

Diagnostic Insights

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KANSAS STATE VETERINARY DIAGNOSTIC LABORATORY

Accredited by the American Association of Veterinary Laboratory Diagnosticians

May 2012

Personnel Profile—Dr. Sanjeev Gumber

Dr. Sanjeev Gumber joins the Kansas State Veterinary Diagnostic Laboratory as an assistant professor of anatomic pathology.



Sanjeev earned his BVSc degree from Punjab Agricultural University (PAU), India in 2000.

After graduation, he completed a MVM in Epidemiology and Preventive Veterinary Medicine from PAU in 2002. His masters research was primarily focused on the epidemiology of bovine brucellosis. Sanjeev worked as a veterinary microbiologist in the same department for one year and was a key member of the disease investigation team.

In 2003 he moved to the University of Sydney, Australia to pursue a PhD in veterinary microbiology. His PhD research was based on various aspects of the pathogenesis and diagnosis of Johne's disease. The major research contribution was the identification of stress/dormancy proteome signatures of

Mycobacterium avium subsp. *paratuberculosis* (MAP) using artificially engineered microenvironments. These proteins were further characterized for their use as potential candidates for the earlier diagnosis of MAP. After completion of his PhD, Sanjeev moved to Oklahoma State University in 2007 and successfully completed the AVMA Educational Commission for Foreign Veterinary Graduate program.

From May 2008 to October 2011 he worked as an anatomic pathology resident at Louisiana State University. Sanjeev became a Diplomate of the American College of Veterinary Pathologists in 2011.

He has authored and coauthored nearly 30 publications and 2 patent applications.

Dr. Gumber can be contacted at: 785-532-0892 or sgumber@ksu.edu

We're on the web @

www.ksvdl.org

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Kansas State Veterinary Diagnostic Laboratory (KSVDL) Policy Regarding Live Animal Receiving and Euthanasia

KSVDL will receive and provide euthanasia for food-production animals (cattle, sheep, goats, pigs) being presented for diagnostic testing services during regular business hours only (8:00am-5:00pm; Monday – Friday).

No live animals will be accepted after hours without prior notification of the necropsy pathologist on receiving duty so that adequate staff can be present to handle the animal(s).

KSVDL will not accept or euthanize any other animals at any time including companion animals, horses, wildlife, and exotic species that are intended for postmortem examination and diagnostic testing. These animals must be euthanized prior to submission to the diagnostic laboratory. No animals will be accepted for euthanasia and disposal only.

For questions pertaining to this policy, please call the KSVDL toll-free at 866-512-5650.

Brucella Testing Changes

As of May 1st, 2012 the State/Federal Laboratory in Topeka will not be testing samples for brucellosis.

This change is the result of Federal Budget reductions. All samples will need to be sent to an approved veterinary diagnostic laboratory such as the Kansas State Veterinary Diagnostic Laboratory in Manhattan, Kansas (www.ksvdl.org).

Submissions will still need to be accompanied by form VS 4-33. Any samples found positive at KSVDL will be forwarded to the National Veterinary Services Laboratory in Ames, IA for confirmation.

Blood tubes and shipping boxes will no longer be provided by the USDA Kansas-area laboratory. The VS forms, identification tags and test charts will still be supplied and may be requested by calling the USDA at: 785-270-1300.

Geographical Information Science @ KSVDL Dr. Ram Raghavan

An overarching theme in any disease system is that diseases always occur at some location or some area on the planet earth's surface.

Many times knowing 'where' things are happening (or happened) and 'why' can be very useful in understanding how disease outbreaks can be mitigated or prevented. Modern technology has made this process of investigating diseases in a spatial context much easier – with satellites in the sky to capture earth images and super-computers on the ground to process massive amounts of data. This technology has made it possible to predict, track and identify risk factors for many diseases in near real time.

Central to this process is an emerging science called the Geographic Information Science (GIS) that helps store, retrieve, analyze and visualize geographic data, and among other things analyze spatial patterns of diseases in relation to other geographic entities.

We are excited to announce that KSVDL has further enhanced its mission to serve the Kansas veterinary and animal health community by incorporating GIS as yet another important way of looking at diseases.

For more information on GIS contact Dr. Raghavan at: 785-532-4450 or rkraghvan@ksu.edu.

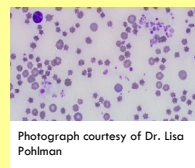
KSVDL Now Offering Pooled Bovine Anaplasmosis Testing

The KSVDL recently completed a study to investigate the feasibility of pooling samples for *Anaplasma marginale* PCR testing. The test is accurate and repeatable in groups of up to 5 animals per pool.

