

TREK DIAGNOSTIC SYSTEMS

Vet

Update

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NEWS AND INSIGHT FOR THE VETERINARY MICROBIOLOGY LABORATORY

NewProduct•Announcement

TREK Introduces Two New Veterinary Plates!

By DeAna Paustian, Senior Marketing Specialist, TREK Diagnostic System

TREK Diagnostic Systems takes pride in being able to offer the most up-to-date antimicrobials on the market to our valued customers. We recently announced the availability of two new veterinary Sensititre® susceptibility plates for diagnostic testing. The two new plates are Part No. EQUIN1F for equine species and Part No. COMPAN1F for companion animals. The two new plates will replace Part No. COMEQ3F and offer extended antimicrobial ranges and more species-specific choices.

Both the equine and companion plates can be read on the ARIS® 2X, AutoReader, Vizion®, SensiTouch® or mirrored viewbox. The new plates are now available for delivery!



TREK now offers two new Sensititre veterinary MIC plates; one for companion animals, and one for equine species.

One change you will find on the new companion plate is the addition of cefovecin (Convenia®), a new extended-spectrum cephalosporin from Pfizer Animal Health. This new antimicrobial has been FDA-approved to treat skin, soft tissue and urinary infections in companion animals and offers the convenience of a single dose subcutaneous injection (Pfizer). Prior to this antibiotic, traditional treatment consisted of an oral therapy for 14 days.

To order the new Companion (Part No. COMPAN1F) or Equine (Part No. EQUIN1F) plates, contact TREK Customer Service at 800-871-8909 in the U.S., or internationally at +44 1342 31877.

Part No. COMPAN1F

<u>Antimicrobial</u>	<u>Dilution (µg/ml)</u>
Amikacin	4-32
Ampicillin	0.25-16
Amoxicillin/ clavulanic acid	4/2- 32/16
Cefazolin	4-16
Cefovecin	0.25-8
Cefoxitin	2-16
Ceftiofur	0.25-4
Cefpodoxime	2-16
Chloramphenicol	4-16
Clindamycin	0.5-4
Doxycycline	2-8
Enrofloxacin	0.25-2
Erythromycin	0.5-4
Gentamicin	1-8
Imipenem	1-8
Marbofloxacin	0.25-2
Oxacillin +2%NaCl	0.25-4
Penicillin	0.6-8
Rifampin	1-2
Ticarcillin	8-64
Ticarcillin/ clavulanic acid	8/2-64/2
Trimethoprim/ sulfamethoxazole	0.5/9.5- 2/38

(continued on p. 2)

TREK Vet Update is going digital!
Future issues will only be available electronically. Please update your email address at www.trekds.com/contactus.

NewProduct•Announcement (continued from page 1)

New Veterinary Plates

Part No. EQUIN1F

<u>Antimicrobial</u>	<u>Dilution (µg/ml)</u>	<u>Antimicrobial</u>	<u>Dilution (µg/ml)</u>
Amikacin	4-32	Gentamicin	1-8
Ampicillin	0.25-32	Imipenem	1-8
Azithromycin	0.25-4	Oxacillin +2%NaCl	0.25-4
Cefazolin	4-16	Penicillin	0.06-8
Ceftazidime	1-64	Rifampin	1-4
Ceftiofur	0.25-4	Tetracycline	2-8
Chloramphenicol	4-32	Ticarcillin	8-64
Clarithromycin	1-8	Ticarcillin/ clavulanic acid	8/2-64/2
Doxycycline	2-16	Trimethoprim/ sulfamethoxazole	0.5/9.5-4/76
Enrofloxacin	0.25-2		
Erythromycin	0.25-8		

TREK•News

Introducing the TREXcellence Program: Creating Great Customer Experiences

By Mitchell Barton, Global VersaTREK Product Manager, TREK Diagnostic Systems

TREK has experienced tremendous growth over the last few years, so when we sat down to discuss the things that propelled our growth, two items consistently came to the top:

