



PRODUCT SPECIFICATION SHEET

Dextrose Broth (DM081)

Intended Use

Dextrose Broth (DM081) is use for antibiotic sensitivity testing using tube dilution method.

Product Summary and Explanation

In 1932, Norton⁽¹⁾recommended a basal medium containing 0.5-1% dextrose with approximately 5% defibrinated blood for the isolation of many fastidious bacteria, including *Haemophilus* and *Neisseria*. Dextrose is an energy source used by many organisms. The high concentration of this ingredient makes Dextrose Agar a suitable medium for the production of early, abundant organism growth and shortening the lag periods of older cultures. Because of the increased dextrose content, Dextrose Agar is not suitable for observation of hemolysis when supplemented with 5% sheep, rabbit or horse blood. Dextrose Broth is a highly nutritious broth suitable for the isolation of fastidious organisms and specimens containing a low inoculum. The addition of 0.1-0.2% agar to Dextrose Broth facilitates anaerobic growth and aids in dispersion of reducing substances and CO₂ formed in the environment.⁽²⁾ The low agar concentration provides suitable conditions for both aerobic growth in the clear upper zone and for microaerophilic and anaerobic growth in the lower, flocculent agar zones using this medium. . Dextrose in culture media serves as a source of energy. Dextrose Broth is useful when the organism has to be revived from small inocula. Facultatively aerobic organisms tend to grow near the surface, in upper zone of the tube. Dextrose Broth is used for antibiotic sensitivity testing using the tube dilution method.⁽³⁾ Sensitivity testing of neomycin and chlortetracycline is better done.

Principles of the Procedure

Beef extract and peptones provide nitrogen, amino acids and vitamins. Dextrose is a carbon source, and the increased concentration is a distinguishing characteristic of this medium from other formulations used as blood agar bases. Agar is the solidifying agent. Supplementation with 5% blood provides additional growth factors for fastidious microorganisms.

Formula / Liter

Ingredients	Gms / Liter
Tryptose	10.00
Beef extract	3.00
Dextrose	5.00
Sodium chloride	5.00
Final pH: 7.2 ± 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 23 grams of the medium in one liter of distilled water.
2. Heat if necessary, to dissolve the medium completely.
3. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.
4. Mix well and dispense as desired.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Light yellow coloured, clear solution in tubes
Reaction of 2.3% solution	pH 7.2 ± 0.2 at 25°C
Gel Strength	Not Applicable

Expected Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.





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Sr. no	Organism	Inoculum (CFU)	Growth	Gas	Growth (with 0.1% Agar)
1.	<i>Escherichia coli</i> ATCC 25922	50-100	good-luxuriant	positive reaction	good-luxuriant
2.	<i>Neisseria onorrhoeae</i> ATCC 19424	50-100	good-luxuriant	negative reaction	good-luxuriant
3.	<i>Neisseria meningitides</i> ATCC13090	50-100	good-luxuriant	negative reaction	good-luxuriant
4.	<i>Staphylococcus aureus</i> ATCC 25923	50-100	good-luxuriant	negative reaction	good-luxuriant
5.	<i>Streptococcus pyogenes</i> ATCC 19615	50-100	good-luxuriant	negative reaction	good-luxuriant
6.	<i>Streptococcus pneumonia</i> ATCC 6305	50-100	good-luxuriant	negative reaction	good-luxuriant

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

Test Procedure

1. Dissolve 23 g of the powder in 1 L of purified water.
2. Autoclave at 121°C for 15 minutes.
3. Test samples of the finished product for performance using stable, typical control cultures.
4. OPTIONAL: To prepare medium with agar, add 1-2 g of agar per liter of medium.

Results

Refer to appropriate references and procedures for results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 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. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Dextrose Broth

Product Code : DM081

Available Pack sizes : 100gm / 500gm

References

1. Norton. 1932. J. Lab. Clin. Med. 17:558.
2. MacFaddin. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, Md.
3. Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore Walsbren and Dunnette A., 1951, Am. J. Clin. Path., 21:884.

Further Information

For further information please contact your local MICROMASTER Representative.



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