Product Insert

LIQUID DENTAL TRANSPORT MEDIUM (LDT)

Products

AS-916 Liquid Dental Transport Medium (LDT) 10 tubes / pkg

Intended Use

Liquid Dental Transport Medium (LDT) is a buffered mineral salt based liquid medium with reducing agents. Designed as a holding medium to maintain the viability of microorganisms, both anaerobic and aerobic, through collection, transportation, and shipment of clinical specimens.

Summary

Liquid Dental Transport Medium (LDT) contains buffered mineral salts in a liquid form with sodium thioglycollate and cysteine added to provide a reduced environment. This combination has been prepared to provide an environment which maintains the viability of most microorganisms without significant multiplication and allows for dilution of inhibitors present in clinical material. This medium is designed to meet the stringent viability requirements of obligate anaerobes. The medium is supplied in 19 mm x 40 mm glass vials with a rubber septum (Hungate-style) cap, which allows for either direct injection of aspirated clinical material or introduction of tissue samples. This media is prepared, dispensed, and packaged under oxygen-free conditions.

Formulation*

Sodium Thioglycollate	1.00	g
Sodium Phosphate Dibasic	1.15	g
Sodium Chloride	3.00	g
Potassium Chloride	0.20	g
Potassium Phosphate Monobasic	0.20	g
Magnesium Sulfate Heptahydrate	0.10	g
L-Cysteine Hydrochloride (25.0% solution)	2.00	mL
DI Water	1.00	L

Final pH: 7.3 ± 0.3 at 25°C
Final volume: 1.0 mL ± 0.2 mL

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

Precautions

For *IN VITRO DIAGNOSTIC USE* only. Utilize approved biohazard precautions and aseptic technique when using this product. This product is for use only by properly-trained and qualified personnel. Sterilize all biohazard waste prior to disposal.

Storage and Shelf Life

Storage: Upon receipt, store at room temperature in original package until used. Avoid overheating or freezing. Do not use medium if there are signs of deterioration (discoloration due to oxidation of media) or contamination. The expiration date applies to the product in its original packaging and stored as directed. Do not use product past the expiration date shown on the label.

Shelf Life: 1 year from date of manufacture.

Procedure

Specimen Collection: Protect specimens for anaerobic culture from oxygen during collection, transportation, and processing. Consult appropriate references for detailed instructions concerning collection and transportation of anaerobes.

Methods for Use: LDT is suitable for use as a transport and holding medium for clinical specimens collected on paper points or fluid specimens aspirated into syringes. As with any clinical specimen, this media should be inoculated using aseptic technique immediately upon collection. For paper point collection, open the tube by the cap and place the paper point into the liquid medium. Immediately close the tube. Oxygen contact within medium should be minimized. For aspirated material, the rubber septum should be disinfected and carefully injected with the syringe. Injected the specimen into the tube at a slow rate. Once inoculated, keep at room temperature, and deliver to the laboratory for processing as soon as possible. Detailed instructions for processing anaerobic cultures can be found in the appropriate references.

Materials Required, But Not Provided

Standard microbiological supplies and equipment such as: loops, paper points, disinfectant, syringes with needles, sterile forceps, saline blanks, slides, staining supplies, microscope, incinerator / autoclave, incubators, anaerobic chamber / anaerobic jars, other culture media, and serological and biochemical reagents.

Interpretations of Results

Results for the recovery of anaerobic bacteria will largely depend on proper and adequate specimen collection, timely transport, and processing in the laboratory. If used properly, this media should maintain the viability of microorganisms, anaerobic and aerobic, present within a clinical specimen until transported and processed within the laboratory. If processed correctly, LDT is designed to maintain the viability of microorganisms contained within a specimen during transport.

Limitations

LDT is designed as a holding medium to maintain viability of microorganisms contained within a specimen during transport. This media will not provide complete information for identification of bacterial isolates. Additional test procedures and media are required for complete identification. Specimens should be transported and processed in the laboratory in a timely manner since delay may result in overgrowth by one organism present in a specimen from polymicrobial infections. Consult reference materials for additional information.

Quality Control

The following organisms are routinely used for quality assurance testing at Anaerobe Systems. To determine the viability of the organism listed below, each ATCC strain is inoculated into a LDT tube and held for 24 hours. In an anaerobic environment, each organism is streaked onto Anaerobic Brucella Blood Agar (BRU, catalog #: AS-111) to obtain isolated colonies. Plates are incubated at 35–37°C for 48 hours and growth is observed.

Organism Tested	ATCC #	Results	Time
Bacteroides fragilis	25285	Growth	24 hrs
Prevotella melaninogenica	25845	Growth	24 – 48 hrs
Fusobacterium periodonticum	33693	Growth	24 – 48 hrs
Fusobacterium nucleatum	25586	Growth	24 hrs
Peptostreptococcus anaerobius	27337	Growth	24 hrs
Bacteroides vulgatus	8482	Growth	24 hrs
Fusobacterium necrophorum	25286	Growth	24 hrs
Clostridium perfringens	13124	Growth	24 hrs
Clostridium novyi	7659	Growth	24 – 48 hrs
Porphyromonas gingivalis	33277	Growth	24 – 48 hrs

User Quality Control: The final determination to the extent and quantity of user laboratory quality control must be determined by the end user.

If sterility testing is to be performed on this product, a representative sample of the lot(s) should be incubated anaerobically and aerobically for 48 – 96 hours.

If the holding capacity of this medium is to be tested for performance, it is recommended that the following ATCC organisms be evaluated for growth.

Organism	ATCC#	Growth
B. fragilis	25285	24 hrs
P. melaninogenica	25845	24 – 48 hrs
F. necrophorum	25286	24 hrs
F. periodonticum	33693	24 – 48 hrs
P. gingivalis	33277	24 – 48 hrs

Physical Appearance: LDT should appear as a transparent and colorless liquid.

References

1. Dowell, V. R., Jr., G. L. Lombard, F. S. Thompson and A. Y. Armfield. 1977. *Media for the Isolation, Characterization and Identification of Obligately Anaerobic Bacteria.* USDHHS, CDC. Atlanta, GA 30333.

2. Engelkirk, P. G., Duben-Engelkirk, J. and Dowell, V. R. 1992. *Principles and Practices of Clinical Anaerobic Bacteriology*. Star Publishing Co., Belmont, CA 94002.

3. Holdeman, L. V., F. P. Cato and W. E. C. Moore. 1987. *Anaerobe Laboratory Manual*. Virginia Polytechnic Institute and State University. Blacksburg, VA 24061

4. Jousimeis-Somer, H. R., Summanen, P., Citron, D. M., Baron, E. J., Wexler, H. M. and S. M. Finegold. 2002. *Wadsworth – KYL Anaerobic Bacteriology Manual*. Star Publishing Co., Belmont, CA 94002.

5. CLSI. *Quality Control for Commercially Prepared Microbiological Transport Systems; Approved Standard.* CLSI document M40-A2. CLSI, 940 West Valley Road, Suite 1400, Wayne, PA 19087-1898 USA, 2014.

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