16404)	Good
Candida albicans 3147 (10231)	Good

Note: For good growth - Growth obtained on test media should not differ by a factor greater than 2 from calculated value for a standardized inoculum. Growth for Aspergillus brasiliensis was observed after 72 hours at 20°C-25°C for quantitative test and the same is carried out for qualitative test and confirmed characteristic growth (White mycelial growth with black spores) after 4-5 days.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

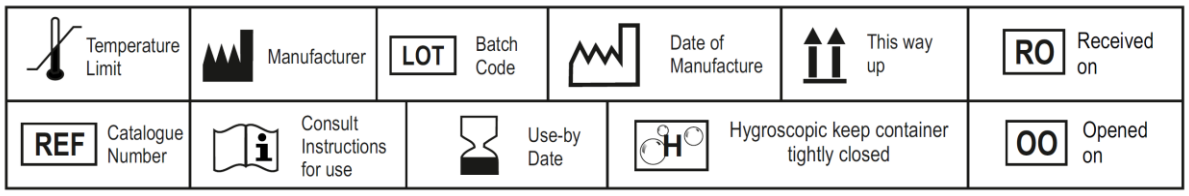
This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

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. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	**Product description**	**Pack Size**
201150010500	Dehydrated Culture Media	500 g



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Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.