

ORANGE SERUM AGAR

CAT Nº: 1307

For the isolation, cultivation and determination of a great number of acid-tolerant pathogenic germs in fruits juices

FORMULA IN g/l

Casein Peptone	10.00	Monopotassium Phosphate	3.00
Orange Extract	5.00	Yeast Extract	3.00
Glucose	4.00	Bacteriological Agar	15.00

Final pH 5.5 ± 0.2 at 25°C

PREPARATION

Suspend 40 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 118°C for 15 minutes. DO NOT OVERHEAT. Cool to 45-50°C, mix well and dispense into plates. The prepared medium should be stored at 8-15°C. The color is amber, slightly opalescent.

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

USES

ORANGE SERUM AGAR is formulated according to Hays, Troy and Beisel. It is recommended for the isolation, cultivation and enumeration of acid-tolerant spoilage microorganisms in fruit juice and fruit juice concentrates, in particular from citrus fruit.

The medium containing Orange extract, is specially indicated for growing the lactic acid micro flora that spoil citric products, such as *Lactobacillus*, *Leuconostoc* and molds.

Casein peptone nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group essential. Glucose is the fermentable carbohydrate providing carbon and energy. Monopotassium phosphate acts as a buffer. Bacteriological agar is the solidifying agent. The low pH of citric juices and products limits the growth of microorganisms to acid tolerant pathogens.

Add 1 ml of sample in a sterile Petri dish, add 20 ml of the cooled medium (50°C) and mix.

For lactobacilli, incubate at 35 ± 2°C for 40–48 hours. For other microorganisms, at 30 ± 2°C and examine daily for 40 – 48 hours. Report as colony forming units per ml of test material.

MICROBIOLOGICAL TEST

The following results were obtained from type cultures in the performance of the medium after incubation at a temperature of 30-35°C during 40-48 hours.

Microorganisms	Growth
<i>Aspergillus brasiliensis</i> ATCC 16404	Good
<i>Lactobacillus fermentum</i> ATCC 9338	Good
<i>Saccharomyces cerevisiae</i> ATCC 9763	Good
<i>Leuconostoc mesenteroides</i> ATCC 23386	Good

BIBLIOGRAPHY

Hays G.L.(1 951), Proc. Florida State Hort. Soc. , 94th Ann. Murdock D.I. and Brokaw C.H.(1 958), Food Tech., 1 2. 573-576. American Public Health Association (1976), Compendium of Methods for the Microbiological Examination of Foods, APHA Inc. Washington DC.

STORAGE

Once opened keep powdered medium closed to avoid hydration.



2°C



25°C