



## Orange Serum Agar

Medium for cultivation of microorganisms associated with spoilage of citrus fruit products.

### DESCRIPTION

Orange Serum Agar is a medium used for the isolation, cultivation and enumeration of microorganisms associated with spoilage of citrus fruits and derivatives, such as lactic acid and acetic acid bacteria, yeasts and moulds.

This medium is recommended by the APHA for the examination of fruit beverages.

### TYPICAL FORMULA

	(g/l)
Orange Extract	5.0
Yeast Extract	3.0
Enzymatic Digest of Casein	10.0
Glucose	4.0
Di-Potassium Hydrogen Phosphate	3.0
Agar	17.0

Final pH 5.5 ± 0.2 at 25°C

### METHOD PRINCIPLE

Orange extract decreases the pH of the medium favoring the recover of acid-tolerant microorganisms. Yeast extract is a source of vitamins, particularly of B-group. Enzymatic digest of casein provides amino acids, carbon, nitrogen and minerals for organisms growth. Glucose is the fermentable carbohydrate. Potassium phosphate is the buffering agent. Agar is the solidifying agent.

### PREPARATION

Dehydrated medium Suspend 42.0 g of the powder in 1 liter of distilled or deionized water. Mix well. Heat to boil shaking frequently until completely dissolved. Sterilize in autoclave at 115°C for 15 minutes.

Medium in bottles Melt the content of the bottle in a water bath at 100°C (loosing the cap partially removed) until completely dissolved. Then screw the cap and check the homogeneity of the dissolved medium, if it is the case turning the bottle upside down. Cool at 45-50°C, mix well avoiding foam formation and aseptically distribute into Petri dishes.

### TEST PROCEDURE

Inoculate the medium by pour plating, spread plating or membrane filtration method. Incubate aerobically at 30-35°C and examine daily for up to 5 days.

### INTERPRETING RESULTS

Determine the microbial count and report as CFUs per ml of test sample.

### APPEARANCE

Dehydrated medium: free-flowing, homogeneous, yellowish to beige.

Prepared medium: slightly opalescent, light amber.

### STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed. Store bottles and prepared plates at 10-25°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

### SHELF LIFE

Dehydrated medium: 4 years.

Medium in bottles: 2 years.

Ready-to-use plates: 6 months.

**QUALITY CONTROL**

Plates are inoculated with the microbial strains indicated in the QC table.

Inoculum for productivity: 50-100 CFU

Incubation conditions: aerobically at 30-35°C for up to 5 days.

**QC Table.**

Microorganism		Growth
<i>Bacillus cereus</i>	ATCC® 11778	Good
<i>Lactobacillus fermentum</i>	ATCC® 9338	Good
<i>Saccharomyces cerevisiae</i>	ATCC® 9763	Good
<i>Aspergillus brasiliensis</i>	ATCC® 16404	Good

**WARNING AND PRECAUTIONS**

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is intended for professional use only and must be used by properly trained operators.

**DISPOSAL OF WASTE**









Disposal of waste must be carried out according to national and local regulations in force.

**BIBLIOGRAPHY**

- Vanderzant C. and D.F. Splittstoesser (1992) Compendium of methods for the microbiological examination of foods, 3<sup>rd</sup> ed. American Public Health Association, Washington D.C.
- MacFaddin J.F. (1985). Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, MD.

PRESENTATION		Contents	Ref.
Orange Serum Agar	90 mm ready-to-use plates	20 plates	10089
Orange Serum Agar	60 mm ready-to-use plates	20 plates	163732
Orange Serum Agar	Bottles	25 x 200 ml bottles	452690
Orange Serum Agar	Dehydrated medium	500 g of powder	610078
Orange Serum Agar	Dehydrated medium	100 g of powder	620078
Orange Serum Agar	Dehydrated medium	5 kg of powder	6100785

**TABLE OF SYMBOLS**

<b>LOT</b> Batch code	 Keep away from sunlight	 Manufacturer	 Use by	 Fragile, handle with care
<b>REF</b> Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Caution, consult Instruction For Use	 Do not reuse



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