



PRODUCT SPECIFICATION SHEET

Tomato Juice Agar (DM638)

Intended Use

Tomato Juice Agar (DM638) is recommended for cultivation and enumeration of *Lactobacilli*.

Product Summary and Explanation

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⁾

In 1925, Mickle and Breed⁽²⁾ first described the use of tomato juice in culture media used for cultivating lactobacilli. Kulp⁽³⁾ investigated the use of tomato juice on bacterial development and found that the growth of *L. acidophilus* was enhanced. Tomato Juice Agar Special is recommended for the direct plate count of lactobacilli from saliva and for cultivation of other acidophilic microorganisms. The acidic pH of Tomato Juice Agar Special encourages growth of lactobacilli while inhibiting growth of accompanying bacteria. The number of lactobacilli in saliva is an index of a predisposition to dental caries as described by Jay.^(4, 5) Many dentists use the direct count of lactobacilli for the diagnosis of caries. This medium is more selective for lactobacilli than Tomato Juice Agar.

Principles of the Procedure

Tomato Juice Agar, Special contains tomato juice which provides an acid environment and is also a source of carbon, protein 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.

Formula / Liter

Ingredients	Gms / Liter
Tomato juice (400 ml)	20.00
Casein enzymic hydrolysate	10.00
Peptonized milk	10.00
Agar	11.00
Final pH: 6.1 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

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.

1. Suspend 60 grams of the medium in one liter of distilled water.
2. Heat to boiling, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.





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4. Mix well and pour into sterile Petri plates.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Medium amber coloured clear to slightly opalescent gel forms in Petri plates.
Reaction of 5.1% Solution	pH : 6.1 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.1% Agar gel.

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

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	<i>Lactobacillus acidophilus</i> ATCC 4356	50 - 100	good-luxuriant	≥70%
2.	<i>Lactobacillus casei</i> ATCC 9595	50 - 100	good-luxuriant	≥70%
3.	<i>Lactobacillus leichmannii</i> ATCC 4797	50 - 100	good-luxuriant	≥70%
4.	<i>Staphylococcus aureus</i> ATCC 25923	50 - 100	good-luxuriant	≥70%

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for specific procedures.

Results

Refer to appropriate references and procedures for results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Tomato Juice Agar

Product Code : DM638

Available Pack sizes : 500gm





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References

1. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2. Mickle and Breed. 1925. Technical Bulletin 110. N.Y. State Agriculture Exp. Station, Geneva, N.Y.
3. Kulp. 1927. Science 66:512.
4. Jay and Gordon (ed).1938. Bacteriology and immunology of dental caries and dental science and dental art. Lea and Febiger, Philadelphia, Pa.
5. Jay, Pelton and Wisan. 1949. Dentistry in public health. W. B. Saunders Company, Philadelphia, Pa.

Further Information

For further information please contact your local MICROMASTER Representative.



MICROMASTER LABORATORIES PRIVATE LIMITED

DM638PSS,QAD/FR/024,Rev.00/01.01.2018

Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall' , Thane (W) - 400607. M.S. INDIA.
Ph: +91-22-25895505, 4760, 4681. Cell: 9320126789.

Email: micromaster@micromasterlab.com
sales@micromasterlab.com

Prepared By	Checked By	Approved By
 Adalain 01.01.2018	 Anudak 01.01.2018	 Babak 01.01.2018
Microbiologist	Head Quality Control	Head Quality Assurance

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