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VERSATREK RECOVERS YET ANOTHER INTERESTING ORGANISM: *BREVUNDIMONAS VESICULARIS*!

By DeAna Paustian, Senior Marketing Specialist
TREK Diagnostic Systems

An 89-year-old male nursing home resident who had fallen was brought to the emergency room department. The admitting diagnosis was right parietal intracranial hemorrhage, with resultant paresis and aphasia and dysphasia. Other than the fall, the patient appeared to be in excellent physical condition and took medication for glaucoma only.

Admitting laboratory work was normal with the exception of slight anemia and elevated glucose. The patient was admitted to ICU for observation, and blood cultures were obtained. One of two blood cultures signaled positive at 57.4 hours on the VersaTREK Automated Microbial Detection System.

The positive aerobic bottle demonstrated a gram variable rod and was subcultured onto BAP, MAC, PEA and Brucella agar. No organisms grew after overnight incubation. On the second day, orange colonies appeared on the BAP only. Oxidase reaction was positive, and final identification was confirmed as 99% *Brevundimonas vesicularis*. The organism was susceptible to the following drugs: Amikacin, Cefepime, Cefotaxime, Ceftriaxone, Chloramphenicol, Gentamicin, Imipenem, Levofloxacin, Meropenem, Piperacillin/Tazobactam, Piperacillin, Tet-

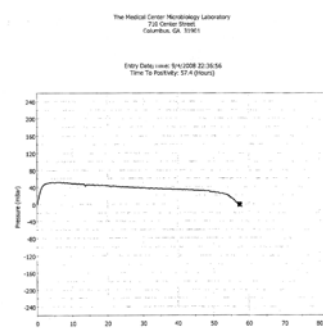
racycline, Ticarcillin/Clavulanic Acid, Tobramycin and Trimethoprim/Sulfamethoxazole. The patient was treated for sepsis with Levaquin® and made a full recovery.

What Is *Brevundimonas vesicularis*?

Brevundimonas vesicularis was formerly known as *Pseudomonas vesicularis*. The organism is an infrequent cause of infection in humans, however, it has been reported in a hemodialysis patient, an open-heart surgery patient, an individual with sickle cell anemia and an immunocompromised individual¹. In addition, documentation exists that demonstrates the organism caused infective endocarditis in a healthy male from an occult dental abscess².

The organism is an aerobic nonsporeforming Gram negative bacillus. It is motile and grows best at 26°C. A common characteristic of the organism is its ability to produce bright colored orange colonies.

VersaTREK's comprehensive detection technology is not limited to CO₂ production and, therefore, the system was able to quickly recover the organism in less than three days, as seen by the downward dip (gas consumption) in the patient graph.



TREK would like to thank Daniel Cullison and his staff at The Medical Center in Columbus, GA for sharing this interesting organism with us. If you have an interesting sepsis case you would like to share with us, please contact DeAna Paustian at +1 216-351-8735 , Ext. 104 or email at dpaustian@trekds.com.

¹ Manual of Clinical Microbiology. (8th ed.)

² Yang, M., Chen, H., Lin, W., Lin, C., Lu, P. (2006). Case Report: Infective Endocarditis caused by *Brevundimonas vesicularis*. BMC Infectious Diseases. Retrieved from <http://www.biomedcentral.com/1471-2334/6/179>



THE XTRA RESULTS YOU HAVE BEEN WAITING FOR ON GRAM NEGATIVE ORGANISMS

By Joan Lamprecht, Associate Product Manager
TREK Diagnostic Systems

Sensititre now has two solutions for MIC results on your resistant non-fastidious Gram negative organisms.

The non-fermenter plate (Part No. NF) has been a staple in laboratories for testing resistant Gram negative isolates, including cystic fibrosis isolates. Only Sensititre has given laboratories the ability to report full formulary, true MIC results for these organisms.

Now, Sensititre offers you the added ability to test colistin, polymixin B, doxy-

cline and minocycline, as well as doripenem, ertapenem, imipenem and tigecycline using the new Xtra, Research Use Only format (Part No. GNXF*). The new Xtra format is suitable for use manually, with the Vizion® instrument, or with the fully automated ARIS® 2X system.

TREK is offering this Research Use Only product in response to customer requests for testing of colistin and polymixin B. CLSI M100 does list interpretive MIC guidelines for *Pseudomonas aeruginosa*, *Acinetobacter* spp. and

non-Enterobacteriaceae for these lipopeptides. However, until the FDA approves breakpoints for these compounds, they must maintain a Research Use Only designation and not be used for clinical reporting or diagnostic procedures.

The GNXF* format has an eighteen month shelf life at room temperature storage. Contact TREK +44 1342 31877 to learn more about ordering this format for your laboratory.

