



National Institutes of Health

U.S. Public Health Service  
Bethesda, Maryland 20892

Office of Biotechnology Activities  
National Institutes of Health  
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<http://osp.od.nih.gov/>

April 17, 2014

Redacted by agreement

Biological Safety Specialist  
University of North Carolina  
1120 Estes Drive Extension  
Campus Box 1659  
Chapel Hill, NC 27599-1659

Dear Redacted by agreement

Thank you for your March 7, 2014, and March 14, 2014, correspondence to the National Institutes of Health (NIH) Office of Biotechnology Activities (OBA) describing a March 7, 2014, incident in which a mouse that had been previously administered a recombinant strain of SARS-CoV escaped from the biosafety cabinet. The incident occurred as a researcher was attempting to restrain a mouse for harvesting. When the researcher reached inside the cage to grab the mouse, another mouse in the cage jumped out of the cage and then the biosafety cabinet. The mouse was immediately captured by the researcher and euthanized. The floor of the laboratory was then disinfected with a 70-percent ethanol solution.

In response to this incident, the University of North Carolina will explore strategies to reduce the likelihood of an animal escape, such as providing additional training on how to lightly anesthetize research animals and developing methods for hands-free animal handling.

The University of North Carolina response to this incident appears appropriate. No further information is requested at this time. Please contact OBA staff by email at [oba-osp@od.nih.gov](mailto:oba-osp@od.nih.gov) or by telephone at (301) 496-9838 if you have any questions.

Sincerely,

Jacqueline Corrigan-Curay, J.D., M.D.  
Acting Director  
Office of Biotechnology Activities

Redacted by agreement

April 17, 2014

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cc: Redacted by agreement

Amy P. Patterson, M.D., Associate Director for Science Policy, NIH

Allan C. Shipp, Director of Outreach, Office of Biotechnology Activities, NIH

Ryan Bayha, Senior Analyst for Science Policy Outreach, Office of Biotechnology Activities, NIH

Kathryn Harris, Ph.D., RBP, Senior Outreach and Education Specialist (contractor),

Office of Biotechnology Activities, NIH

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## Bayha, Ryan (NIH/OD) [E]

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**From:** Redacted by agreement  
**Sent:** Friday, March 14, 2014 3:57 PM  
**To:** Bayha, Ryan (NIH/OD) [E]  
**Cc:** Redacted by agreement  
**Subject:** NIH Report - Release of Select Agent  
**Attachments:** Letter to NIH 03.14.14.pdf

Hello Ryan,

As a follow-up to our initial report on Friday, March 7<sup>th</sup> 2014, please find attached the University of North Carolina at Chapel Hill's final report documenting the release of a select agent. Please feel free to contact me should you have any questions.

Sincerely,

Redacted by agreement

Biological Safety Specialist  
University of North Carolina at Chapel Hill  
Environment, Health & Safety  
1120 Estes Drive Ext. CB# 1650  
Chapel Hill, NC 27599-1650  
Office: 919-962-5712  
Fax: 919-962-0227



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March 12, 2014

National Institutes of Health  
Office of Biotechnology Activities  
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RE: Escape of mouse infected with recombinant SARS-CoV

To Whom It May Concern:

As required by Appendix G-II-C-2-q of the **NIH Guidelines for Research Involving Recombinant DNA molecules**, the University of North Carolina at Chapel Hill ("UNC") immediately reported a transgenic mouse escape to Ryan Bayha, Senior Analyst for Science Policy Outreach at the National Institutes of Health on March 7<sup>th</sup>, 2014. See Attachment 1. This letter constitutes UNC's follow up report describing the incident.

On the morning of March 7<sup>th</sup>, a researcher in the laboratory of [Redacted by agreement] was attempting to harvest mice in a biological safety cabinet (BSC). After successfully harvesting the first of three mice, the researcher went to grab the tail of the next mouse and while her hand was in the cage the remaining mouse jumped out of the cage into the BSC. Once loose in the BSC, the mouse jumped to the floor, immediately ran behind a refrigerator and then under an Uninterruptible Power Supply (UPS) unit. The two researchers present in the facility were able to capture the mouse using a broom and promptly returned it to its cage. Once captured, the mouse was euthanized (as planned) and isoflurane gas was used to aid in the handling of the final mouse from that cage.

The mouse involved in this incident is part of the Collaborative Cross (CC), a large panel of inbred mouse strains. The strain of mouse is designated as 8026x5080, meaning the line is across between CC founder lines 8026 and 5080. Due to its high sensitivity to volatile anesthetics, such as isoflurane and the increased mortality rates associated with their use, anesthesia is not recommended for this mouse strain. At the time of the release, this mouse was 4 days post mouse-adapted SARS-CoV (Urbani strain) infection.

During the incident there was no breach of personal protective equipment (PPE), personnel exposure or fluctuations of lab pressure. The broom, floor where the animal landed as well as the space behind the refrigerator and under the UPS unit were immediately decontaminated with an approved disinfectant (70% ethanol). Once surfaces were decontaminated, the researcher doffed PPE (according to laboratory SOP) and exited the facility to report the incident. Notification of the release was given to the Principle Investigator [Redacted by agreement] and the BSO [Redacted by agreement].

Since April 2013, the University of North Carolina at Chapel Hill has reported 5 mouse escapes to the NIH, including 3 that involved Collaborative Cross (CC) mice. To identify genetic variants that contribute to a variety of infectious disease responses, several investigators at UNC are using



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Collaborative Cross (CC) recombinant inbred mice. This population of mice is a highly genetically diverse model of the human population, and thus is useful for understanding genetic contributions to a variety of diseases, including virus infections. Due to the fact that CC mice are new mouse lines (most only becoming inbred within the past 2 years), and due to the fact that their genomes are mosaics from a variety of immunologically, behaviorally and physiologically distinct founder mouse lines, their behaviors, activity levels and responses to anesthetics can vary wildly. While the frequency of escapes appear to suggest some entity-wide issue within the training of our research personnel, we would argue that these reports are the results of the complex research taking place at our institute as well as our commitment to safety and compliance.

A number of labs and EHS have implemented university-wide policies to limit animal bites and escapes (e.g. training on light anesthesia, development of hands-free and secure handling of these animals), and mouse handlers receive extra training by senior and experienced handlers of these wild mice. It is our hope that with these system-wide changes and through the continued study of these novel mouse strains, we can decrease the likelihood of these incidences in the future.

Please contact me at (919) 962-5712 or Redacted by agreement if you have questions.

Sincerely,  
Redacted by agreement

Biological Safety Specialist  
Environment, Health and Safety

Cc: Redacted by agreement

**Bayha, Ryan (NIH/OD) [E]**

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**From:** Redacted by agreement  
**Sent:** Friday, March 07, 2014 12:13 PM  
**To:** Bayha, Ryan (NIH/OD) [E]  
**Cc:** Redacted by agreement  
**Subject:** Escape/Capture of rDNA SARS infected mouse

Good afternoon Ryan

I hope you are doing well. This morning we had a rDNA SARS infect mouse escape the cabinet four days post infection. The mouse was caught. No PPE failure. No fluctuations in the lab. The area was deconned. We will follow up with a report in the next week. Deb Howard

Sent from my iPhone