

## Liver Agar

For the cultivation of Brucella and other pathogenic organisms

### Practical information

Applications	Categories
Enrichment	Brucella

Industry: Food

### Principles and uses

Liver Agar is used to grow Brucella and other fastidious pathogens in foods. Whilst most strains of Brucella will grow on chocolate or blood agar, this medium is preferred due to the high nutrient base permitting an extensive growth of Brucella and other fastidious pathogens.

The growth of most of anaerobic bacteria is promoted by the growth nutrients and stimulants such as nitrogen, vitamins, minerals, amino acids contained in the Liver agar. Dextrose is the source of fermentable carbohydrate for carbon and energy. In low concentrations, Starch absorbs any toxic metabolites produced. Bacteriological agar is the solidifying agent.

Brucellosis is a zoonotic disease with a domestic animal reservoir. The usual route of transmission is by milk, milk products, meat and direct contact with infected animals.

### Formula in g/L

Bacteriological agar	11	Dextrose	0,2
Starch	0,2	Liver base	30

### Preparation

Suspend 41.4 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes.

### Instructions for use

Inoculate and incubate medium at 35 ± 2°C under 5 - 10% CO<sub>2</sub> for 18 – 48 hours and up to 72 hours if necessary.

For isolating Brucella from contaminated milk, Crystal violet can be added to suppress Gram-positive organisms. Addition of 5% heated horse or rabbit serum enhances the growth of Brucella.

### Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,6± 0,2

### Microbiological test

Incubation conditions: (35±2 °C / 5-10% CO<sub>2</sub> /18-72 h)

Microrganisms	Specification
Clostridium sporogenes ATCC 25781	Good growth
Brucella melitensis ATCC 4309	Good growth
Brucella abortus ATCC 4315	Good growth
Streptococcus mitis ATCC 9895	Good growth

## Storage

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Temp. Min.:2 °C  
Temp. Max.:25 °C

## Bibliography

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Scarr M. Pamela (1958) DSIR Proc. Symp Found Microbiol 1957 HMSO London pp 29-33