Tomato Juice Agar, Special

M879

Tomato Juice Agar is used for the cultivation and enumeration of Lactobacilli from saliva and other acidophilic bacteria.

Composition**

Ingredients	Gms / Litre
Tomato juice (400 ml)	20.000
Peptic digest of animal tissue	10.000
Peptonized milk	10.000
Agar	20.000
Final pH (at 25°C)	5.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 60 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Lactic acid bacteria are acid-tolerant, non-sporulating rods or cocci widely distributed in nature and historically linked to food fermentation. Lactobacilli form the normal flora of the human mouth, intestinal tract and vagina and may therefore be recovered from pathological specimens as contaminants (1). Tomato juice was included in media for lactobacilli (2) and was found to be advantageous for its growth, particularly *Lactobacillus acidophilus* (3).

Tomato Juice Agar, Special is formulated as per Jay (4,6) for the direct plate count of lactobacilli and other acidophilic bacteria, especially from saliva (5). Tomato Juice Agar, Special is similar to Tomato Juice Agar, except that the agar concentration is increased to 20 grams per liter and the pH is adjusted to 5.0 in the former.

Tomato juice provides an acid environment and is also a source of carbon, and other essential nutrients. Peptonized milk provides lactose, which acts as the energy source. Peptic digest of animal tissue provides nitrogenous, carbonaceous compounds, trace elements and other essential growth nutrients. The low pH of medium inhibits many commensal bacteria and encourages growth of Lactobacilli.

Tomato Juice Agar, Special is more selective than Tomato Juice Agar (5).

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium
Medium amber coloured clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 6.0% w/v aqueous solution at 25°C. pH : 5.0±0.2

pH
4.80-5.20

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery

Cultural Response

Lactobacillus acidophilus ATCC 4356	50-100	luxuriant	>=50%
Lactobacillus casei ATCC 9595	50-100	luxuriant	>=50%
Lactobacillus leichmannii ATCC 4797	50-100	luxuriant	>=50%
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

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2.Mickle F. L. and Breed R. S.,1925, Technical Bulletin 110, N.Y. State Agriculture Exp. Station, Geneva, N.Y.
3.Kulp W. L., 1927, Science 66:512.
4. Jay P. and Gordon S., (Eds.), 1938, Bacteriology and Immunology of Dental Caries and Dental Science and Dental Art, Lea and Febiger, Philadelphia, Pa.
5.MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams & Wilkins, Baltimore, Md.
6.Jay P., Pelton W. and Wisan J.,1949, Dentistry in Public Health, W. B. Saunders Company, Philadelphia, Pa.

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