

TM 2166 – LOEFFLER SERUM MEDIUM BASE

INTENDED USE

For the cultivation of *Corynebacterium diphtheriae*.

PRODUCT SUMMARY AND EXPLANATION

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 and was further modified by Perry and Petran and Buck. 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 sub culturing. It is also used for demonstration of pigmentation and ascospores. The high serum content helps in determining proteolytic activity of organisms.

COMPOSITION

Ingredients	Gms / Ltr
Heart muscle, infusion from	0.720
Peptone	0.710
Sodium chloride	0.360
Dextrose (Glucose)	0.710
Egg powder	7.500

PRINCIPLE

This medium contains Heart muscle, infusion from and bovine serum which 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.

INSTRUCTION FOR USE

- Dissolve 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.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to brownish yellow homogeneous free flowing powder.
Appearance of prepared medium	: Basal medium: Light amber coloured clear solution After addition of horse serum and coagulation: Off-white coloured opalescent slants forms in tubes.
pH (at 25°C)	: 7.6 ± 0.2

INTERPRETATION

Cultural characteristics observed with added sterile Bovine serum after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
<i>Corynebacterium diphtheriae</i>	11913	50-100	Fair-good	35-37°C	24-48 Hours
<i>Corynebacterium diphtheriae type mitis</i>	-	50-100	Good-luxuriant	35-37°C	24-48 Hours
<i>Pseudomonas aeruginosa</i>	10145	50-100	Good (green colonies with proteolysis)	35-37°C	24-48 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	50-100	Good (yellow to gold colonies)	35-37°C	24-48 Hours
<i>Corynebacterium diphtheriae type gravis</i>	-	50-100	Good-luxuriant	35-37°C	24-48 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Buck, 1949, J. Lab. Clin. Med., 34:582.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. 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.
4. Loeffler, 1887, Zentralbl. Bakteriologie, 2:105.
5. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
6. Perry and Petran, 1939, J. Lab. Clin. Med., 25:71.



GMP Good Manufacturing Practices Certified	IVD For In Vitro Diagnostic Use	QTY. Quantity	LOT/ B. NO. Lot / Batch Number	REF Catalogue Number	 Manufacturer
 Temperature Unit	EC REP Authorized Representative MedNet GmbH Buckstrasse 10 48163 Münster, Germany	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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