

PRODUCT SPECIFICATION SHEET

Liver Broth (DM304)

Intended Use

Liver Broth (DM304) is recommended for cultivation of anaerobic microorganisms.

Product Summary and Explanation

Gillespie in communication with Scarr⁽¹⁾ recommended Liver Broth for the examination of canners' sugar for hydrogen swells caused by thermophilic anaerobes (*Clostridium thermosaccharolyticum*). A 20% w/v solution of the sugar is steamed for 30 minutes to destroy vegetative forms and inoculated into Liver Broth sealed with agar. The standard proposed was a maximum of 1 positive tube in six - with 20ml inocula incubated for 72 hours at 56°C.

Liver Broth is used to grow *Brucella* and other fastidious pathogens in foods and clinical samples. Brucellosis is a zoonotic disease with a domestic animal reservoir. Transmission is usually by milk, milk products, meat and direct contact with infected animals. This medium is well suited to support the growth of anaerobic microorganisms, especially *Clostridium* spp. It is recommended for the examination of foods for saccharolytic or putrefactive mesophilic and thermophilic anaerobes and also recommended for the maintenance of aerobes and anaerobes in pure culture.

Principles of the Procedure

Liver Broth contains liver particles and peptic digest of animal tissue which provide stimulants such as nitrogen, vitamins, minerals and amino acids that support luxuriant growth for saccharolytic or putrefactive mesophilic and thermophilic anaerobes. Dipotassium phosphate is a buffer to maintain the pH. Liver Broth maintains an adequate degree of anaerobiosis for the growth of anaerobic microorganisms, especially *Clostridium* species

Formula / Liter

Ingredients	Gms / Liter
Liver, infusion from	23.00
Peptic digest of animal tissue	10.00
Liver tissues (extracted)	30.00
Dipotassium phosphate	1.00
Final pH: 6.8 ± 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

1. Suspend 64 grams of the medium in one liter of distilled water.
2. Soak for 15 minutes with occasional stirring.
3. Dispense in 18 mm diameter tubes to a depth of 50 mm so that bottom of the tube is filled with liver tissues.
4. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
5. Cool, inoculate and seal with a layer of sterile 2% agar solution.

Quality Control Specifications

Dehydrated Appearance	Brown coloured granules
Prepared Medium	Medium amber coloured, clear to slightly opalescent supernatant over insoluble granules
Reaction of 6.4% Solution	pH : 6.8 ± 0.2 at 25°C
Gel Strength	Not Applicable



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Expected Cultural Response: Cultural characteristics observed after an incubation at 55-57°C for 48-72 hours .

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	<i>Cl.thermosaccharolyticum ATCC 7956</i>	50 - 100	good-luxuriant

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

Test Procedure

Refer to appropriate references for standard test procedures.

Results

Refer to appropriate references and test procedures for interpretation of 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. The medium should be used on the same day of preparation, as the stored medium may absorb the air and then re-steaming is necessary which darkens the medium.
2. Liver broth is not an homogeneous medium; consisting of a layer of liver particles and a cloudy supernatant. Growth produces an obvious increase in turbidity.
3. Some organisms also digest the solid liver tissue and some organisms (e.g. *Clostridium thermosaccharolyticum*) also produce gas which often pushes the agar plug towards the top of the tube.
4. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Liver Broth

Product Code : DM304

Available Pack sizes : 500gm

References

1. Scarr M. P., 1958, DSIR, Proc. 2nd Internat. Symp. Food Microbiol., 1957, HMSO London, pp-29

Further Information

For further information please contact your local MICROMASTER Representative.



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