



## Tomato Juice Agar

M048

Tomato Juice Agar is used for the cultivation and enumeration of *Lactobacilli*.

### Composition\*\*

Ingredients	Gms / Litre
Tomato juice (400 ml)	20.000
Casein enzymic hydrolysate	10.000
Peptonized milk	10.000
Agar	11.000
Final pH ( at 25°C)	6.1±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 51 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

Tomato juice was included in media for lactobacilli (1) and was found to be advantageous for its growth, particularly *Lactobacillus acidophilus* (2). Tomato Juice Agar is a modified formula by Kulp and White (3) recommended for the isolation, cultivation and enumeration of Lactobacilli, especially *L. acidophilus* from clinical specimens and foodstuffs (4).

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. Casein enzymic hydrolysate 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*.

### Quality Control

#### Appearance

Cream to yellow homogeneous free flowing powder

#### Gelling

Firm, comparable with 1.1% Agar gel.

#### Colour and Clarity of prepared medium

Medium amber coloured clear to slightly opalescent gel forms in Petri plates.

#### Reaction

Reaction of 5.1% w/v aqueous solution at 25°C. pH : 6.1±0.2

#### pH

5.90-6.30

#### Cultural Response

M048: Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<b>Cultural Response</b>			
<i>Lactobacillus acidophilus</i> ATCC 4356	50-100	luxuriant	≥70%
<i>Lactobacillus casei</i> ATCC 9595	50-100	luxuriant	≥70%
<i>Lactobacillus leichmannii</i> ATCC 4797	50-100	luxuriant	≥70%
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	≥70%

## 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

- 1.Mickle F. L. and Breed R. S., 1925, Technical Bulletin 110, N.Y. State Agriculture Exp. Station, Geneva, N.Y.
- 2.Kulp W. L., 1927, Science 66:512.
- 3.Kulp W. L. and White V., 1932, Science 76:17.
- 4.MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams & Wilkins, Baltimore, Md.

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