



## Liver Infusion Broth

M153

Liver Infusion Broth is used for cultivation of variety of highly fastidious microorganisms including anaerobes and *Brucella* species.

### Composition\*\*

Ingredients	Gms / Litre
Beef liver, infusion from	500.000
Proteose peptone	10.000
Sodium chloride	5.000
Final pH ( at 25°C)	6.9±0.2

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

### Directions

Suspend 35 grams in 1000 ml distilled water. Heat if necessary to dissolve completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Principle And Interpretation

*Brucella* , a gram-negative intracellular parasite causes epizootic abortions in animals and septicemic febrile illness or localized infection of bone, tissue or organ systems in humans (1, 2). Tryptose Agar with 5% serum remains the media of choice for isolation of *Brucella* species. However the growth is highly enhanced when grown on Liver Infusion media. Half strength Liver Infusion Broth can be used for the isolation of *Entamoeba histolytica* (3).

Infusion from beef liver and proteose peptone provide the nitrogen, amino acids, vitamins and carbon sources which permit luxuriant growth of *Brucella* and other fastidious pathogens. Sodium chloride maintains the osmotic balance. The reducing substances present in liver tissue create an anaerobic environment, which satisfies the requirements of even fastidious anaerobes. Refer appropriate references for standard procedures (4-6).

*Brucella* species are highly infectious and extreme care should be taken while handling the cultures.

### Quality Control

#### Appearance

Light yellow to brownish yellow homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Amber coloured clear solution in tubes

#### Reaction

Reaction of 3.5% w/v aqueous solution at 25°C. pH : 6.9±0.2

#### pH

6.70-7.10

#### Cultural Response

M153: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours. (*Clostridium* species incubated anaerobically)

Organism	Inoculum (CFU)	Growth
<i>Brucella melitensis</i> ATCC 4309	50-100	luxuriant
<i>Brucella suis</i> ATCC 4314	50-100	luxuriant
<i>Clostridium sporogenes</i> ATCC 11437	50-100	luxuriant
<i>Streptococcus mitis</i> ATCC 9811	50-100	luxuriant

## Storage and Shelf Life

Store below 30°C in tightly closed container and use freshly prepared medium. Use before expiry date on the label.

## Reference

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2. Smith, L. D. and Fieht T. A., 1990, Pathogenesis of Brucella. Crit. Rev. Microbiol., 17: 209-230.
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4. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
5. Forbes B. A., Sahm A. S., and Weissfeld D. F., Bailey & Scotts Diagnostic Microbiology, 10th Ed., 1998, Mosby, Inc., St. Louis, Mo.
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