

CMU Institutional Biosafety Committee

Meeting Minutes: August 19, 2025

Location: Virtual via Teams

Meeting start and quorum: Quorum was confirmed, the attendance of at least one non-affiliated community member was confirmed, and the meeting was called to order at 2:00 p.m.

1. Attendance

Voting members and roster roles

- Greg Colores, Chair
- Devin Boyles, Biosafety Consultant
- Kevin Park, Animal Expert
- Grant Clarkson, Lab Safety Consultant
- Dawn Polanco, Non-affiliated Community Member
- Jeff Percha, Non-affiliated Community Member

Staff, non-voting

- Belinda Adamson, DRC
- Kristin DeMuro, ADRC
- Jennifer Marrs, Coordinator

2. Review of Minutes

None.

3. Updates and Announcements

There were no announcements.

4. IBC Registrations for Review

Three-year Registration Renewal

Principal Investigator: Julien Rossignol

Registration Number: 2025-149

Registration Title: Delivery of large and small biomolecules, CRISPR Cas9 and gene regulatory plasmids using dendrimer nanoparticles in vitro and in vivo

Location: Health Professions Building; Health Professions Vivarium; CMED South

Project Overview

Agent name: CRISPR Cas9 Plasmids

Host: E. coli

Vectors: Adeno-associated virus 8; Adeno-associated virus 5/9

Genetic modifications: Virus and plasmids will be modified to insert different promoters and gene expression cassettes.

Applicable NIH Guidelines Section: NIH III-D-4-c

Required Training: Biosafety Training; Lab Safety Training; Radiation Safety Training for personnel doing the radioisotope work

Biosafety Level Assignment: BSL-1

Risk Assessment

The existing risk assessment documentation is adequate and covers the proposed work. There are no deviations from previously conducted activities that prompt a new risk assessment for outlined material in this current protocol.

Summary of Discussion

Protocol entails the delivery of CRISPR Cas9 plasmids using dendrimer nanoparticles to efficiently target genes involved in neurodegenerative processes. Additionally, dendrimers will be used to direct large plasmids with fluorescent reporter molecules to regions of interest to visualize the efficiency of dendrimer-assisted targeting. These will be performed in cell culture then later into mice. If successful, this approach will be expanded to other models including stroke, glioblastoma and inflammation.

This is the third meeting convened to review this application. At the previous meeting on July 3, 2025, the IBC voted to request additional modifications to secure approval of the registration. A written request was sent to the investigator.

IBC leadership met on August 8, 2025, to discuss the investigator's response to the Second Request for Modifications. Based on this discussion, it was determined that there were still items that must be addressed prior to bringing it back for another full committee review. A Third Request for Modifications was sent to the investigator, which included the following items:

- An expanded explanation, in layman's terms, is needed of possible safety concerns in using the agents, specifically in the case of accidental puncture of personnel.
- There are agents listed in Section 2.B but not listed on the Proposed Agents Table. If these are being used, they should be added to the table. If they are not being used, they should be removed from Section 2.B.
- If the intraperitoneal route of administration is being used, it should be added to Section 3.C and to the Proposed Agents Table. If not, it should be removed from Section 2.K.1.
- If intranasal administration will be used, it should be added to Section 2.K.1. If it will not be used, it should be removed from the Proposed Agents Table.
- In the first paragraph of Section 3.C, Dendrimer, numerical references should be removed.
- Reference to radioisotopes in Section 3.E should be removed.
- Section 6.D.1 will need to be updated to reflect the removal of the listed protocol.

The investigator resubmitted the application with modifications on August 6, 2025. The committee reviewed the resubmission, and the investigator joined the meeting to answer questions and concerns.

After discussion with the investigator, it was determined that the following concerns still remain:

- There needs to be more detail on gene targets, the potential outcome of each agent's use, and which agents are plasmids.
- Remove AAV 5/9 from the vector table within the application.
- The investigator stated during the discussion that the gene inserts do not modify human gene targets. This needs to be briefly reiterated in the body of the application.
- The CRISPR safety guidance document should be provided to the investigator to help explain the IBC's safety concerns.

Motion

Motion was made and seconded to request further modifications to secure approval. A fourth written request will be sent to the investigator.

Vote: Request Modifications to Secure Approval

- Members present: 6
- Members absent: 0
- Votes for: 6
- Votes against: 0
- Abstained: 0
- Recused: 0

5. Protocol Approvals Since Last Meeting

None.

6. New Business

None.

7. Adjournment

Meeting end time was 2:55 p.m. A quorum was maintained, and at least one non-affiliated community member was present for the duration of the meeting.