



PRODUCT SPECIFICATION SHEET

Loeffler Medium Base (DM733)

Intended Use

Loeffler Medium Base (DM733) is recommended for cultivation of *Corynebacterium diphtheriae* from clinical specimens and for detection of chromogenesis, proteolysis and production of ascospores in pure cultures.

Product Summary and Explanation

Loeffler⁽¹⁾ primarily formulated the Loeffler Medium which 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. This medium is also recommended to repair the virulence and other identifying properties (microscopic and colonial) which are lost due to prolonged incubation or repeated subculturing.

Principles of the Procedures

Loeffler Medium Base contains peptone special; beef extract which are sources of nitrogen, amino acids and other essential nutrients required for growth. Dextrose is the source of fermentable carbohydrate and energy. Sodium chloride acts as a source of ions. The high serum content helps in determining proteolytic activity of organisms. It is also used for demonstration of pigmentation and ascospores.

Formula / Liter

Ingredients	Gms / Liter
Peptone, special	2.50
Beef extract	2.50
Sodium chloride	1.25
Dextrose	2.50
Final pH: 7.3 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 8.8 grams of the medium in 250 ml of distilled water.
2. Dissolve the medium completely and sterilize by autoclaving at 115°C, 10 psi pressure, for 20 minutes.
3. Cool to 50-55°C and aseptically add 750 ml of sterile horse serum (MS084).
4. Mix well and aseptically dispense into sterile tubes.
5. Sterilize the medium by inspissation at 80-85°C for 2 hours in free flowing steam for at least 3 consecutive days.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Basal: Light amber coloured clear to slightly opalescent solution After addition of horse serum: Off-white coloured opaque solution
Reaction of 3.52% solution	pH : 7.3 ± 0.2 at 25°C
Gel Strength	Semisolid, comparable with 0.1% Agar gel and 3.0% Gelatin gel





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

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	<i>Corynebacterium diphtheriae ATCC 11913</i>	50-100	fair-good
2.	<i>Pseudomonas aeruginosa ATCC 10145</i>	50-100	good (green colonies with proteolysis)
3.	<i>Staphylococcus aureus ATCC 25923</i>	50-100	good (yellow to gold colonies)

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

1. Rub the swabs directly over the surface of medium and after incubation; prepare the smears from surface of slope.
2. For proteolysis testing, inoculate slant and prior to incubation, flood the slant with Brewer Thioglycollate Medium (DM620).
3. Incubation should be carried out for 3-4 days or much longer for appearance of proteolysis.
4. Loeffler Medium should be used in parallel with Serum Tellurite Agar for selective isolation of *Corynebacteria*.⁽⁴⁾
5. Refer appropriate references for specific test procedures.

Results

Refer appropriate references and test procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Loeffler Medium Base

Product Code : DM733

Available Pack sizes : 100gm / 500gm

References

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.





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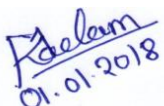
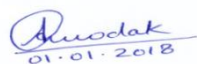

Further Information

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