JACKSON PARTNERS WITH UC DAVIS TO MAKE PRIMARY HUMAN TUMORS AVAILABLE FOR RESEARCH

Date: April 14, 2010

Sacramento, Calif. -- Researchers developing new cancer therapies depend on access to primary human tumors. To meet this need, The Jackson Laboratory (JAX) has teamed up with the University of California, Davis (UC Davis), to form a new consortium aimed at building a publicly available library of primary human tumors for research and drug development.

Every cancer is as unique as the patient who has to live with it. That's why most cancer treatments, developed to address an "average" patient, are ineffective or toxic, and why nine out of 10 cancer drugs entering preclinical testing fail to gain FDA approval.

"The standard way of trying to discover new therapies for cancer relies on use of tumor cell lines that may be many years old, grown in tissue culture and then put into mice," explains UC Davis Cancer Center Director Ralph deVere White, M.D. "While this has proven fairly successful in telling us what does not work, it does not predictably prove when therapies do work. This standard drug development process is very costly both in terms of money spent and for patients, for whom the pace of discovery of successful treatments is slow."

One problem with the tumor cell-line approach is that as those cells divide and reproduce, genetic mutations naturally occur. Consequently, the cells may drift into a different genetic profile, and any treatments designed to target the original tumors won't work.

Mouse models that can accept newly resected human tumors offer a much more effective way to develop and test cancer therapies. In this way, mouse models of virtually any kind of cancer can be developed, providing a more much individualized approach to finding new treatments.

"The biomedical research community needs a common, readily accessible resource to support this vital effort," says JAX Vice President and COO Chuck Hewett, Ph.D.. "Jackson has all the necessary skills and infrastructure needed to create and distribute such a resource. No single cancer center has a sufficiently broad patient population to meet this need, so we must work together if we hope to compress the drug discovery timeline and ultimately save lives."

JAX launched the new consortium in early 2009 through its initial research partnership with UC Davis. Under a new agreement, UC Davis will supply JAX with solid human tumors, which will then be expanded in mice and made available for research nationally.

 Located at The Jackson Laboratory's JAX--West facility in Sacramento, Calif., the Primary Human Tumors Consortium seeks to partner with other cancer centers to speed the development of this resource. "By joining the Consortium," Hewett says, "members will contribute to and share in a tumor library that will vastly exceed what any one institution could build on its own. This shared resource ultimately will greatly expand research capacity for all Consortium partners while preserving varied and valuable tumors for future research." Interested researchers and institutes should contact Susie Airhart, JAX senior director for strategic alliances.

-continued on page 2

IMPORTANT DATES FOR UPCOMING EVENTS:

- July 21 - next SVAALAS meeting
- July 30th - Branch Leadership Nominations Due for the 2010 Leadership Academy
- August - Safari West
- October 10-14 - 61st National Meeting, Atlanta, GA

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THE JACKSON LABORATORY-FLORIDA

Transforming medicine and Southwest Florida’s economy

A medical revolution is unfolding. It’s the application of genomics—our unique genetic makeup—to create medical care that is tailored to each of us. Genomics holds particular promise for solving some of humankind’s most devastating diseases, including cancer, diabetes, Alzheimer’s disease, and many others.

The Jackson Laboratory is exploring the feasibility of opening a branch in Collier County Florida to lead genomics research into these diseases. Its research would make the discoveries needed to drive clinical progress. Its collaborations would speed the development of effective pharmaceuticals and individualized therapies. Its educational programs would train current and future researchers and physicians to apply personalized medicine to their patients.

JAX—Florida would also position Southwest Florida at the forefront of the genomics revolution. As the cornerstone of a thriving research and education community, the Laboratory would help local officials to attract a growing cluster of institutions and companies to the area. These new enterprises would be environmentally friendly and financially stable, and they would offer high-paying, year-round jobs.

Building JAX—Florida is contingent on securing the necessary state, county and philanthropic investments and the approval of the Laboratory’s board of trustees.

