Block 5, Street 9 inside The Ismailia free zone. Ismailia- Egypt
Post Code-41511
Tel.-Fax: +202 21813500/ +202 21813600
Mob.: +2 01211550941/ +2 01119225860
E-mail: sales@arenabioscientific.com
Website: www.arenabioscien.com

Loeffler Serum Medium Base

Recommended for the cultivation of *Corynebacterium diphtheriae*.

REF: BS.1/LF01.100.0100	100 Gram	REF: BS.1/LF01.250.0250	250 Gram
REF: BS.1/LF01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

Corynebacterium diphtheriae , also called as *Klebs-Loeffler bacillus*, is a gram-positive, non-encapsulated, non-sporulated, non-motile facultative anaerobe. It causes infection in humans, leading to diseased condition called diphtheria characterized by an inflammatory lesion and membranous exudates on the mucosa of the upper respiratory tract. *C. diphtheriae* may show abundant volutin in films from a moist Loeffler serum slope. Preliminary culture on Loeffler Agar is required to induce the characteristic production of abundant granules in *C. diphtheriae*. 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. It is also used for demonstration of pigmentation and ascospores.

METHOD PRINCIPLE

The high serum content helps in determining proteolytic activity of organisms. Peptone, Heart muscle, infusion from, and bovine serum provide the amino acids and other complex nitrogenous substances to support growth of *Corynebacterium*. Dextrose is the source of fermentable carbohydrate and energy. Sodium chloride helps in maintaining osmotic balance.

MEDIA COMPOSITION

Item	Formula per liter of medium
- Heart muscle, infusion from	0.720 gm
- Peptone	0.710 gm
- Sodium chloride	0.360 gm
- Dextrose (Glucose)	0.710 gm
- Egg powder	7.500 gm

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
  S56: dispose of this material and its container at hazardous or special waste collection point.
  S57: use appropriate container to avoid environmental contamination.
  S61: avoid release in environment.

For further information, refer to the Loeffler Serum Medium Base material safety data sheet.

STORAGE AND STABILITY

BioScien Loeffler Serum Medium Base should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Final pH 7.6±0.2 at 25°C

PREPARATION

Suspend 10.0 grams in 250 ml purified / distilled water at a temperature of 45°C. Add 750 ml of sterile Bovine serum, mix well and dispense into tubes. Coagulate and sterilize by inspissation for 15 minutes at 80 to 90°C or steaming at 100°C for 10-15 minutes.

Deterioration

The color of ***BioScien*** Loeffler Serum Medium Base is Light yellow to brownish yellow homogeneous free flowing powder. Basal medium: Light amber coloured clear solution After addition of horse serum and coagulation: Off-white coloured opalescent slants forms in tubes.. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

SPECIMEN

Clinical samples: Tissue, Nasal and throat samples.

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile tubes
- Incubator
- Autoclave

PERFORMANCE CHARACTERISTICS

Cultural characteristics observed with added sterile Bovine serum after an incubation at 35-37°C for 24-48 hours.

Oranism	Growth
Corynebacterium diphtheriae type gravis	good-luxuriant
Corynebacterium diphtheriae type mitis	good-luxuriant
Pseudomonas aeruginosa ATCC 10145	good (green colonies with proteolysis)
Staphylococcus aureus subsp. aureus ATCC 25923	good (yellow to gold colonies)
Corynebacterium diphtheriae ATCC 11913	fair-good

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact ***BioScien*** technical support.

REFERENCES

1. Loeffler, 1887, Zentralbl. Bakteriol. Parasitenkd., 2:105.
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.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C.,Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

SYMBOLS IN PRODUCT LABELLING	
IVD For in-vitro diagnostic use	Number of <n> test in the pack
LOT Batch Code/Lot number	Caution
REF Catalogue Number	Do not use if package is damaged
Temperature Limitation	Consult Instruction for use
Expiration Date	
Manufactured by	