<u>Antimicrobial</u>	<u>Part No. NF (µg/ml)</u>	<u>Part No. GNXF* (µg/ml)</u>
Amikacin	4-32	4-32
Amp/Sul	2/1-16/8	
Aztreonam	2-16	2-16
Carbenicillin	32-256	
Cefepime	2-16	2-16
Cefoperazone	4-32	
Cefotaxime	4-32	1-32
Ceftazidime	1-16	1-16
Ceftriaxone	4-32	
Chloramphenicol	2-16	
Ciprofloxacin	0.25-2	0.25-2
Colistin		0.25-4
Doripenem		0.12-2
Doxycycline		2-16
Ertapenem		1-16
Gentamycin	1-8	1-8
Imipenem	1-8	1-8
Levofloxacin	0.5-4	1-8
Meropenem		1-8
Minocycline		2-16
Pipercillin/tazobactam	8/4-64/4	8/4-64/4
Pipercillin	8-64	
Polymixin B		0.25-4
Sulfisoxazole	256	
Tetracycline	1-8	
Ticarcillin/clavulanic Acid	16/2-128/2	16/2-128/2
Ticarcillin	8-64	
Tigecycline		0.25-8
Tobramycin	1-8	1-8
Trimethoprim/sulfamethoxazole	0.5/9.5-4/76	0.5/9.5-4/76

*For research use only. Not for use in diagnostic procedures.

WELCOME BACK, ARIS 2X!

By Carla Williams, MT (ASCP), Microbiology Lead Tech
Memorial Lufkin Health Center

Memorial Lufkin Health Center is an acute care facility. The lab serves a three-hospital system, as well as a dialysis center, cancer center and a large outpatient base. It is located in Lufkin, Texas.

Memorial Lufkin was one of the very first customers to have a Sensititre® ARIS AST/ID system installed. As a matter of fact, an ARIS unit with the serial number 10 was placed here in the 1980's, even before I was a Med Tech student. Memorial loved the ARIS, as it never gave us a bit of trouble. However, a few years ago, a rapid system was brought into our laboratory to replace it as our AST/ID primary automated system.

We had continued to use Sensititre plates for testing non fermenting Gram negative and Streptococcal isolates, that our rapid system would not accurately test. And finally, after several years of really missing our ARIS, I was able to reinstitute its use in the Fall of 2008.

So why did we come back? As microbiologists, we just love the fact that with the ARIS 2X, you can read the Sensititre plates visually, and see where the MIC is! With our previous rapid system, we never felt truly comfortable with the fact that changing the organism ID would change the MIC result. But the ARIS 2X does not extrapolate an MIC value by matching a growth curve; it is a true endpoint determination.

As part of the ARIS 2X

System, we also received the new Vizion digital imaging system (Part No. V-2020). The Vizion System gives us the ability to review off-shift manual isolate results. We did not have that option on our previous system, so this gives our laboratory the flexibility to turn out results in a timely fashion.

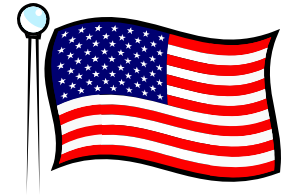
We are very excited about using the new Gram positive All-in-One (Part No. GPALL1F) MIC plate, which we can read manually on the Vizion System, or with the automated ARIS 2X. It is going to be the most marvelous format for us! Dtest is right on the plate, and our Sensititre SWIN software automatically applies changes to the clindamycin result for us. Even the rapid systems require 18 hours for Dtest results! We are thrilled that we can eliminate *all* the extra testing (Dtest, Cefoxitin screen, Vancomycin agar, Etest) we had been doing for Gram positive organisms.

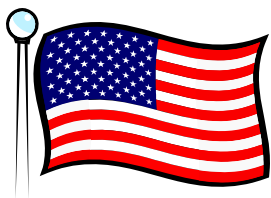
The Sensititre identification products are great, as well. We don't have to add any reagents, and we don't get notices that additional esoteric tests are required to differentiate a growing list of organisms. The Sensititre SWIN® software just alerts us to input simple growth characteristics or spot tests that we typically already have results for in our bench notes, and then recalculates the improved ID results.

Our technologists truly believe that the Sensititre ARIS 2X is the ONLY real

choice. The security that we feel in our MIC results is the primary reason but there is just no comparison for a truly mess free, closed system which requires no maintenance or reagents. Do we miss our rapid system? The answer from my technologists would be a resounding, "No!"

We have so much confidence in TREK that we have submitted a purchase order for a Versa-TREK blood culture instrument, and look forward to its installation, as well as the cost savings that it will provide. We anticipate continuing to work with TREK for a very long time!





