

Research Resources

"We can judge the heart of a man by his treatment of animals."....Immanuel Kant

Vol. II, No. 7

July 2007

Research Resources will be sent out to Active Project Directors, but I encourage you to share this will all your staff, and, if any want to be included in the mailing, have them send a request to stacy.wells@louisville.edu. If you would like to contribute to the newsletter, you may send your items to the same address.

AALAS National Meeting Preliminary Program

This year's program in Charlotte promises to be a memorable one with an intriguing mix of seminars, workshops, round-tables, special topic lectures, posters, and platform sessions. Be sure to note the sessions marked with a pink ribbon. These are part of the Oncology Forum and related to the clinical care for and development of experimental models in cancer research. Be sure to visit the National Meeting web site for everything you need to know about the 2007 AALAS National Meeting.

More Information:

<http://nationalmeeting.aalas.org/prelimprogram.asp>.

National Center for Research Resources 2009 Strategic Plan

NIH's National Center for Research Resources (NCRR) has announced it is developing a new strategic plan to ensure that NCRR remains responsive to the emerging needs of biomedical researchers. The plan would enable NCRR to provide researchers with the infrastructure, tools and training they need for understanding, detecting, treating and preventing a wide range of diseases. The NCRR requests input from biomedical scientists to define future needs for shared research resources and technologies. The strategic plan can be found here:

http://www.ncrr.nih.gov/about_us/StrategicPlan2004-08.pdf.

In order to receive input on the new plan, NCRR has provided a user-friendly response form at their Strategic Planning Web site: <http://www.ncrr.nih.gov/strategieplan>. Responses are due August 24, 2007. For more information, contact: The Office of Science Policy and Public Liaison, NCRR/NIH/DHHS, 6701 Democracy Boulevard, MSC 4874, Suite 994, Bethesda, MD 20892-4874, (telephone) 301-435-0866, (fax) 301-480-3654, (e-mail) planeval@mail.nih.gov.

Senate Gives NIH a Raise

Science, June 21 - A **Senate** spending panel yesterday agreed to give the **National Institutes of Health** a \$1 billion raise in 2008, a 3.5% increase that would bring NIH's budget to \$29.9 billion. Although that's only half of what biomedical research advocates are hoping for, the increase is slightly more than the House has approved. Both bills would reverse **President George W. Bush's** request for a \$279 million cut.

Read more at:

<http://sciencenow.sciencemag.org/cgi/content/full/2007/620/4>.

Physiological Data Summaries for Popular JAX Mice Strains

Our Animal Husbandry & Performance Group has completed a detailed phenotyping project of many popular JAX® Mice strains from our production facilities in Bar Harbor, ME. Characterization data including body weight, hematology, biochemistry, organ weights, body composition, and flow cytometry of the spleen was collected at 8

and 16 weeks of age for both males and females. The project protocol and detailed data summaries for 11 strains, including C57BL/6J, DBA/2J, FVB/NJ, C3H/HeJ and others, are available at the JAX web site: http://jaxmice.jax.org/info/popular.html?WT.mc_id=201362.

New JAX Mice Under Development

You can find more JAX® Mice information by searching the JAX® Mice Database. For information on submitting your unique research strain(s), visit their [Strain Submission Form](#).

B6.129-*Ins2*^{Akita} *Bdkrb2*^{tm1Jfh}/SmiJ (006860) Mice homozygous for this targeted mutation of the bradykinin receptor, beta 2 (*Bdkrb2*) gene and heterozygous for the Akita spontaneous mutation of the insulin 2 (*Ins2*) gene (*Ins2*^{Akita}) are viable and fertile. They are extremely diabetic, underweight, hyperphagic, polyuric, and have severe kidney, skeletal, and testicular defects, essentially no subcutaneous fat, and a significantly reduced lifespan. This strain may be used to research the kallikrein-kinin system, specifically the role of bradykinin B2 receptor in **diabetes, oxidative stress, mitochondrial DNA damage, apoptosis, kidney morphology and function, and other senescence-associated phenotypes**.