Get to know JAX—Florida. And join the cause that would bring jobs and economic diversity to Southwest Florida and better health to people around the world.

http://genetichealth.jax.org/support-the-lab/florida/index.html

PRIMARY HUMAN TUMORS

The Jackson Laboratory is an independent, nonprofit biomedical research institution with more than 1,300 employees in Bar Harbor, Maine, and Sacramento, Calif. Its mission is to discover the genetic basis for preventing, treating and curing human diseases, and to enable research and education for the global biomedical community. Its 38 research groups investigate the genetic basis of cancers, heart disease, osteoporosis, Alzheimer’s disease, glaucoma, diabetes and many other human diseases and disorders, as well as normal development, reproduction and aging. A National Cancer Institute-designated Cancer Center, the Laboratory is also the world’s source for more than 5,000 strains of genetically defined mice, is home of the mouse genome database and is an international hub for scientific courses, conferences, training and education.

UC Davis Cancer Center is the only National Cancer Institute center serving the Central Valley and inland Northern California, a region of more than 6 million people. Its top specialists provide compassionate, comprehensive care for more than 9,000 adults and children every year, and offer patients access to more than 150 clinical trials at any given time. Its innovative research program includes more than 280 scientists from UC Davis Health System in Sacramento, Calif.; the UC Davis campus in Davis, Calif.; and Lawrence Livermore National Laboratory in Livermore, Calif. It was the first major cancer center to establish a formal research partnership with a national laboratory. With a focus on regional community outreach, the Cancer Care Network partners with a number of hospitals and clinical centers throughout the Central Valley and Northern California area to offer the latest cancer care services.

SVAALAS COMMITTEE CHAIRS FOR 2010

Help support your local AALAS branch. Volunteer to be on a committee. If you are interested, please contact one of the board members listed on the front page for more information.

Audit Committee
Volunteer Needed

Awards Committee
Jessica Davis

District 8 Committee
Terry Hewett
Roy Hoglund

Education Committee
Julie Vanwesterhuyzen

Nominations Committee
Shandell Solbach

Public Relations Committee
Cindy Clayton

Communications
Deneen Spence

Membership Committee
Brian Merical

Newsletter Editor
Kandi Rodrigue
kandi.rodrigue@jax.org

Webmaster
Maggie Tam

Government Relations
Volunteer Needed

Technician Branch Representative (TBR)
Shannon Powell

BOARD MEETING DATES 2010

Meetings held 3rd Wednesday of each month.

All members welcome!
(UCD CLAS HQ conference room at 5PM)

Next Meeting - July 21st
RECENT PUBLICATIONS

Ozgene is pleased to inform you about four recent publications by Ozgene customers in the Journals: MCB, J Immunol, JBC and Stroke.


Please contact us via our website http://www.ozgene.com or by email koentgen@ozgene.com to discuss your KO/KI projects and mouse breeding requirements.

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Ozgene a company by scientists for scientists...
...delivering to customers globally since 1999.
**ASSISTANT ANIMAL TECHNICIAN**
Under close supervision, incumbents perform routine animal husbandry tasks. Typical duties include the cleaning, grooming, feeding, and watering of common animals; the cleaning and repair of cages/enclosures and related ancillary equipment; and the maintenance of animal care areas.

Assistant Animal Technician is the entry level class in the Animal Technician series. Incumbents are selected with the prospect of participating in on-the-job training programs in preparation for promotion to Animal Technician. Incumbents who successfully complete such training programs and who are assigned appropriate duties may be promoted to Animal Technician. Other incumbents, however, may continue to serve as Assistant Animal Technicians performing the routine duties of cleaning, feeding and watering.

**SENIOR ANIMAL TECHNICIAN**
Under general supervision, incumbents act as section or area leaders with responsibility for a small group (1-4) of animal care personnel.

This class identifies the lead worker who has day-to-day responsibility for environmental maintenance, basic animal care, employee safety, and the proper discharge of semi-technical procedures as requested by supervisors, principal investigators, or veterinarians. In addition to performing the Animal Technician task, incumbents may train, assign work, and review the performance of subordinates; review record keeping procedures; recommend design or modification of animal facilities and devices for feeding, watering, and restraining animals; plan breeding programs for production colonies; screen new animals prior to introduction into the colony; ensure that safety standards are being maintained; isolate infected animals; and perform other duties as assigned.

Examples of assignments allocated to this level of difficulty are:
Section or area leader, for a designated portion of an experimental animal facility, usually housing primarily a collection of animals of one species, for example, dogs, or of one group, such as rats and/or mice, with responsibility for screening new animals, recognizing disease symptoms, isolating infected animals, giving prescribed treatments, and requiring safety procedures for all staff members in the areas.

