



May/June 2008  
Volume 1, Issue 3

WEILL CORNELL MEDICAL COLLEGE EDITION

# RARC NEWS

Research Animal Resource Center

## SPRING FEVER EDITION



## A message from the Director

Improving efficiency and turn around time were the primary objectives in RARC's decision to enhance our health certification process. We have just introduced a new application, eCertificate, which was developed in conjunction with MSKCC computing. eCertificate makes it easier and quicker for investigators to provide colony health information to colleagues importing rodents from WCMC's colonies. With this system, colony health documentation is distributed electronically immediately after entering a request.

See "*Shipping News*" on page 2 for more detail.

Also noteworthy is the promotion of Felix Wolf, DVM, Ph.D., to Deputy Director, RARC. Dr. Wolf has been a member of RARC's professional staff since 2000. He previously headed RARC's Veterinary Services team and currently oversees our Biosecurity section and programs. In his new role, he will provide oversight and direction to the Husbandry and Operations and Veterinary Services sections, in addition to his current role ensuring biosecurity for our rodent colonies.

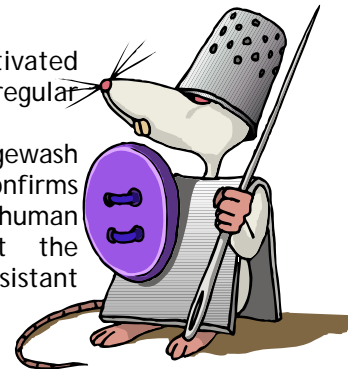
Please see additional information about Dr. Wolf in the "*Staff in Focus*" section on page 2.

## Emerging Diseases Series - Mouse

Mouse norovirus was only recently discovered. In 2003, a research group at Washington University found that their STAT-1 knockout mice were dying from an unknown disease causing encephalitis, meningitis and hepatitis. Further investigations led to the isolation of a novel viral agent that was closely related to the Norwalk virus, a calicivirus infamous for causing epidemic enteritis on cruise ships. Based on this relationship the virus was named mouse norovirus (MNV).

After a diagnostic test (ELISA) was developed it became apparent that the virus was found with very high prevalence in most research mouse colonies. Only mice maintained in closed high level barriers (e.g. commercial vendor colonies) were not infected. Testing at WCMC and MSKCC showed that most mouse rooms in our facilities were positive for this virus. An interesting finding was that even the Mouse Genetics Core (MGC) rooms were positive. These rooms only receive mice from commercial vendors (which are MNV-free), transfers from other rooms at WCMC/MSKCC are not allowed and neither is the importation of mice via quarantine. These rooms have been maintained Helicobacter-free for years despite the fact that Helicobacter sp. can be found in most other mouse rooms. This finding suggests that MNV

may not be inactivated by our regular decontamination processes in cagewash and confirms observations in human noroviruses that the virus is highly resistant to disinfection.



Studies have found that MNV is transmitted by the fecal-oral route. A number of different strains of MNV have been isolated. They all cause a persistent infection in immunodeficient mouse strains, but some (not the majority) are cleared by an immunocompetent host. Persistent infection results in persistent shedding which helps to explain the high prevalence.

Clinically, MNV only affects mice that are either STAT-1 or IFN alpha/beta/gamma deficient. These strains develop the above described lethal disease. All other mouse strains, even other immunodeficient mice such as RAG, IFN alpha/beta and INF gamma deficient, or scid mice do not develop clinical disease even though, as mentioned above, they frequently remain persistently infected with the virus.

At this time, it is difficult to determine the potential impact this virus might have on

*Cont. on pg. 3*



*Special interest inside:*



## Staff in Focus - Dr. Felix Wolf

### *RARC's First Deputy Director*

Felix Wolf, DVM, Ph.D. completed his veterinary training at the University of Zurich in Switzerland in 1983. After post-doctoral training at the University of Zurich and at Yale University, he received his doctorate in Laboratory Animal Science from the University of Zurich. Subsequently, he was certified by the American College of Laboratory Animal Medicine and he was a founding member of the European College of Laboratory Animal Medicine.

Dr. Wolf originally entered veterinary school to become a dairy vet, but came to laboratory animal medicine after learning about the specialty. He became fascinated by the diversity of this ever-

changing field which would allow him to keep learning new things.

It is important to him that he is working for the benefit of both the investigators and the animals alike. He strongly believes these goals are harmonious as excellent animal care and high animal welfare standards are essential for high quality research.

Dr. Wolf heads RARC's Biosecurity section. In this role he is responsible for rodent colony health, health monitoring, and the importation of rodents. He also serves at RARC's Deputy Director, overseeing the Husbandry & Operations and Veterinary Services sections.