B6.129-*Gt(ROSA)26Sor*^{tm1Luo}/J (006071) Mice of this strain are viable and look and behave normally. Regardless of Cre-recombination, they express enhanced green fluorescent protein (EGFP), as the N- and C-terminal coding sequences of the gene trap ROSA 26, Philippe Soriano (*Gt(ROSA)26Sor*) gene are interrupted by the beta-actin intron in-frame. High EGFP expression in every cell can be visualized in vivo and in fixed samples. This strain is a control for MADM (mosaic analysis with double markers) strains, which allow a researcher to generate genetic mosaics containing somatic cells of different genotypes and to thereby ascertain lineal relationships and pleiotropic gene functions. This strain may also be used to research **cell differentiation** and **mitosis**.

B6.129S2(Cg)-*Blr1*^{tm1Lipp}/J (006659) Homozygotes for this targeted mutation of the Burkitt lymphoma receptor 1 (*Blr1*) gene are viable and fertile. Homozygotes develop defective lymph nodes, Peyer's patches, and spleen. This strain may be used to research **chemokine receptors**, including T- and B-cell function in primary and adaptive immune responses, and entry of lymphocytes and dendritic cells into secondary lymphoid organs and their homing to T- and B-cell zones therein.

B6.129S6-*Tagln*^{tm2(cre)Yec}/J (006878) Homozygotes for this SM22alpha-CreKI allele have a Cre-recombinase gene inserted into and thereby inactivating the endogenous transgelin (*Tagln*) gene. Cre recombinase is active in adult but not in embryonic smooth and cardiac muscle. This strain may be used to research **smooth muscle, cardiac gene function, and cardiovascular disease**.

B6.129X1-*Camkk1*^{tm1Tch}/J (006606) Homozygotes for this targeted mutation of the calcium/calmodulin-dependent protein kinase kinase 1, alpha (*Camkk1*) gene are viable and fertile. Whereas long-term spatial memory formation, cued fear conditioning, long-term potentiation, and anxiety-like behavior levels are normal, context fear and other behaviors dependent on the Ca²⁺/calmodulin kinase (CaMK) cascade are impaired. This strain may be used to research the **CaMK cascade, neuronal gene transcription, synaptic plasticity, contextual fear, and long-term memory consolidation**.

B6.Cg-Tg(ACTB-EGFP)10sb/LeySopJ (006567) This transgenic strain expresses enhanced green fluorescent protein (EGFP) cDNA under the control of a chicken beta-actin promoter and cytomegalovirus enhancer. Except for erythrocytes and hair, all tissues appear green under excitation light. The viability of homozygotes is unknown.

B6.SJL-Tg(ACTFLPe)9205Dym/J (005703) This transgenic strain expresses a variant of the *Saccharomyces cerevisiae* FLP1 recombinase gene under the direction of the human ACTB promoter. The FLPe recombinase variant exhibits enhanced

thermostability with recombination activity being four-fold and ten-fold that of wild-type FLP at 37°C and 40°C, respectively. Recombinase activity is detected in a wide variety of tissues as early as embryonic day 10.5. This deleter strain is a suitable alternative and complement to the Cre-loxP system for **in vivo genetic engineering**.

FVB.B6-*Ins2*^{Akita}/MlnJ (006867)

Whereas untreated FVB/NJ mice homozygous for the Akita spontaneous mutation of the insulin 2 (*Ins2*) gene (*Ins2*^{Akita}) rarely survive beyond 12 weeks of age, heterozygotes are viable and fertile. Hyperglycemia, hypoinsulinemia, polydipsia, and polyuria, are more severe than in C57BL/6-*Ins2*^{Akita}/J (003548) mutants. **Obesity and insulinitis** do not accompany diabetes. **Hyperglycemia** is more severe in females, increasing during pregnancy and leading to embryo malformations and reabsorption, even with insulin therapy. This strain responds to **exogenously administered insulin**, and is an excellent substitute for mice made insulin-dependent diabetic with alloxan or streptozotocin. It is also ideally suited to **allogeneic or xenogeneic islet transplantation**.

STOCK *Smyd1*^{tm1Dsr}/J (006473)

Whereas heterozygotes for this targeted mutation of the ET and MYND domain containing 1 (*Smyd1*) gene are viable and fertile, homozygotes die from cardiac defects between embryonic day 9.5 and 10.5. This strain may be used to research **cardiomyocyte differentiation and morphogenesis**.

