

Instructions for Use

TODD HEWITT BROTH

Cat. no. K79	Todd Hewitt Broth, 13x100mm Tube, 5ml	20 tubes/box
Cat. no. K112	Todd Hewitt Broth, 13x100mm Tube, 1ml	20 tubes/box
Cat. no. R33	Todd Hewitt Broth with Tween [®] , 13x100mm Tube, 0.5ml	20 tubes/box

INTENDED USE

Hardy Diagnostics Todd Hewitt Broth is recommended for the production of antigenic streptococcal hemolysin and the cultivation of streptococci prior to serological grouping. It is also recommended for the cultivation of beta-hemolytic streptococci, pneumococci, and other fastidious organisms.

SUMMARY

Todd Hewitt Broth was originally developed in 1932 by Todd and Hewitt. Elliot found the medium to be useful in growing group A streptococci for the production of the type specific M protein antigen.⁽¹⁾ Later, the formula was modified by Updyke and Nickel who found the medium to be particularly useful for growing group A streptococci for serological typing.⁽²⁾

Hardy Diagnostics Todd Hewitt Broth follows the formula developed by Updyke and Nickel.⁽²⁾ The medium is composed of beef heart infusion, peptones and yeast extract which all supply necessary growth nutrients. Dextrose is added as an energy source and stimulates streptococcal antigen production. Sodium carbonate and disodium phosphate are included as buffers which serve to protect the hemolysin from inactivation by acid produced from dextrose fermentation. The addition of Tween[®]80 minimizes the surface tension that develops when using plastic seed trays and pipette tips for microdilution antimicrobial susceptibility testing.

FORMULA

Ingredients per liter of deionized water:*

Pancreatic Digest of Casein	10.0gm
Yeast Extract	10.0gm
Beef Heart Infusion	3.1gm
Sodium Carbonate	2.5gm
Dextrose	2.0gm
Sodium Chloride	2.0gm
Disodium Phosphate	0.4gm

Additionally, Todd-Hewitt Broth with Tween contains:

Tween [®] 80	1.0ml
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Final pH 7.8 +/- 0.3 at 25°C.

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

STORAGE AND SHELF LIFE

Storage: Upon receipt, store at 2-30°C. away from direct light. Todd Hewitt Broth (Cat. no. K112) and Todd Hewitt Broth with Tween[®] (Cat. no. R33) should be stored at 2-8°C. away from direct light. Media should not be used if there are any signs of deterioration, discoloration, contamination, or if the expiration date has passed. Product is light and temperature sensitive; protect from light, excessive heat, moisture, and freezing.

The expiration date on the product label applies to the product in its intact packaging when stored as directed. The product may be used and tested up to the expiration date on the product label and incubated for the recommended incubation times as stated below.

Refer to the document "[Storage](#)" for more information.

PRECAUTIONS

This product may contain components of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not guarantee the absence of transmissible pathogenic agents. Therefore, it is recommended that these products be treated as potentially infectious, and handle observing the usual Universal Precautions for blood. Do not ingest, inhale, or allow to come into contact with skin.

This product is for *in vitro* diagnostic use only. It is to be used only by adequately trained and qualified laboratory personnel. Observe approved biohazard precautions and aseptic techniques. All laboratory specimens should be considered infectious and handled according to "standard precautions." Refer to the document "[Guidelines for Isolation Precautions](#)" from the Centers for Disease Control and Prevention.

For additional information regarding specific precautions for the prevention of the transmission of all infectious agents from laboratory instruments and materials, and for recommendations for the management of exposure to infectious disease, refer to CLSI document M29: *Protection of Laboratory Workers from Occupationally Acquired Infections*.

Sterilize all biohazard waste before disposal.

Refer to the document "[Precautions When Using Media](#)" for more information.

PROCEDURE

Specimen Collection: Specimens should be submitted directly to the laboratory without delay and protected from excessive heat and cold. If there is to be a delay in processing, specimens should be inoculated into an appropriate transport media and refrigerated until inoculation.

Method of Use:

1. Allow the medium to warm to room temperature prior to use.
2. Inoculate the tube directly with the specimen swab.
3. Express excess fluid from the swab while removing from the medium.
4. Incubate the inoculated broth (caps loose) at 35-37°C. in 5-10% CO₂ for 2-5 hours prior to use in fluorescent

antibody procedures or incubate for 24 hours if extraction procedures for serological typing are to be performed.

5. Follow serological and extraction procedures as directed by the manufacturer.

INTERPRETATION OF RESULTS

Adhere to standards presented by the manufacturer of the test chosen.

LIMITATIONS

Streptococcus spp. grown in Todd Hewitt Broth and harvested as antigen to raise antibodies may carry antigenic material from the broth.

Todd Hewitt Broth is non-selective. Additional tests including subculture to an appropriate agar media, as well as biochemical and/or serological tests, should be performed for complete identification of pure cultures. For more information, consult appropriate references.

Refer to the document "[Limitations of Procedures and Warranty](#)" for more information.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as loops, other culture media, swabs, applicator sticks, incinerators, and incubators, etc., as well as serological and biochemical reagents, are not provided.

QUALITY CONTROL

Hardy Diagnostics tests each lot of commercially manufactured media using appropriate quality control microorganisms and quality specifications as outlined on the Certificate of Analysis (CofA) and the CLSI document M22-A3 *Quality Assurance for Commercially Prepared Microbiological Culture Media*. The following microorganisms are routinely used for testing at Hardy Diagnostics:

Test Organisms	Inoculation Method*	Incubation			Results
		Time	Temperature	Atmosphere	
<i>Streptococcus pyogenes</i> ATCC® 19615	A	24hr	35°C	Aerobic	Growth
<i>Streptococcus agalactiae</i> ATCC® 12386	A	24hr	35°C	Aerobic	Growth

* Refer to the document "[Inoculation Procedures for Media QC](#)" for more information.

USER QUALITY CONTROL

End users of commercially prepared culture media should perform QC testing in accordance with applicable government regulatory agencies, and in compliance with accreditation requirements. Hardy Diagnostics recommends end users check for signs of contamination and deterioration and, if dictated by laboratory quality control procedures or regulation, perform quality control testing to demonstrate growth or a positive reaction and to demonstrate inhibition or a negative reaction, if applicable. Hardy Diagnostics quality control testing is documented on the certificate of analysis (CofA) available from Hardy Diagnostics [Certificate of Analysis](#) website. Also refer to the document "[Finished Product Quality Control Procedures](#)," and the CLSI document M22-A3 *Quality Assurance for Commercially Prepared Microbiological Culture Media* for more information on the appropriate QC procedures. See the references below.

PHYSICAL APPEARANCE

Todd Hewitt Broth should appear clear, and medium amber in color.

REFERENCES

1. Elliott, S.D. 1945. *J. Exp. Med.*; 81573.
2. *Applied Microbiol.*; 2:117, 1954.
3. Isenberg, H.D. *Clinical Microbiology Procedures Handbook*, Vol. I, II & III. American Society for Microbiology, Washington, D.C.
4. Anderson, N.L., et al. *Cumitech 3B; Quality Systems in the Clinical Microbiology Laboratory*, Coordinating ed., A.S. Weissfeld. American Society for Microbiology, Washington, D.C.
5. *Quality Assurance for Commercially Prepared Microbiological Culture Media*, M22. Clinical and Laboratory Standards Institute (CLSI - formerly NCCLS), Wayne, PA.

ATCC is a registered trademark of the American Type Culture Collection.
Tween is a registered trademark of ICI Americas, Inc.

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[Ordering Information](#)

Distribution Centers:

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