- Great Products
- Great Customer Service

No puzzle on the first one – companies just don't survive in the market if they have lousy products. But over and over again, we see and hear the customer comments about our employees going the extra mile with personal service – or having the level of expertise in microbiology to truly help customers address difficult issues. Here is an example:

“TREK was outstanding in regards to technical support, responsiveness and the desire to gain our business. We really felt that they believed in their product. From the first steps we took to find a new blood culture system, we have been extremely pleased with the commitment and responsiveness of everyone at TREK.” –Joan Hoppe-Bauer, Barnes Jewish Christian Hospital

Instead of creating a program to address problems, we decided to formalize the culture of great customer service. We call it TREXcellence.



The Customer TREXcellence Team consists of Technical Support, Customer Service and Field Service representatives working together to create the best possible TREK service experience.

What is Customer TREXcellence?

Customer TREXcellence is the formalization of things TREK has been doing right for years – and it starts before we ever install an instrument in a customer's laboratory

- A team of experts is assigned to a cus-

tommer that will remain with them beyond installation – including a Field Service Engineer, Technical Service Specialist, and a Customer Service Specialist

- Continuous planning and preparation before installation, including checklists, meetings and training sessions
- Post installation meetings and evaluations to ensure the customer's success
- Regular check-ups from an Account Manager and Field Service Engineer
- 24/7 Technical Service Support – from personnel that are instrument and microbiology experts

We look forward to improving our high standard of customer service with the Customer TREXcellence program!

NewProduct•Announcement

Looking for MRSA Detection?

By Joan Lamprecht, Associate Product Manager, TREK Diagnostic Systems

Recent reports of methicillin resistant *Staphylococcus aureus* (MRSA) transmission between animals and humans draw attention to the need for reliable resistance detection methods. Sensititre veterinary-specific MIC products combine MRSA detection with the veterinary-specific antimicrobial results that clinicians expect from your laboratory.

Oxacillin is utilized as the indicator for resistance to all β -lactams. Cefoxitin is useful in determining the presence of MecA mediated resistance in coagulase positive Staphylococci. Clinical CLSI documents recommend cefoxitin screening as the most reliable indicator for the presence of the MecA gene for coagulase positive strains.

The newest additions to the Sensititre standard formats, the equine (Part No. EQUIN1F) and companion animal (Part No. COMPAN1F), contain oxacillin ranges of 0.25 $\mu\text{g/ml}$ through 4 $\mu\text{g/ml}$, suitable for testing coagulase positive and negative isolates. In addition, the companion animal format contains a cefoxitin range of 2 $\mu\text{g/ml}$ through 16 $\mu\text{g/ml}$ for MecA mediated

The newest CLSI guidelines for testing of Oxacillin are:

	S	I	R
Coagulase positive Staphylococci, including <i>S. aureus</i> , <i>S. intermedius</i> and <i>S. pseudointermedius</i>	≤ 2 $\mu\text{g/ml}$	-	≥ 4 $\mu\text{g/ml}$
Coagulase negative Staphylococci and coagulase variable <i>S. hyicus</i>	≤ 0.25 $\mu\text{g/ml}$	-	≥ 0.5 $\mu\text{g/ml}$

Source: CLSI M32 A3

The newest CLSI guideline for Cefoxitin screening is:

	S	I	R
Coagulase positive Staphylococci, including <i>S. aureus</i> , <i>S. pseudointermedius</i> and <i>S. lugdunensis</i>	≤ 2 $\mu\text{g/ml}$	-	≥ 4 $\mu\text{g/ml}$

Source: CLSI M100 S19

resistance detection in coagulase positive isolates.

Alignment between clinical and veterinary testing and reporting can be advantageous when dealing with transmission of organisms within households or when therapy dogs become exposed and transmit organisms to the most susceptible immuno-compromised human patients.