OLAW's New Web Site

The NIH's Office of Laboratory Animal Welfare (OLAW) has announced a new Web site address: <http://olaw.nih.gov>.

July 2007 JAALAS

The following are the titles of the publications in the July issue of AALAS's JAALAS:

- [Comparison of Two Strategies for Diagnosis and Treatment of Infection in](#)

[Dogs \(*Canis familiaris*\) with Long-term Intravascular Catheters](#)

- [Contracting In Vivo Research: What Are the Issues?](#)
- [Doxorubicin Cardiotoxicity in the Rat: An In Vivo Characterization](#)
- [Evaluation of a Flash Disinfection Process for Surface Decontamination of Gamma-irradiated Feed Packaging](#)
- [Naturally Occurring Murine Norovirus Infection in a Large Research Institution](#)
- [Outcomes of Adoption of Adult Laboratory Ferrets After Gonadectomy during a Veterinary Student Teaching Exercise](#)
- [Psittacine Birds as Laboratory Animals: Refinements and Assessment of Welfare](#)
- [Staphylococcus-induced Urolithiasis in Estrogen-treated Ovariectomized Nude Mice](#)

If you would like to view copies of these papers, please contact the RRF office @ x5268 or one of the husbandry supervisors. Or visit the AALAS website at this site: <http://www.aalas.org/publications>. (You must be an AALAS member.)

DEHS Required Training

DEHS has monthly training on Lab Safety/Hazardous Waste (LS/HW) and Bloodborne Pathogens (BP). LS/HW is from **9:00-10:00AM** and BP is from **10:00-11:00AM**. Both sessions are held in **Baxter I – Auditorium** on the following dates:
August 9, 2007
September 13, 2007
October 11, 2007
November 8, 2007
December 5, 2007
Bring your employee ID number to sign in. Contact erin.foley@louisville.edu to reserve your spot.

Level II Training

The following is the list of dates and times that Level II training will be offered:

2007
Monday, August 6th at 10:00 AM
Thursday, September 6th at 1:30 PM
Monday, October 1st at 10:00 AM
Thursday, November 1st at 1:30 PM
Monday, December 3rd at 10:00 AM
Training sessions are held in the **Baxter I Auditorium** and last approximately 1.5

hours. Registration is not required, but participants must sign in.

Medical Advances Booklet

Two UK groups, **RDS** and the **Coalition for Medical Progress**, have launched a new booklet called *Medical Advances and Animal Research – the contribution of animal science to the medical revolution: some case histories*.

To download your own copy of the new booklet, please visit: <http://www.rds-net.org.uk/upload/docs/Medical%20Advances%20final.pdf>.

Special Animal Safety Protocol (SASP)

Many of you know that when using chemical or biological hazards that you must file for permission from DEHS and/or IBC. When there is a possibility for administered hazardous agents or metabolites to be excreted in animal urine or feces or if the administered substance is biological, researchers are responsible for developing a **Special Animal Safety Protocol (SASP)** that outlines safety practices and procedures to be taken in the animal facility for handling of the animals with the hazard and the dirty caging from these animals. The form is reviewed by both the necessary safety office and the RRF staff.

After approval, the next step is to notify the husbandry supervisor of your area at least 24-48 hours before you start the experiment. This allows them time to make arrangements for the housing of these animals, including the procurement of fresh caging. (After injection, all animals must be placed in a clean cage.) This must be done for each administration date.

At the time of administration, you must post a copy of the SASP on the animal room door. This SASP must have been signed by Carol Whetstone or Erin Foley. The research personnel who notified RRF staff needs to sign and date the form when the notification occurs, as well.

Also at this time, a red “Special Instructions” card should be placed on each cage dosed. This card should have listed the substance, route of administration, the date of administration, and staff contact info. If a

second dose is administered, the date should be changed to reflect the most recent dosage. If you have questions about SASPs, please contact Erin Foley for Chemical Hazards (erin.foley@louisville.edu) or the Biosafety Office for Biological Hazards (biosafe@louisville.edu).