



LV Agar (Liver Veal Agar)

M176

Intended Use:

Recommended for cultivation of fastidious anaerobic organisms.

Composition**

Ingredients	Gms / Litre
HL infusion from#	50.000
HMV infusion from \$	500.000
Proteose peptone	20.000
Peptone, special	1.300
Tryptone	1.300
Gelatin	20.000
Starch, soluble	10.000
M-Protein, purified##	2.000
Dextrose	5.000
Sodium chloride	5.000
Sodium nitrate	2.000
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Liver, infusion from

\$ Equivalent to Veal, infusion from

Equivalent to Casein, purified

Directions

Suspend 97 grams in 1000 ml warm purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Anaerobic bacteria live in an oxygen-free environment. Some anaerobic bacteria actually die if oxygen is present while others fail to grow and multiply (1). One of the methods of cultivation of anaerobes is using the Sprays medium by using the anaerobic culture dish (2). Liver Veal Agar is formulated as per the medium of Spray (3). Liver Veal Agar is recommended by APHA (4) and the FDA Bacteriological Analytical Manual (BAM) (5). Liver Veal Agar on supplementation of 50% egg yolk is recommended for the cultivation of anaerobic organisms (4-6). The medium is highly nutritious and therefore is an excellent medium for growth of sporulating anaerobic bacteria.

Both the infusions, peptones, casein enzymic hydrolysate and gelatin serve as sources of carbon, nitrogen, amino acids and various vitamins. Dextrose serves as the carbon source. Starch enhances growth of anaerobic bacteria. Spray reported isolation of *Clostridium perfringens* within 6 hours of inoculation and *Clostridium tetani* within 8 hours. When the medium is inoculated with a small inoculum, gas production is not evident. Spray recommended that the medium should be taken directly from the sterilizer or should be boiled for 10 minutes to drive off dissolved oxygen and cooled without agitation. Serial inoculations are made and the medium is poured into plates. After solidification, 5 ml sterile Liver Veal Agar is poured over the medium as a cover layer to prevent the spreading of surface colonies. Refer standard procedures for isolation and cultivation of anaerobic bacteria (7, 8).

C. botulinum and *C. tetani* are highly hazardous and extreme care should be taken while handling these cultures.

Quality Control

Appearance

Light yellow to brownish yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Amber coloured clear to slightly opalescent gel forms in Petri plates, may have slight precipitate.

Reaction

Reaction of 9.7% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours (under the atmospheric requirement of organism).

Organism

Growth

<i>Clostridium botulinum</i> ATCC 25763	luxuriant
<i>Clostridium tetani</i> ATCC 10709	luxuriant
<i>Neisseria meningitidis</i> ATCC 13090	luxuriant
<i>Streptococcus pneumoniae</i> ATCC 6303	luxuriant

Reference

1. Alcamo I. E., 2001, Fundamentals of Microbiology, 6th Ed., Jones and Bartlett Publishers
2. Spray R. S., 1930, J. Lab. Clin. Med. 16:203.
3. Spray R. S., 1936, J. Bacteriol., 32:135.
4. Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
5. U.S. Food and Drug Administration, 1995, Bacteriological Analytical Manual, 8th Ed., AOAC International, Gaithersburg, Md.
6. Atlas R. M., 2004, Handbook of Microbiological Media, CRC Press, Boca Raton, Fla.
7. Isenberg, (Ed.), 1992, Clinical Microbiology Procedures Handbook, Vol. I, ASM, Washington, D.C.
8. Murray P. R., Baron J. H., Pfaller M. A., Tenover J. C. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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