If you are not already using the equine or companion animal formats, contact

your TREK Area Account Manager or TREK Customer Service Representative at 800-871-8909 in the U.S., or internationally at +44 1342 31877.

TREK•News

TREK- UK Celebrates New Location with Contest for Vet Customers

TREK's UK manufacturing and R&D facility for the Sensititre product line has a new address! The expanded facility has been fully-validated, and will continue to deliver the same high quality Sensititre products. While just a short distance from the original, TREK would like to commemorate the move with a contest for our veterinary customers.

Since the last batch of MIC plates manufactured at this facility were the Sensititre NARMS Gram Negative MIC Plates (Part No. CMV1AGNF, Batch

No. B9354), we have placed a special ticket in the final box of plates from the Imberhorne Lane location. The recipient of the ticket will receive a TREK prize pack, including a TREK jacket, flash drive and other TREK items!

The new TREK-UK facility has been expanded to support increasing demand for the Sensititre product. Their new address is:

TREK Diagnostic Systems, LTD

17-19 The Birches Industrial Estate
East Grinstead

West Sussex
RH19 1Xz England

Be sure to check your CMV1AGNF plate boxes for your chance to win a TREK prize pack!

TREK•News

YeastOne®: Assisting Veterinarians with *Aspergillus* sp. susceptibility testing in Middle Eastern Falcons

By DeAna Paustian, Senior Marketing Specialist, TREK Diagnostic Systems

Laboratories using the YeastOne susceptibility plate for yeasts experience numerous benefits, including:

- Reliable, easy and consistent end-point determinations with visual, Vizion or SensiTouch read methods
- Nine antifungal agents provide low cost per test versus traditional macrobroth dilution tests for *Candida* sp.
- 24-month expiration date and room temperature storage eliminates inventory control concerns
- Individual packaging allows laboratories to test one plate at a time with no waste
- Inclusive on-scale QC ranges provide immediate quality assurance of testing methodology
- Easy set-up procedures eliminate time consuming macrobroth dilution methods

Did you know that YeastOne plates can be used for more than just yeast susceptibility testing? Today, YeastOne plates are being used in the United Arab Emirates to help fight against deadly *Aspergillus* sp. infections in falcons. At the Dubai Falcon Hospital, YeastOne plates are being used to establish the minimum inhibitory concentrations of fungal isolates to new antifungal agents being introduced for the treatment of *Aspergillus* sp. infections in falcons.

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Taken from "In vitro susceptibility of *Aspergillus* sp. isolated from the respiratory tract of falcons"

C.D. Silvanose, T.A. Bailey, A. Di Somma
Dubai Falcon Hospital

ASPERGILLOSIS is a common and frequently fatal avian mycosis, which affects captive waterfowl, wading birds, penguins, raptors, ostriches, pheasants and passerines (Redig 2000). It is the most important cause of morbidity and

mortality in falcons trained for falconry in the Middle East (Samour 2000). The disease is caused by the fungus *Aspergillus fumigatus*, *A. flavus* and *A. niger*. *Aspergillus* sp. cause diseases in the respiratory tract mainly, trachea, lungs and air sacs (Redig 2000). Due to the life-threatening nature of these infections and reports of drug resistance, susceptibility testing of pathogenic fungi has become very important in avian medicine (Silvanose 2006). As new antifungal agents are introduced for the treatment of fungal infections in birds, establishing minimum inhibitory concentrations of fungal isolates from birds is necessary.



The Dubai Falcon Hospital uses YeastOne plates to establish MICs for fungal isolates against new antifungal agents for the treatment of *Aspergillus* sp. in falcons.

