# Product Insert

# ANAEROBIC TRANSPORT MEDIUM / DENTAL TRANSPORT MEDIUM (ATM, ATM-SP, and DTM)

## Products

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|---|---|---|
| AS-911 | Anaerobic Transport Medium (ATM) | 10 tubes / pkg |
| AS-914 | Anaerobic Transport Medium Surgery Pack (ATM-SP) | 10 tubes / pkg |
| AS-920 | Anaerobic Dental Transport Medium (DTM) | 10 tubes / pkg |

## Intended Use

Anaerobic Transport Medium (ATM and ATM-SP) and Anaerobic Dental Transport Medium (DTM) are mineral salt based semi-solid medias with reducing agents designed as a holding medium to maintain the viability of microorganisms, both anaerobic and aerobic, through collection, transport, and shipment of clinical specimens.

## Summary

ATM, ATM-SP, and DTM contain buffered mineral salts in a semi-solid media, with sodium thioglycollate and cysteine added to provide a reduced environment. This combination has been prepared to produce an environment which maintains the viability of most microorganisms without significant multiplication and allows for the dilution of inhibitors present in clinical material. This medium is designed to meet the stringent viability requirements of obligate anaerobes. All tubes are supplied with hungate caps (screw caps containing a rubber septa), which allows for either direct injection of aspirated clinical specimens or introduction of tissue samples. Resazurin is added as a color indicator of significant oxygen exposure to the media. 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 |
| Gellan Gum | 4.00 | g |
| L-Cysteine Hydrochloride | 1.00 | g |
| Resazurin (0.025% solution) | 4.00 | mL |
| DI Water | 1.00 | L |

Final pH: 7.5 ± 0.5 at 25°C
Final volume: 6.00 mL ± 0.60 mL for AS-911 & AS-914
Final volume: 5.00 mL ± 0.75 mL for AS-920

*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 by properly trained and qualified personnel only. Sterilize all biohazard waste prior to disposal.

## Storage and Shelf Life

**Storage:** Upon receipt, store at room temperature in original packaging until used. Avoid overheating or freezing. Do not use medium if there are signs of deterioration (shrinking, cracking or 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.

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|---|---|---|
| **Shelf Life:** | AS-911 (ATM) | 1 year from date of manufacture |
| | AS-914 (ATM-SP) | 5 months from date of manufacture |
| | AS-920 (DTM) | 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 proper collection and transportation of anaerobes.

**Methods for Use:** ATM, ATM-SP, and DTM are suitable for use as a transport and holding medium for clinical specimens collected as tissue samples or fluid specimens aspirated into syringes. With any clinical specimen, this media should be inoculated using aseptic technique during collection. For tissue samples, open the screw cap and place tissue on the surface of the semisolid medium; inserting the tissue into the gel is not necessary. Immediately close the tube. Oxygen contact within the medium should be minimized. For syringe specimens, the rubber septum in the cap should be disinfected with ethyl alcohol and the fluid specimen injected directly into the tube at a slow rate. Once tubes are inoculated, keep at room temperature, and deliver to the laboratory for processing as soon as possible. Swabs are not recommended for use as anaerobic specimen collection devices; however, this medium can accommodate swabs if necessary. Detailed instructions for processing anaerobic cultures can be found in the appropriate references.

**ATM Surgery Pack (AS-914):** The contents and outer surface of the tube are sterile. To open, peel the envelope apart. While wearing sterile gloves, remove the tube from the packaging and take the tube into the sterile surgical area.

## Materials Required, But Not Provided

Standard microbiological supplies and equipment such as loops, saline blanks, slides, staining supplies, microscope, incinerator / autoclave, incubators, anaerobic chamber / anaerobic jars, disinfectant, other culture media, and serological / biochemical reagents may be required.

## Interpretation of Results

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

## Limitations

ATM, ATM-SP, and DTM are designed as holding mediums to maintain the viability of microorganisms contained within a specimen during transport. This medium 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 as delays may result in overgrowth by one organism present in a specimen from polymicrobic 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 holding capacity of ATM, ATM-SP, and DTM, an ATCC isolate strain (listed below), from 24-hour growth, is inoculated into the media aerobically and held for 48 hours at room temperature. Each organism is streaked onto Anaerobic Brucella Blood Agar (BRU, catalog #: AS-111) in an anaerobic environment 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 |
| Cutibacterium acnes* | 6919 | Growth | 24 – 48 hrs |
| Fusobacterium nucleatum* | 25586 | Growth | 24 hrs |
| Peptostreptococcus anaerobius* | 27337 | Growth | 24 hrs |

* Organisms specified by CLSI for quality control testing of anaerobic microbiological transport systems.

**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.

For AS-911 (ATM) & AS-914 (ATM-SP):

| Organism | ATCC# |
|---|---|
| B. fragilis | 25285 |
| P. melaninogenica | 25845 |
| C. acnes | 6919 |
| F. nucleatum | 25586 |
| P. anaerobius | 27337 |

For AS-920 (DTM):

| Organism | ATCC# |
|---|---|
| B. fragilis | 25285 |
| P. melaninogenica | 25845 |
| F. nucleatum | 25586 |

**Physical appearance:** ATM, ATM-SP, and DTM should appear as a clear to slightly hazy, colorless, semi-solid media in a 16 mm x 100 mm glass tube (for AS-911 & AS-914) or a 19 mm x 40 mm glass tube (for AS-920) with a hungate-style cap.

## 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.