## Flooded Cages - Quick Action Required!

Flooded mouse cages can result from a number of causes. They can be devastating to research as it can result in the loss of animals. Cages can flood from:

- Nests created directly under the water bottle causing the water to wick and flood the cage.
- Too much bedding dispensed into the cage also causing water to wick.
- Defective stoppers or stoppers improperly seated.
- An improperly drilled drinking water hole.
- Small fractures in the bottle.

When flooded cages are found by RARC, the animals are removed immediately to a clean cage and RARC staff dry the animals and place a heat lamp. The cage is set aside for review by the Facility Manager. Items found to be in disrepair are removed from circulation and replaced. If the cause cannot be identified, the bottle is marked with an "X" on the yellow tape located on the bottom of the bottle. If a bottle marked in this manner floods a second time, it is removed from circulation regardless of whether a cause is found.

Investigative staff identifying a flooded cage should notify RARC staff immediately so the animals can be assessed and treated. It is essential to leave the entire cage, including the bottle, in the room with a note indicating "*Flooded Cage - Hold for Manager*". An e-mail should also be sent to the Facility Manager and Sylvia Sprague, Manager-Husbandry and Operations, to ensure follow up.

To prevent flooding, RARC staff are trained to re-seat all stoppers on bottles placed during cage change. They also test the bottle to ensure proper water flow. Investigative staff that change their own cages should also re-seat the stopper to ensure it is not loose prior to placing it on the cage.

Investigative staff should contact the Facility Manager with questions about flooded cages or for a review on how to evaluate bottles during changing.

An illustrated flier is available in RARC procedure rooms detailing the steps to take should you find a flooded cage and decide to treat the animals. Please **DO REMEMBER** to [SAVE THE CAGE!](#) so that the cause of the leak can be determined.

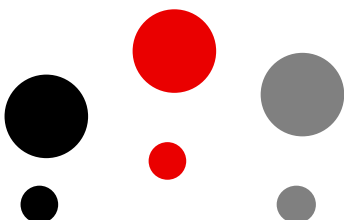
## Shipping News

eCertificate is a new online application that allows investigators to automatically generate health certificates for their rodent colonies and send them out to prospective recipients of their mice or rats. Many investigators share their unique genetically modified rodents with investigators at other institutions. In the

past the health certificates required by the receiving institution had to be requested by using a paper form and it generally took several days until it was generated and sent out. The new application can be found at <http://wcmcecertificate.mskcc.org>.



*Sample of flier demonstrating technique for treating mice removed from a flooded cage. Fliers are found in all RARC procedure rooms.*



## Protocol Assistance "At Your Service"



*EQA Specialists are available for protocol consultation and advice on preparation and submission.*

*Contact:*

[rarc\\_eqa@med.cornell.edu](mailto:rarc_eqa@med.cornell.edu)  
to make an appointment.

### TRAINING SESSIONS: MAY - JUNE

#### RARC Orientation

Tuesday, 5/6/08, 2:00-4:00

Thursday, 5/15/08, 10:00-12:00

Tuesday, 6/3/08, 2:00-4:00

Thursday, 6/19/08, 10:00-12:00

#### Xenograft Training

Monday, 5/19/08, 2:30-3:30

Monday, 6/16/08, 2:30-3:30

#### Hazardous Materials Training

Wednesday, 5/28/08, 2:30-3:30

Wednesday, 6/25/08, 3:30-3:30

#### Rodent Surgery

Friday, 5/2/08, 10:30-12:00, wet lab

Monday, 5/19/08, 10:30-11:30

Friday, 6/6/08, 10:30-12:00, wet lab

Monday, 6/16/08, 10:30-11:30

#### Isotope Room- Ad hoc

#### Rodent Breeding

Wednesday, 6/18/08, 10:00-11:30

In order to stay compliant with federal mandates and institutional policies, scientists using animals in research recognize the importance of having an accurate, up-to-date protocol containing descriptions of all of the techniques and procedures used in the course of their studies. Many recognize that achieving the appropriate level of procedural detail required for obtaining IACUC approval is a challenge, consuming significant time and effort, potentially taking time away from the project at hand.

You are not alone and help is available! RARC's Education & Quality Assurance (EQA) service is ready and able to assist with all aspects of protocol and amendment preparation and submission.

Just getting started? An EQA Specialist (EQAS) is available for protocol consultation and/or pre-review upon request. To schedule a consultation, visit RARC's website or e-mail [rarc\\_eqa@med.cornell.edu](mailto:rarc_eqa@med.cornell.edu). During the consultation, an EQAS will clarify which sections of the protocol need to be completed and which are unnecessary. The EQAS can also assist in developing

#### *Mouse Norovirus, cont. from pg. 1*

research conducted in mice. Until now, no studies have been published that describe detrimental effects of the virus on research (with the exception of the initial report in STAT-1 mice). However given the high prevalence this virus has in research mouse colonies, and the fact that many animals remain actively infected for long periods of time, it is prudent to assume that MNV may affect select physiological parameters in infected mice. The most likely affected target tissues will include the brain and the immune system.

