Tryptose Broth (DM912)

Intended Use
Tryptose Broth (DM912) is recommended for cultivating *Brucella* and other fastidious microorganisms.

Product Summary and Explanation
For the cultivation and isolation of pathogenic and saprophytic bacteria, tryptose media prepared without extract or infusion of meat, are recommended. Previously, addition of meat extract or infusion as a nutritional supplement in culture media was considered necessary. Tryptose was developed while studying the growth requirements of *Brucella*. Huddleson[1] discovered that tryptose media was equal or superior to meat infusion media, providing uniformity for the cultivation and differentiation of fastidious organisms; particularly well suited for the isolation of *Brucella* from blood. Castañeda[2] studied the isolation of *Brucella* species using a broth containing 2% tryptose and 2% sodium citrate. Huddleson[3] used a broth containing 2% tryptose as an enrichment medium in the isolation of *Brucella* from clinical specimens. McCullough et al.[4] reported that growth of *Brucella suis* increased by addition of thiamine, dextrose and iron salts. Blood agar may be prepared by adding 5% sterile, defibrinated sheep, horse or rabbit blood to the sterile medium. The high productivity of tryptose media in the isolation and cultivation of *Brucella* supports use of these formulas as general-purpose media, especially when avoidance of animal tissue products is desired. Tryptose Broth with 5% bovine serum, with or without antibiotics, remains a standard plating medium for the isolation of brucellae.[5] Addition of 0.1% agar to Tryptose Broth can increase growth of aerobes and anaerobes in liquid media. Tryptose media are recommended in standard methods for food testing.[6] Tryptose media can be supplemented with thiamine or citrate for the cultivation and maintenance of fastidious aerobic and facultative microorganisms.[7] Tryptose Broth is specified in the *Compendium of Methods for the Microbiological Examination of Foods*.[8] Tryptose media are recommended in the FDA *Bacteriological Analytical Manual* for serological testing.[9]

Principles of the Procedure
Tryptose Agar contains tryptose which serves as a source of carbonaceous and nitrogenous compounds. Dextrose is the source of energy and carbon. Sodium chloride maintains osmotic equilibrium of the medium. Blood Agar may be prepared by adding 5%v/v sterile defibrinated blood to molten sterile Tryptose Agar at 50°C.

Formula / Liter

Ingredients	Gms / Liter
Tryptose	20.00
Dextrose	1.00
Sodium chloride	5.00
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.
3. Biosafety Level 2 practices, containment equipment and facilities are recommended for activities with clinical specimens of human or animal origin containing or potentially containing pathogenic *Brucella* spp.
4. Biosafety Level 3 practices, containment equipment and facilities are recommended for all manipulations of cultures of the pathogenic *Brucella* spp. and for experimental animal studies.

Directions
1. Suspend 26 grams in one liter of distilled water.
2. If desired, add 0.5 - 1% agar to the medium.
3. Heat, if necessary, to dissolve the medium completely.
4. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Basal Medium : Yellow coloured, clear solution. With addition of 5% v/v sterile defibrinated blood, cherry red coloured, opaque solution forms in tubes.
Reaction of 2.6% solution	pH 7.3 ± 0.2 at 25°C
Gel Strength	Not Applicable

Expected Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 48-72 hours with added 5% v/v sterile defibrinated blood in presence of 10% Carbon dioxide (CO_2).

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	*Brucella melitensis ATCC 4309*	50-100	good-luxuriant
2.	*Brucella suis ATCC 4314*	50-100	good-luxuriant
3.	*Streptococcus pneumonia ATCC 6303*	50-100	good-luxuriant
4.	*Streptococcus pyogenes ATCC 19615*	50-100	good-luxuriant

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

Test Procedure
Refer to appropriate references for standard test procedures.

Results
Refer to appropriate references and standard 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. Tryptose media are general-purpose, non-selective media. Although certain diagnostic tests may be performed directly on the medium, biochemical and, if indicated, immunological testing using pure cultures are recommended for complete identification.
2. When preparing blood agar, hemolytic reactions of some strains of group D streptococci have been shown to be affected by differences in animal blood.
3. Atmosphere of incubation has been shown to influence hemolytic reactions of beta-hemolytic streptococci. For optimal performance, incubate tryptose media supplemented with blood under increased CO_2 or anaerobic conditions.
4. Dextrose has been shown to inhibit hemolysin production by some organisms.
5. Consult appropriate texts for detailed information and recommended procedures.

Packaging
Product Name : Tryptose Broth
Product Code : DM912
Available Pack sizes : 500gm

References

1. Huddleson. 1943. Brucellosis in man and animals, rev. ed. The Commonwealth Fund, New York, N.Y.
2. Castañeda. 1947. Proc. Soc. Exp. Biol. Med. *64*:114.
3. Huddleson. 1939. Brucellosis in man and animals. Oxford University Press, Oxford, England.
4. McCullough, Mills, Herbst, Roessler and Brewer. 1947. J. Bacteriol. *53*:5.
5. Moyer and Holcomb. 1995. *In* Murray, Baron, Pfaller, Tenover, and Yolken (ed.), Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.
6. Harmon, S. M., D. A. Kautter, D. A. Golden, and E. J. Rhodehamel. 1995. FDA Bacteriological analytical manual, 8th ed. AOAC International, Arlington, VA.
7. Atlas. 1995. Handbook of microbiology media for the examination of food. CRC Press, Boca Raton, Fla.
8. Downes and Ito (ed.). 2001. Compendium of methods for the microbiological examination of foods. 4th ed. American Public Health Association, Washington, D.C.
9. U.S. Food and Drug Administration. 2001. Bacteriological analytical manual, online. AOAC International, Gaithersburg, Md.

Further Information

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