Dr. Mathes Receives NIH Grant to Study Thymus Function in Lentivirus Disease

The thymus is a primary lymphoid organ where new T-cells mature before being released into circulation. Thymopoiesis occurs throughout life but is at its highest level during the late prenatal period and early life when the immune system becomes fully active. Human immunodeficiency virus (HIV) and feline immunodeficiency virus (FIV) infect and kill large numbers of mature T-cells leading to a T-cell deficit. These cells are replaced by memory T-cells in the peripheral compartment. The importance of the thymus in maintaining peripheral T-cell numbers is not known but is thought to play a minor role by adulthood. However, both HIV and FIV infect thymocytes as well as thymic stromal elements causing thymus involution and the loss of thymic function and, in previous studies, Drs. Larry Mathes and Kate Hayes discovered that thymectomized adult cats infected with FIV show a rapid loss of FIV-specific cytolytic T cell function, while mock thymectomized FIV-infected control cats did not. Drs. Mathes and Hayes hypothesize that thymic function and thymopoiesis are essential for maintaining T-cell homeostasis and HIV-1 specific cytotoxic T-cell responses in HIV-1 infected people and FIV-infected cats regardless of age. The new National Institutes of Health R01 grant will test this hypothesis in FIV-infected cats thymectomized either before or after FIV infection. With this model, they can monitor immune function in the dynamic context of active lentivirus infection and reveal the role of the thymus in maintaining peripheral T-cell homeostasis.

Introduction to Veterinary Anatomy, The Talking Dog

Dr. Nongnuch Inpanbutr has led in collaboration with Drs. Steve Weisbrode and Jill Richards, Mr. Tim Vojt and veterinary students the development of this Web-based instructional program consisting of audiovisual modules of veterinary anatomy at the macroscopic (gross) and microscopic (histologic) levels. The program has been used to supplement material for the Canine Topographic Anatomy course, VM 520, with the Microscopic and Developmental Anatomy course (Functional Histology), VM 530. It also integrated the learning of medical terminology with the learning of anatomical structures. The audio not only facilitates instruction, but also establishes correct pronunciation of medical terms. In this program, students are able to click on labeled anatomical photographs or illustrations, link to the microscopic and/or macroscopic anatomical terms with related information, and hear those terms pronounced correctly. Being that students do not have a firm connection between the two disciplines early on in their curriculum, this program is the first to attempt to integrate histology with gross anatomy. The ability to integrate the two disciplines can be the foundation for the development of the didactic skills of the veterinarian. Who said you can’t teach an old dog new tricks?
Wellness Tip – Dark Thoughts

A recent study finds evidence that eating a little bit of chocolate may be good for your health. In the study, participants who consumed about 3 1/2 ounces (about seven small squares) of dark chocolate experienced improvements in endothelial function of the smooth muscle lining their blood vessels. Improved endothelial function aids blood flow and helps decrease strain on the heart. Because chocolate is high in both fat and calories, people who plan to consume chocolate frequently should consume it in much smaller amounts than what was used for the recent study -- an ounce or two per day is a sensible serving. In addition to an occasional piece of dark chocolate, other artery-friendly habits include limiting your intake of trans and saturated fat, exercising for at least 30 minutes per day, and reducing stress levels with relaxation activities.

VBS Faculty, Staff and Students

● Benefits Open Enrollment Begins October 31. The university’s second open enrollment period is Oct. 31 - Nov. 18th. During this time, you will have the opportunity to make benefit elections or changes to coverage for medical, dental, and vision coverage and enroll in flexible spending. All changes made during this open enrollment period will be effective January 1, 2006 - December 31, 2006. A brochure with plan changes will be mailed to your home.

● Foreign Study Elective Course, VBS 693. In collaboration with the Faculty of Veterinary Medicine of Chiang Mai University in Northern Thailand, Dr. Nong Inpanbutr organized a program for veterinary students to study exotic animal behavior and diseases. Summer of 2005, three VME I students traveled to Thailand and were stationed at Chiangmai University, Faculty of Veterinary Medicine (FVM). Their activities included formal lectures on “Elephant Health Care” for one week, travel to the Elephant Conservation Center in Lampang to learn about the elephant behavior, attended/shadow zoo veterinarian and clinical faculty at Chiang Mai Zoo and FVM for one week, and visit other veterinary schools in Thailand as time would permit. Students were required to write a report on their visit and present their experience to the community of the veterinary school at OSU during autumn quarter. Plans to develop this course into a formal International Study course for veterinary students and other students are ongoing.

● Dr. Larry Mathes, recipient of the University Distinguished Scholar Award, and Dr. Robert Hamlin, recipient of the University Distinguished Lecturer Award, are among a select group of Ohio State faculty and staff who will be recognized during a halftime ceremony at the Ohio State vs. Michigan State football game on October 15th. Cheer them on October 15th and rate their wave!

● The Infectious Disease Signature Program organized a Mucosal Immunology Conference, held at the College of Veterinary Medicine on September 19, 2005. Eight nationally to internationally recognized speakers provided outstanding scientific sessions focused on the respiratory and enteric mucosal immune systems. Approximately 135 registrants from several colleges and industries participated in this full day conference which provided the opportunity for education, scientific discussion, and collaborative development.

Selected Recent Grants/Publications/Presentations/Awards/Appointments

● Dr. Stephanie Corn passed the American College of Veterinary Clinical Pathology Boards in September. Congratulations Stephanie!

● Nicole Placek and Shuiming Qian (Boris-Lawrie Lab) received funds from the Cold Spring Harbor Laboratory to attend the Eukaryotic mRNA Processing meeting August 24-28, 2005. Nicole presented a poster “Splicing and Translation are Coordinate Modulated by a Unique 5’ Terminal Structured Retroviral Post-transcriptional Control Element.” Shuiming presented “RNA helicase A is necessary for translation of unspliced retroviral and a cellular mRNA”.

● Dr. Nong Inpanbutr’s manuscript entitled “Lateral Approach To Subtotal Bulla Osteotomy In Dogs: Pertinent Anatomy And Procedural Details” was published in Compendium on Continuing Education for the Practicing Veterinarian, 27:5, 377-385, 2005. This manuscript demonstrated an innovative surgical technique to the lateral approach for the challenging bulla osteotomy in dogs. It is creatively introduced technology in information dissemination by complimenting with a web-based instructional program with video stream media and can be viewed at this web site: (http://vet.osu.edu/SurgeryAnatomyTechniques).

Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning.

~Albert Einstein

Send comments to Jan Roseberry, roseberry.1@osu.edu. Visit the OSU Department of Veterinary Biosciences website: http://www.vet.ohio-state.edu/biosciences.htm