Because of its high prevalence and fastidiousness, MNV poses a significant challenge to eradication. RARC has initiated a proof-of-principle process to determine the feasibility of maintaining MNV-free rooms at WCMC/MSKCC. We have vacated one of the MGC core rooms and are restocking it with MNV-free animals obtained directly from commercial vendors. Husbandry

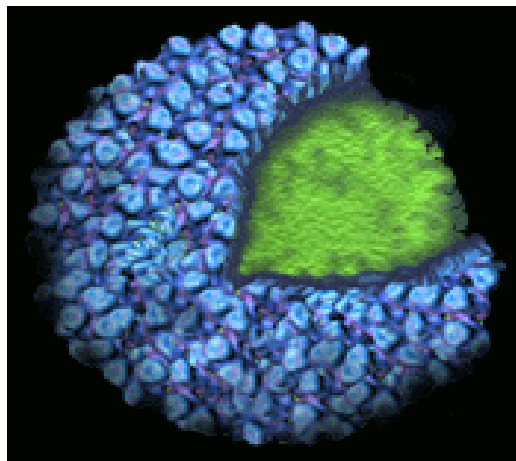
answers to questions raised by the IACUC as well as with the preparation of detailed descriptions required for new procedures.

Some investigators prefer writing the protocol first, then submitting it for pre-review. An EQAS will review the proposal and bring areas of concern to the submitter's attention, often with suggested changes. In some instances, the EQAS may solicit the advice and opinion of members of the IACUC as well staff veterinarians.

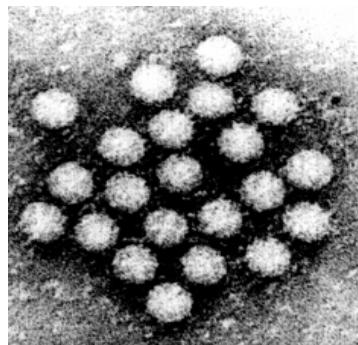
Pre-review is not a guarantee of approval. The IACUC consists of 19 members, including scientists, non-scientists, and lay staff that may ask additional questions, but most investigators find the review process to be expedited after choosing this course of action.

Frustrated because you just submitted your protocol and weren't aware of the resources above? Don't worry, just request assistance from an EQAS.

Writing a protocol is a considerable task, but remember, help is available!



Cartoon of norovirus particle structure



Transmission EM of norovirus virions

procedures have been intensified to include autoclaving of all caging and bottles before use. We hypothesize that these additional measures will prevent contamination of the animals. If proven effective, we will offer investigators the ability to rederive and maintain their animals MNV-free.

May & June  
Investigator  
Training  
Seminars

All are  
welcomed to  
attend!

**\*UPCOMING SEMINARS\***

**INTRODUCTION TO THE LABORATORY OF  
COMPARATIVE PATHOLOGY & GENETICALLY  
ENGINEERED MOUSE PHENOTYPING SERVICE**

Speaker: Krista M. D. La Perle, DVM, PhD, DACVP,  
Director, Laboratory of Comparative Pathology &  
Genetically Engineered Mouse Phenotyping Service

Date: Wednesday, May 21

Time: 2:00 - 3:30 PM

Place: MSKCC campus, RRL, Room 101

**ISOFLURANE ANESTHESIA IN RODENTS - JUST  
BREATHE**

Speaker: Kathy Rider, BA, LVT, RLATG, Training  
Coordinator, CBC

Date: Wednesday, June 18

Time: 2:00 - 3:30 PM

Place: Rockefeller campus, Weiss 302

PLEASE VISIT  
OUR NEW  
OFFICES ON  
E-7!



**About our department-**

Office of the Director: (212) 746-1031

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Administration & Information Services: (646) 888-2406

[rarc\\_adm@med.cornell.edu](mailto:rarc_adm@med.cornell.edu)

Biosecurity: (646) 888-2403

Education & Quality Assurance: (212) 746-1077

[rarc\\_eqa@med.cornell.edu](mailto:rarc_eqa@med.cornell.edu)

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[rarc\\_lcp@med.cornell.edu](mailto:rarc_lcp@med.cornell.edu)

Veterinary Services: (212) 746-1167

[rarc\\_vs@med.cornell.edu](mailto:rarc_vs@med.cornell.edu)

**EMERGENCY: (212) 746-1022**