TREK'S LAB SERVICE DEPARTMENT: FROZEN MIC PLATES AND OTHER SERVICES IMPORTANT TO CLINICAL DIAGNOSTIC LABORATORIES

By Cindy Knapp, Director of Laboratory Services
TREK Diagnostic Systems

Many of you are aware that TREK produces custom MIC plates, but you may not realize that Lab Service custom MIC plates, offer laboratories more flexibility than any other diagnostic manufacturer.

For example, TREK can manufacture batch sizes as small as 100 plates. Small batch sizes are ideal for special studies that pharmaceutical companies implement for various reasons. Often, they begin to work with a new drug that has not been tested in vitro, or they may screen several similar drugs to determine which one to move forward into clinical trials. They may be looking for a new antimicrobial indication for use or want to combine their drug with another drug to determine synergistic effects. TREK custom frozen plates are ideal for these types of studies.

The frozen MIC plate process begins when new compounds, or new applications for existing antimicrobials, are developed on frozen CLSI reference plates.

Once an antimicrobial has been tested on frozen MIC plates, drug development is transferred to TREK's UK R&D team for Sensititre dried MIC plate development. In many instances the Lab Service department is involved in validation studies to compare dry and frozen MIC plate performance. The development of an antimicrobial in a dry plate is important because it expedites our processes to gather data for FDA 510(k) clinical trials. This means that when a pharmaceutical company receives their FDA approval for a new drug, Sensititre MIC plates can be manufactured.

Other products and services offered by the TREK Lab Service group include:

- When a drug is transferred to the UK for dried plate development, a validation study needs to be completed to ensure that the performance of the dried plate is equivalent to the frozen reference plate. These studies are performed by the Lab Service department.
- CLSI M23 studies are also performed on frozen plates. These CLSI M23 studies are performed in

order to set the QC standards for all new antimicrobials that are tested in clinical diagnostic labs.

- Lab Service works very closely with numerous investigators and clinical sites to help them write protocols for studies, design plates to suit study needs and determine additional supplies needed to complete projects.

- A number of specialty broths are manufactured in Lab Services, including: 7H9 with OADC (Part No.s T8100, T8000-15*), Cation Adjusted Mueller Hinton Broth (CAMHB) with OADC for testing on our Slow-Growing Mycobacterium plates (Part No. T8005*), RPMI for CLSI Yeast reference plates (Part No. Y3450* and Y3460*) and CAMHB with Lysed Horse Blood and 0.001% pyridoxal hydrochloride (Part No. CP116-10*) for nutritionally variant Streptococci. All specialty broths are put through Quality Control in Lab Services to qualify their performance on Sensititre MIC plates.

For more information on frozen and custom MIC plates, contact TREK at +44 1342 31877.

*For research use only. Not for use in diagnostic procedures.

VIZION SYSTEM: QUICKLY GAINING US POPULARITY

US Vizion System placements have been brisk, both as upgrades to previous Sensitouch customers, and as newly installed systems. Vizion's ability to record and review images in the software is extremely helpful, not only when training new technicians but also when

working with fastidious organisms that require multi-day incubation times. SWIN's Expert Rules and data management capabilities can add valuable tech time into a laboratory's day. The Vizion instrument's compact size and cost-conscious pricing, as well as

its use with SWIN or the automated ARIS 2X system makes it the right purchase for any size laboratory.

We look forward to placing more Vizion Systems worldwide in 2009!

HELP US HELP YOU!

By Monica Chillious, Technical Service Specialist II TREK Diagnostic Systems

The Technical Service Department at TREK Diagnostic Systems is dedicated to providing excellent service and support to all of our distributors across the globe.

We understand that it is often difficult to manage issues as they arise with your individual customers without an effective communication and support system with the parent company. In an effort to bring you better service, the department would like to offer a few helpful tips about when, what and how to report issues so we can resolve them as quickly as possible.

When to Report:

It is not required to report all customer issues to TREK. However, it is necessary to provide information when requesting replacement parts for any unit under warranty. Additionally, it is highly encouraged to contact Technical Service when observing any anomalies or simply to

gain a better understanding of our products and how they work.

What to Report:

When reporting information to Technical Service, it is helpful to have as much of the applicable information as possible. This includes:

VersaTREK Instrument Hardware Issues:

- Serial number of affected unit(s)
- Modules/locations affected
- Firmware versions: main board, module board and AT board

VersaTREK Computer Issues:

- Software version
- TREK-purchased PC or locally-purchased?

Other Issues:

- Length/frequency of issue
- Lot numbers
- Troubleshooting steps already taken
- Growth curves (included with tem-

perature and barometric pressure)

- Symantec PCAnywhere modem or IP address access availability?

