Orange Serum Agar (i23129)

Used for cultivating aciduric microorganisms, particularly those associated with spoilage of citrus products.

Industry: Juices

Principles & Uses

Citrus fruit juices, with their naturally low pH ranging from around 2.4 for lemon juice to 4.2 for tomato juice, create an environment selective for acid-tolerant microorganisms like yeasts, molds, and certain aciduric bacteria, including *Lactobacillus* and *Leuconostoc* species. The primary spoilers of citrus juices are lactic acid bacteria and yeast. Notably, *Lactobacillus fermentum*, *L. plantarum,* and *Leuconostoc mesenteroides* are involved.

Orange Serum Agar (OSA), originally formulated by Murdock and Hays, is a vital tool for culturing these aciduric organisms. It's recommended by APHA for the examination of fruit beverages. Casein peptone and yeast extract provide crucial nitrogenous and carbonaceous nutrients, including essential amino acids and B-complex vitamins that promote growth. Glucose serves as the fermentable carbohydrate and an energy source.

Composition (gr/L)

Pancreatic Digest of Casein 10, Yeast Extract 3, Glucose 4, Dipotassium Hydrogen Phosphate 3, Orange Extract 5, Agar 17.

Final pH at 25°C 5.5 ± 0.2

Preparation from dehydrated Powder

Suspend 42 g of the powder in one Liter of distilled water. Mix Thoroughly. Autoclave under mild conditions (15 min at 115 °C). **DO NOT OVERHEAT.**

Quality Control

Dehydrated Appearance: Fine, homogeneous, free of extraneous material, may contain dark tan particles

Prepared Appearance: Light to medium, yellow to tan; clear to slightly hazy.

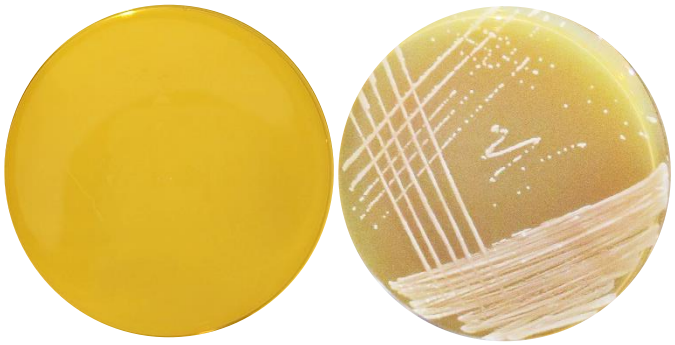
Reaction of 4.2% Solution at 25°C: pH 5.5 ± 0.2

Cultural Response

Cultural response was observed for up to 4 days at 28 °C aerobically.

Organism (ATCC*)	Recovery
Lactobacillus plantarum (14917)	Good
Lactobacillus casei (39392)	Good
Bacillus cereus (11778)	Good
Candida albicans (10231)	Good

*ATCC is a registered trade mark of the American Type Culture Collection.



Prepared culture medium (left). *C. albicans* (right)

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.