

Dextrose Starch Agar

Intended Use

Dextrose Starch Agar is used for cultivating pure cultures of *Neisseria gonorrhoeae* and other fastidious microorganisms.

Summary and Explanation

Dextrose Starch Agar is recommended as a complete solid medium for the propagation of pure cultures of *Neisseria gonorrhoeae*. This highly nutritious medium without additives will also support excellent growth of *N. meningitidis*, *Streptococcus pneumoniae* and *S. pyogenes*. Dextrose Starch Agar, in half concentration, is recommended as a stock culture agar for the maintenance of *N. gonorrhoeae*, *N. meningitidis* and other organisms not capable of hydrolyzing starch. This medium cannot be used to maintain stock cultures of organisms capable of splitting starch; acid production from starch will create an unsatisfactory environment.

Dextrose Starch Agar was used by Wilkins, Lewis and Barbers¹ in an agar dilution procedure to test the activity of antibiotics against *Neisseria* species.

Principles of the Procedure

Peptone and gelatin provide the nitrogen, vitamins and amino acids in Dextrose Starch Agar. Soluble starch improves growth response. Dextrose is a carbon source. Sodium chloride

maintains the osmotic balance of the medium, and disodium phosphate is a buffering agent. Agar is the solidifying agent.

Formula

Difco™ Dextrose Starch Agar

Approximate Formula* Per Liter

| | | |
|-----------------------------|------|---|
| Proteose Peptone No. 3..... | 15.0 | g |
| Dextrose | 2.0 | g |
| Soluble Starch | 10.0 | g |
| Sodium Chloride | 5.0 | g |
| Disodium Phosphate | 3.0 | g |
| Gelatin..... | 20.0 | g |
| Agar | 10.0 | g |

*Adjusted and/or supplemented as required to meet performance criteria.

Directions for Preparation from Dehydrated Product

1. Suspend 65 g of the powder in 1 L of purified water. Mix thoroughly.
2. Heat with frequent agitation and boil for 1 minute to completely dissolve the powder.
3. Autoclave at 121°C for 15 minutes.
4. Test samples of the finished product for performance using stable, typical control cultures.

Procedure

For a complete discussion of the isolation and identification of *N. gonorrhoeae* and other fastidious pathogens, refer to the procedures described in *Clinical Microbiology Procedures Handbook*² and *Manual of Clinical Microbiology*.³

Expected Results

Refer to appropriate references and procedures for results.

Limitation of the Procedure

This medium is not recommended for isolation of gonococci from mixed cultures.

References

1. Wilkins, Lewis and Barbers. 1956. Antibiot. Chemother. 6:149.
2. Isenberg and Garcia (ed.). 2004 (update, 2007). Clinical microbiology procedures handbook, 2nd ed. American Society for Microbiology, Washington, D.C.
3. Murray, Baron, Jorgensen, Landry and Pfaller (ed.). 2007. Manual of clinical microbiology, 9th ed. American Society for Microbiology, Washington, D.C.

Availability

Difco™ Dextrose Starch Agar

Cat. No. 266200 Dehydrated – 500 g

User Quality Control

Identity Specifications

Difco™ Dextrose Starch Agar

| | |
|------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Dehydrated Appearance: | Beige, free-flowing, homogeneous. |
| Solution: | 6.5% solution, soluble in purified water upon boiling. Solution is light amber, opalescent with a precipitate. |
| Prepared Appearance: | Light amber, opalescent with a precipitate. |
| Reaction of 6.5% Solution at 25°C: | pH 7.3 ± 0.2 |

Cultural Response

Difco™ Dextrose Starch Agar

Prepare the medium per label directions. Inoculate and incubate at 35 ± 2°C for 18-48 hours under appropriate atmospheric conditions.

| ORGANISM | ATCC™ | INOCULUM CFU | RECOVERY |
|---------------------------------|-------|----------------------------------|----------|
| <i>Neisseria gonorrhoeae</i> | 43070 | 10 ² -10 ³ | Good |
| <i>Neisseria meningitidis</i> | 13090 | 10 ² -10 ³ | Good |
| <i>Pasteurella multocida</i> | 19427 | 10 ² -10 ³ | Good |
| <i>Streptococcus pneumoniae</i> | 6303 | 10 ² -10 ³ | Good |
| <i>Streptococcus pyogenes</i> | 19615 | 10 ² -10 ³ | Good |