Leader in an experimental animal resources facility, during regular weekend assignments, with responsibility for inspection, observation, and treatment of unusual or unexpected conditions that arise, requiring immediate action and notification to higher level supervisors and investigators, as well as responsibility for repetitive activities that must occur daily.

Although the typical assignment is that of a leader, non-supervisory positions may be allocated to this level where the performance of a limited number of technical tasks is of primary importance. Examples of non-supervisory assignments are:

Technician responsible for performing one or two specialized paraveterinary procedures such as preparing surgical rooms including preparing instruments, supplies, and the animal; anesthetizing; assisting during operations; performing postoperative care; bleeding; detecting equine estrus; independently assisting with large animal parturition; giving medications and injections; euthanizing animals; and performing minor operations such as devocalizing dogs.

Technician responsible for a collection of animals involved in long term experiments, with complete control of breeding and record keeping on successive generations over many years, where the investment is so great that the most meticulous controls on animal environment and health are essential.

For information contact Roy Hoglund or visit the UC Merced jobs website at: [http://jobs.ucmerced.edu/n/staff/listings.jsf?positionCategoryId=7](http://jobs.ucmerced.edu/n/staff/listings.jsf?positionCategoryId=7).

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Pep Boys on Discovery Mission

On April 5, NASA's space shuttle Discovery launched into space, carrying on board sophisticated scientific equipment, seven astronauts, and 16 "Pep Boy" mice from congenic JAX® Mice strain B6.SJL-Ptprc™ Pepc®/BoyJ (002014). The mice were part of one of three life science experiments conducted on the Discovery's mission. All three experiments were designed to help scientists better understand the effects of microgravity on cell growth and the immune system. NASA hopes the results will help develop ways to improve wound healing and boost the immune systems of future astronauts during stressful, long-duration space flights.

The Mouse Immunology Study
The Pep Boys were part of the "Mouse Immunology" study, designed by principal investigator Dr. Millie Hughes-Fulford. Dr. Hughes-Fulford was a NASA astronaut on a shuttle flight 19 years ago and is now a biochemist at the Veterans Administration (VA) Hospital and a cell biologist and professor in the Departments of Medicine and Urology at the University of California, San Francisco. The 16 "astromice," as Dr. Hughes-Fulford calls them, were transported from her VA lab in January to NASA's Kennedy Space Center in Florida. There, they acclimated to a diet of "NASA bars," specially formulated to prevent them from floating in zero gravity. Sixteen other Pep Boys stayed behind as controls in Dr. Hughes-Fulford's VA lab. Before launch, half of the astromice and half of the controls were inoculated with white blood cells that had been exposed to a foreign protein (from egg whites). During their 13 days on the International Space Station, the astromice lived in specially designed "Animal Enclosure Modules" and were carefully monitored by the station's astronauts.

Immediately after they returned to Kennedy Space Center on April 18, the uninoculated astromice were exposed to the same egg white protein as their companions. Scientists are analyzing how the different groups of mice reacted to the foreign protein. According to Hughes-Fulford, about half of the astronauts in the Apollo program and many space station astronauts have developed immune system problems, either during or shortly after flight (San Francisco Chronicle 2010). "Mouse immunology will allow us to pinpoint which genes and pathways are or aren't working or performing well in space," says Hughes-Fulford. "We will examine all 8,000 genes of the mouse thymus cell to determine the molecular cause of a suppressed immune system" (NASA News 2010). Dr. Hughes-Fulford also hopes that the experiment will help scientists understand why the body's white blood cells stop functioning in immune system disorders.

Pep Boy Mice
The nickname "Pep Boys" is derived from the strain name B6.SJL-Ptprc™ Pepc®/BoyJ. These C57BL/6J mice are congenic for both the "b" allele of the peptidase C (Pepc) gene and the "a" (CD45.1) allele of the protein tyrosine phosphatase, receptor type, C (Ptprc) gene. They are used in transplant studies because researchers can use monoclonal antibodies to easily distinguish their B and T cells from those of C57BL/6-derived donor or host mice, which harbor the "b" (CD45.2) allele of the Ptprc gene.

The First JAX® Mice in Space
The Pep Boys are the second group of JAX® Mice to go into space. In 2002, a group of C57BL/6J (B6, 000664) were sent on a 12-day mission to the International Space Station via the space shuttle Endeavor in an experiment to determine the effects of microgravity on bone density (JAX® NOTES. 2002). B6J mice were selected for the mission because of their relatively low bone density and their widespread use in biomedical research.