How to Report:

It's easy! You can contact the Technical Support team using the hotline at +1 216-351-8735 or e-mail the department at techsupport@trekds.com.

It is our goal to build a wonderful network of support as you continue to service our product in your respective areas of the world. Please do not hesitate to use Technical Services and its team of specialists as a valuable resource of knowledge. As always, we appreciate your continued support of the TREK Product Line.



DISCOVER THE LATEST TREK PRODUCTS AT DISCOVERY WORKSHOPS

You're invited to *discover* what TREK products are all about at one of the upcoming Discovery Workshops! TREK Discovery Workshops give attendees the opportunity to learn the scientific principles behind the products straight from the experts, as well as hear testimonials and experiences from actual users. Hands-on product demonstrations of the VersaTREK Automated Microbial Detection System, Sensititre

ARIS 2X Microbiology System and Vizion System are also included.

Discovery Workshops are coming to a city near you! Upcoming workshops in 2009 include:

- **Anaheim, CA: August 2009**
- **Chicago, IL: September 29, 2009 at the Westin Chicago Northwest**

- **Cleveland, OH: November 11, 2009 at the Radisson Hotel Cleveland- Gateway**

To sign up for a workshop, contact Tracy Jarden at +1 216-351-8735 x205, or tjarden@trekds.com. For more information on Discovery Workshops, email info@trekds.com.



RESPONDING TO YOUR *STREPTOCOCCUS* TESTING NEEDS

By Joan Lamprecht, Associate Product Manager
TREK Diagnostic Systems

If you are one of the many customers who loved the Sensititre *Streptococcus* spp. MIC format (Part No. STP5F), you will certainly appreciate our recent update (Part No. STP6F), which now includes **azithromycin** and **augmentin**, in addition to daptomycin and tigecycline.

If you have not used our *Streptococcus* spp. plate, it may be time for you to take

a closer look at Sensititre for testing *Streptococcus pneumoniae* as well as ALL *Streptococcus* spp. isolates.

Sensititre provides true MIC readings in accordance with CLSI recommendations for better critical disease care. The *Streptococcus* spp. plate contains antimicrobial only—broth is added at time of test, ensuring accurate,

easy to view test results.

Large or small test volumes are accommodated by room temperature storage and 18-month shelf life, along with the manual Vizion instrument and fully-automated ARIS 2X read options.

Contact TREK at +44 1342 31877 to learn more about ordering this format for your laboratory.

Antimicrobial	Part No:	STP5F	STP6F	Antimicrobial	Part No:	STP5F	STP6F
Amoxicillin/Clavulanic Acid		NA	2/1-16/8	Levofloxacin		0.5-16	0.5-4
Azithromycin		NA	0.25-2	Linezolid		0.25-4	0.25-4
Cefepime		0.5-8	0.5-8	Meropenem		0.25-2	0.25-2
Cefotaxime		0.12-4	0.12-4	Moxifloxacin		1-8	1-8
Ceftriaxone		0.12-2	0.12-2	Penicillin		0.03-4	0.03-4
Cefuroxime		0.5-2	0.5-4	Telithromycin		0.5-4	NA
Chloramphenicol		1-32	1-32	Tetracycline		1-8	1-8
Clindamycin		0.12-1	0.12-1	Tigecycline		0.015-0.5	0.015-0.12
Daptomycin		0.06-2	0.06-2	Trimethoprim/ Sulfamethoxazole		0.5/9.5-4/76	0.5/9.5-4/76
Ertapenem		0.5-4	0.5-4	Vancomycin		0.5-4	0.5-4
Erythromycin		0.25-2	0.25-2				

Antimicrobial	STP6F	VITEK® 2 AST GP65*	MICroSTREP plus®
Ampicillin			✓
Augmentin (Amox/Clav)	✓		✓
Azithromycin	✓		✓
Cefaclor			✓
Cefepime	✓		✓
Cefotaxime	✓	✓	✓
Ceftriaxone	✓	✓	✓
Cefuroxime	✓		✓
Chloramphenicol	✓	✓	✓
Clindamycin	✓		✓
Daptomycin	✓		
Ertapenem	✓	✓	
Erythromycin	✓	✓	✓
Levofloxacin	✓	✓	✓
Meropenem	✓		✓
Linezolid	✓	✓	
Moxifloxacin	✓	✓	
Penicillin	✓	✓	✓
Ofloxacin		✓	
Telithromycin		✓	
Tigecycline	✓		✓
Tetracycline	✓	✓	✓
Trimethoprim/Sulfamethoxazole	✓	✓	✓
Sulfamethoxazole	✓		
Vancomycin	✓	✓	✓

**Streptococcus* spp. only