



Loeffler Medium Base

M537

Loeffler Medium Base with added horse serum is used for the cultivation of *Corynebacterium diphtheriae* from clinical specimens and in pure cultures, detection of chromogenesis, proteolysis and the production of ascospores.

Composition**

Ingredients	Gms / Litre
Peptone, special	2.500
Beef extract	2.500
Sodium chloride	1.250
Dextrose	2.500
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 8.75 grams in 250 ml distilled water. Dissolve the medium completely and sterilize by autoclaving at 10 lbs pressure (115°C) for 20 minutes. Cool to 50-55°C and aseptically add 750 ml of sterile horse serum (RM1239). Mix well and aseptically dispense into sterile tubes. Sterilize the medium by inspissation at 80-85°C for 2 hours in free flowing steam for at least 3 consecutive days.

Principle And Interpretation

Loeffler Medium was originally devised by Loeffler (1) and was further modified by Perry and Petran (2) and Buck (3). Loeffler medium enhances primary and secondary isolation and cultivation of fastidious pathogenic microorganisms especially from nose and throat. It also restores virulence and other identifying properties (microscopic and colonial) after they have been lost due to prolonged incubation or repeated subculturing.

The high serum content helps in determining proteolytic activity of organisms. It is also used for demonstration of pigmentation and ascospores. Peptic digest of animal tissue, beef extract provide essential growth nutrients. Dextrose is the source of fermentable carbohydrate and energy.

Rub the swabs directly over the surface of medium and after incubation; prepare the smears from surface of slope. For proteolysis testing, inoculate slant and prior to incubation, flood the slant with Brewer Thioglycollate Medium (M019). Incubation should be carried out for 3-4 days or much longer for appearance of proteolysis. Loeffler Medium should be used in parallel with Serum Tellurite Agar for selective isolation of Corynebacteria (4).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Basal: Light amber coloured clear to slightly opalescent solution. ; After addition of horse serum: Off-white coloured opaque solution

Reaction

Reaction of 3.52% w/v aqueous solution of base at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

M537: Cultural characteristics observed with added 750ml horse serum, after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
----------	-------------------	--------

Cultural Response

<i>Corynebacterium diphtheriae</i> ATCC 11913	50-100	fair-good
<i>Pseudomonas aeruginosa</i> ATCC 10145	50-100	good (green colonies with proteolysis)
<i>Staphylococcus aureus</i> ATCC 25923	50-100	good (yellow to gold colonies)

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. .

Reference

- 1.Loeffler F., 1887, Zentralb. Bakteriol. Parasitenkd., 2:102.
- 2.Perry and Petran, 1939, J. Lab. Clin. Med., 25:71.
- 3.Buck, 1949, J. Lab. Clin. Med., 34:582.
- 4.MacFaddin J. F., 1985, Media for Isolation-Cultivation-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

Revision : 1 / 2011



Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.