Stem Cell Regeneration
In a second experiment, "Stem Cell Regeneration," scientists studied how embryonic stem cells differentiate in space. Mouse embryonic stem cells were grown and prepared for flight in the weeks before shuttle launch. On the shuttle, the cells were stored in bioreactors installed in an incubator that fit into a shuttle mid-deck locker. "We are trying to get at the root cause of tissue degeneration in space," says Eduardo Almeida, principal investigator and scientist at NASA's Ames Research Center, Moffett Field, Calif. "We hope our research will help find preventive measures to address adult stem cell health in microgravity. As we expand humanity's reach to other planets we must learn how to live in space for prolonged periods of time" (NASA News 2010).

Stem Tissue Loss-Immune
In a third experiment, "Stem Tissue Loss-Immune," scientists were, for the first time, closely monitoring how human cells respond to in-flight infection by a pathogenic bacterium, Salmonella. The scientists were also investigating how bacterial and human cells respond to space flight. "Only by studying how cells respond to microgravity can we reveal important biological characteristics that are masked by normal gravity . . . ," says principal investigator Cheryl Nickerson, associate professor of life sciences at the Center for Infectious Diseases and Vaccinology in the Biodesign Institute at Arizona State University. "Our research has potential benefits and applications for life on Earth and astronauts on long-duration space missions. Better understanding how microbes and human cells interact in space can lead to novel vaccines and therapeutics for the general public against infectious disease, as well as other human diseases" (NASA News 2010).

References


AALAS MEETING CALENDAR

This list is being used by the branches, vendors and others trying to plan their schedules. Please email me with any changes or dates not shown here (be sure to include what; where: including city and state; and whom to contact with phone, email and website).

You can find the latest AALAS Meeting calendar update at: http://www.azaalas.org/calendar.html.

AALAS also lists upcoming events on their web site calendar. After accessing the site at http://www.aalas.org, click on the "Calendar" link.

AALAS members, whatever their interest in biomedical science have the opportunity for professional growth through involvement in national and local meetings, participation in certification training programs and access to AALAS publications and educational materials. Each branch has its own educational agenda, scientific and technical presentations, workshops, tours of facilities, local training programs and regular social activities. - www.azaalas.org.

Time to Renew your Arizona AALAS Membership: Membership Form for general membership, or the 2011 Vendor Buyers Guide and membership forms.

Don’t forget to renew your AZAALAS membership!

Why Be an AZAALAS Member?
Quarterly newsletters * Credits for continuing education * Reduced symposium registration fees * Recognition awards * Educational programs * Voting privileges * AALAS certification information and guidance * Networking through Buyers Guide membership directory * Commercial vendor contacts who provide the latest & greatest ideas, methods & material in lab animal science * Symposium with scientific and technical platform and poster sessions, workshops, field trips, vendor exhibits, general membership meeting, awards banquet and evening socials * Local video conference meetings geared towards technicians on a variety of topics * Professional social contacts to advance your career * Being a Member of The Best Branch in AALAS

Arizona Branch membership is open to anyone interested in the field of Laboratory Animal Science. Current individual annual membership is only $10.

Newsletter, Website & Listserv
Newsletter is published quarterly and website is constantly updated & includes: Legislative updates * Educational articles * Educational development * Technician Certification Updates * Membership application * Job & Meeting announcements * Call for abstracts & nominations * Preliminary program for meetings * Calendar updates * Technician Spotlight * National AALAS News & information

What will 2010 bring our members? We are planning to have participation by all regions in this year’s International Technician Appreciation Week January 31-Feb 6. SwAEBR/MSMR/CBRA will be hosting a IACUC, IBC & IRB conference in conjunction with the District 8 AALAS Meeting and a Charles River Rodent Genetics Course the first week in May in Tempe. We are planning to hold 2 video conferences this year. Phoenix will be hosting our Fun Event at the Wildlife World Zoo & Aquarium. The Louise Brooks Memorial Raffle will be upon us again in September and will be drawn at our Holiday Installation Event in December 4th in Mesa.

If I can be of further assistance, let me know.

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61st AALAS National Meeting
Online Registration & latest updates at http://nationalmeeting.aalas.org/
October 10-14, 2010. Atlanta, GA

Nominations close the end of this month. Don’t miss the opportunity to have your branch represented at the 2010 LEADERSHIP ACADEMY.

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