Materials and Methods:

Biopsy samples were collected during endoscopy from the air sacs of thirty seven falcons diagnosed with fungal diseases of the lower respiratory tract. Falcon species and numbers included; Peregrine falcons (*Falco peregrinus*) - 7, Saker falcons (*Falco cherrug*) - 2, Gyr (*Falco rusticolus*) - 7 and hybrid falcons - 21. Hybrid falcons included Gyr x Peregrine (*F. rusticolus* x *F. peregrinus*), Gyr x Saker (*F. rusticolus* x *F. cherrug*), and Gyr x Lanner (*F. rusticolus* x *Falco biarmicus*). Thirty-seven fungal isolates were collected on first presentation before antifungal treatment was initiated. Samples were cul-

tured in Sabouraud's chloramphenicol agar (SCA) and incubated at 37°C for 3-5 days. Fungi were identified by culture appearance and morphological characteristics under the microscope using lactophenol aniline stain preparation.

The antifungal tests were carried out by microdilution method using Sensititre YeastOne MIC plates (TREK Diagnostic Systems, USA) which contained amphotericin B (concentration range, 0.008 to 16µg/ml), fluconazole (concentration range, 0.125 to 256µg/ml), itraconazole (concentration range, 0.008 to 16µg/ml), ketaconazole (concentration range, 0.008 to 16µg/ml), 5-flucytosine (concentration range, 0.03 to 64µg/ml), voriconazole (concentration range, 0.008 to 16µg/ml), and caspofungin (concentration range, 0.008 to 16µg/ml). All fungal isolates were sub cultured in SCA and incubated at 37°C for 4-5 days. The fungal inoculum were prepared in 0.85% NaCl by homogenising conidial and fungal particles and mixed gently with a sterile swab, and adjusted to a 0.5 McFarland standard using Nephelometer (TREK, USA). 100µl of suspension was transferred into 11 ml RPMI inoculum broth and mixed vigorously. 100µl was inoculated into each well of the Sensititre YeastOne plate according to the auto inoculator instructions. The plate was covered with adhesive seal, and the plates were incubated at 37°C in an incubator for 48 hours. If the growth well was red, the end points for the antifungals was interpreted. The MIC was the lowest concentration of an antifungal agent that substantially inhibits growth of the organism as detected visually by observing a color change. The MIC was recorded as the lowest concentration of antifungal agent preventing the development of a red or purple growth well. (continued on p. 5)

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

TREK•News

YeastOne (continued from p. 4)

Antifungals (µg/ml)	<i>A. fumigatus</i> (n=21)	<i>A. flavus</i> (n=8)	<i>A. niger</i> (n=8)
Amphotericin B	2 (0.5-4)**	4 (2-4)	1 (0.25-2)
Fluconazole	>256	>256	>256
Itraconazole	0.25 (0.12-8)	0.25 (0.25-0.5)	0.5 (0.12-1)
Ketoconazole	8 (0.12-16)	2 (1-4)	4 (1-8)
5-Flucytosine	>64	>64	8 (4-32)
Voriconazole	0.12 (0.06-1.0)	0.5 (0.25-0.5)	0.5 (0.03-0.5)
Caspofungin	>16	>16	>16

Table 1*: MIC of antifungals against the *Aspergillus* sp. isolates from the falcon's respiratory tract.
*New YO-9 plate includes Anidulafungin and Micafungin; excludes Ketoconazole. **Range

Discussion:

Voriconazole and itraconazole had the lowest median MIC against all the species of fungi. All isolates of *A. flavus* were resistant to Amphotericin B. In an earlier study (Silvanose 2006) carried out with e-tests (AB Biodisk) against *Aspergillus* strains which were isolated from the respiratory tract of falcons, similar results were observed, except the resistant of *A. niger* to itraconazole. In this study, such resistant characteristics were not noticed for *A. niger* and all isolates of *A. niger* were sensitive to itraconazole with an MIC less than or

equal to 1µg/ml. All isolates were resistant to 5-flucytosine.

