75405 Orange Serum Agar

For the isolation, cultivation and enumeration of acid-tolerant spoilage microorganisms in fruit juice and fruit juice concentrates, in particular from citrus fruit, according to Hays, Troy and Beisel.

Composition:

Ingredients	Grams/Litre
Casein peptone	10.0
Yeast extract	3.0
Orange extract	5.0
D(+)-Glucose	4.0
Dipotassium hydrogenphosphate	3.0
Agar	17.0
Final pH 5.5 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance:	Slightly yellow powder
Gelling:	Firm
Color and Clarity:	Faintly brownish yellow, clear solution, the prepared agar may be slightly turbid after autoclaving due to orange extract.

Directions:
Dissolve 42 g in 1 litre distilled water. Autoclave gently at 115°C for 15 minutes taking care not to overheat. The prepared agar may be turbid after autoclaving due to orange extract.

Principle and Interpretation:
Due to its low pH citrus fruit juices are susceptible to spoilage mainly by molds, yeasts and acidophilic bacteria as *Lactobacillus* and *Leuconostoc* (1). Orange Serum Agar was developed by Murdock et al (2) and Hays (3) to examine citrus concentrates and later for orange juice (4) and sanitary process control(5). Orange Serum Agar is a recommended by APHA for examining fruit beverages.(1)
Casein peptone and yeast extract provide essential nitrogenous and carbonaceous nutrients and vitamin B complex. Glucose is added as carbon and energy source. Orange extract generates an optimal environment for the enrichment of acid tolerant microorganisms from citrus fruit samples. Dipotassium hydrogenphosphate act as buffering substance.

Cultural characteristics observed after 40-48 hours at 35-37°C.

Organisms (ATCC)	Growth
Aspergillus niger (16404)	++
Saccharomyces cerevisiae (9763)	++
Lactobacillus fermentum (9338)	++
Leuconostoc mesenteroides (23386)	++

References:
1. Downes and Ito (Ed.), 2001, Compendium of Methods for Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
2. Murdock, Folinazzo and Troy, 1951, Food Technol., 6:181
3. Hays, 1951, Proc. Florida Sate Horitc. Soc., 54 :135
4. Hays and Reister, 1952, Food Technol., 6:186
5. Murdock and Brokaw, 1958, Food Technol., 12:573
6. Stevens, 1954, Food Technol., 8:88

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.