Samples must be collected in EDTA blood tubes (purple top). A blood tube for each animal must be submitted; KSVDL will pool samples in the laboratory.

This test should not be used for "fishing" expeditions, but is appropriate for surveying herds with known low prevalence and for sampling herds that are at high risk of infection but lack clinical signs.

Contact Dr. Gregg Hanzlicek at 785-532-4853 or gahanz@vet.k-state.edu for more information about testing options.



Photograph courtesy of Dr. Lisa Pohlman

KSVDL Specializations

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BACTERIOLOGY

DR. BRIAN LUBBERS
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DR. BILL FORTNEY
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DR. DEON van der MERWE
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DR. RICHARD HESSE
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New Molecular Tests Available at the Kansas State Veterinary Diagnostic Laboratory (KSVDL)

Canine Respiratory Multiplex PCR Panel

A multiplex PCR panel to identify bacteria and viruses frequently associated with canine respiratory diseases has been developed at the KSVDL.

The current targets for the canine respiratory panel include: *Streptococcus canis*, *Streptococcus zooepidemicus*, *Bordetella bronchiseptica*, canine adenovirus type 2, canine herpes virus, canine respiratory coronavirus, canine influenza virus, canine parainfluenza virus, and canine distemper virus.

The test is designed to detect these common canine respiratory pathogens following collection of nasal swabs of clinically effected dogs and shipping the swabs in viral transport media and bacterial transport media to the KSVDL.

Cost: \$81.50

Please contact Dr. Oberst at 785-532-4411 or oberst@vet.ksu.edu if you have any questions about collection media.

Canine Brucellosis Real-Time PCR Test for Caused by *Brucella canis*

A real-time PCR to identify and quantify the bacterial load of *Brucella canis*, which causes canine brucellosis, is available at the KSVDL. This test targets the 16S rRNA gene that is common to all *Brucella* species, and a DNA fragment that is specific to *B. canis*.

Blood in sodium citrate, and vaginal swabs in bacterial transport medium are the preferred sample types. Vaginal swabs can be directly used for DNA extraction and PCR reactions. Swab samples provide the highest PCR sensitivity and the bacterial load can be quantified. In contrast, blood samples need to be cultured prior to PCR; therefore, bacterial quantification is not possible.

Cost: 1-10 samples, \$27.50 each: >10 samples, \$22.50 each

Contact Dr. Jianfa Bai at 785-532-4332 or jbai@vet.ksu.edu for more information.

Help us help you:

- E-mail and Fax: Please make sure we have your correct email and fax information.
- Please make sure you are using the current KSVDL forms: go to www.ksvdl.org for the latest version



Antimicrobial Susceptibility Testing Summaries – Equine Isolates

Dr. Brian Lubbers

The following tables summarize the susceptibility patterns of the most commonly isolated equine pathogens at the KSVDL.

The tables below indicate the percentage of tested isolates that were susceptible for the given calendar year. Summary information should be used to aid in selecting empirical antimicrobial therapy, not in lieu of, appropriate clinical experience and diagnostic testing. Because this summary represents a large geographical area and multiple disease presentations, it may not accurately represent all clinical situations. The information may also be useful for monitoring changing resistance patterns.

Equine Isolates— <i>Strep zooepidemicus</i>	2010	2011
	n = 28	n = 37
Percent susceptible		
Amikacin	54%	68%
Ampicillin	96%	100%
Chloramphenicol	93%	97%
Gentamicin	96%	100%
Penicillin	100%	100%
Rifampin	100%	100%
Tetracycline	46%	89%
Trimethoprim/Sulfamethoxazole	100%	100%

Equine Isolates—Non-hemolytic <i>E. coli</i>	2010	2011
	n = 32	n = 35
Percent susceptible		
Amikacin	91%	100%
Ampicillin	72%	83%
Chloramphenicol	84%	89%
Gentamicin	75%	80%
Penicillin	88%	94%
Rifampin	0%	0%
Tetracycline	75%	80%
Trimethoprim/Sulfamethoxazole	72%	77%



Developing, Delivering Accurate, Innovative Diagnostic Services

The mission of the Kansas State Veterinary Diagnostic Laboratory (KSVDL) is to develop and deliver accurate, innovative, and timely diagnostic and consultative services to the veterinary and animal health community while providing support for teaching, training, and research programs.

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We're on the web!
www.ksvdl.org

Continuing Education

June 4-6, 2012

74th Annual Conference for Veterinarians &
KVMA Trade Show

Test Results & Schedules

*Laboratory results may be accessed online 24 hours
a day, 7 days a week!!*

To set up an account go to:

www.ksvdl.org



KSVDL will be closed on the following days:

May 28, 2012

July 4, 2012

September 3, 2012

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