Results:

All the isolates were sensitive to voriconazole with an MIC ≤1µg/ml and 94.5% (35) of them had a MIC ≤0.5 µg/ml. Thirty-six isolates (97%) were sensitive to itraconazole with a MIC ≤1µg/ml. Seventy-three percent of the isolates, including 76% (16) of *A. fumigatus*, 35.5% (3) of *A. niger* and 100% (8) of *A. flavus* were resistant to amphotericin B with an MIC >1 µg/ml. Eighty-seven percent (7) of the isolates, including

71.5% (15) of *A. fumigatus*, 75% (6) of *A. flavus* and 75% (6) *A. niger* were resistant to ketoconazole with an MIC > 1 µg/ml. Eighty-seven (7) of *A. niger* had MIC 4 – 16µg/ml to 5-flucytosine. All the isolates were resistant to caspofungin and fluconazole. All MIC (µg/ml) results including median and ranges were presented in Table 1, Figure 1 shows the MIC reading of an isolate and the red colour indicates fungal growth and blue indicates inhibition of growth.

References:

- ¹Di Somma A, Bailey T.A, Silvanose C.D, Gracia C (2007). The use of voriconazole for the treatment of aspergillosis in falcons. *Journal of Avian Medicine & Surgery*.
- ²Redig P (2000) Fungal diseases: Aspergillosis. In *Avian Medicine*. Ed. J. Samour, London, Harcourt Publishers. 275-278.
- ³Silvanose C.D, Bailey T.A, Di Somma A (2006) Susceptibility of fungi isolated from the respiratory tract of falcons to amphotericin B, itraconazole and voriconazole. *The Veterinary Record*, 159, 282-284
- ⁴Samour J.S (2000) Veterinary considerations during the hunting trip. In *Raptor Biomedicine III* Eds. J.T.Lumeij, J.D.Remple, P.T. Redig, M. Lierz, J.E. Cooper. Lake worth, Zoological Education network 267-274.

TREK•News

See How Easy Visual MIC Reading Can Be: Upgrade to a Vizion®!

By Joan Lamprecht, Associate Product Manager, TREK Diagnostic Systems

Have you seen the latest Sensititre upgrade, the Vizion? If you have not been able to attend a recent veterinary meeting, your Area Account Manager can arrange to bring a demonstration unit into your laboratory. Don't be the last to see how easy visual reading of MICs can be!

The Vizion instrument has infinite lighting options and displays a live, enlarged image of your MIC plate on your SWIN® PC monitor, making readings clearer than ever. Unlike the current SensiTouch® unit, the Vizion immediately color codes the MIC interpretation as you read your MIC plate, literally putting information at your fingertips.



The Vizion System's easy-to-use touchscreen puts your MIC interpretations right at your fingertips.

For customers already using Sensititre SWIN Software, you may choose to utilize your current SWIN monitor, or

upgrade to a new 17- inch touchscreen display to easily record results.

The Vizion instrument utilizes all of the data management and expert system advantages of your SWIN software, and enables you to revisit past plate images saved on your computer for sharing, reviewing or teaching purposes. Contact your TREK Area Account Manager at 800-871-8909 in the U.S., or internationally at +44 1342 31877.

For customers with a SensiTouch that is less than three years old, TREK offers upgrade pricing.

TREK•News

Join TREK in San Diego at AAVLD 2009!

TREK will be showcasing its wide range of innovative products for the veterinary microbiology laboratory, including the the new Sensititre Companion and Equine MIC Plates (see article on p. 1) and the Vizion System, at AAVLD's 52nd Annual Meeting, which will be held October 8-12 in San Diego, California.

Visit TREK at Booth #201 to see demonstrations on the VersaTREK Automated Microbial Detection System, as well as the Vizion System. The Vizion System, TREK's latest addition to the



TREK will feature the Vizion System (above), as well as the VersaTREK Automated Microbial Detection System at AAVLD 2009.

Sensititre product line, features full-color MIC plate images for easy MIC reading, and links to the powerful SWIN® software, with expert review and epidemiology options.

For more information on all TREK products, stop by Booth #201. See you in San Diego!