

# INSTITUTIONAL BIOSAFETY COMMITTEE REVIEW

## MEETING MINUTES

**Meeting Date:** Wednesday, July 9, 2025  
**Time:** 12:00 pm Pacific Time  
**Location:** Zoom Teleconference  
**Institution:** Lumen Bioscience, Inc., Seattle, WA  
**Principal Investigator:** Jim Roberts, MD, PhD  
**Project:** Lumen Bioscience, Inc., 2017\_LMN-001  
**Meeting Type:** Continuing Review of Project and Site  
**Title:** Development of a Novel Platform for Sustainable Production of Therapeutic Proteins by Arthrospira (Spirulina) Using Genetic Engineering and Phage Panning

### 1. Call to order:

The Meeting was called to order at 11:59 am Pacific Time.

### 2. Introductions and orientation:

Introductions were made and the Chair oriented members to the meeting procedures.

### 3. Declaration of quorum:

Six voting members were present, including two local members unaffiliated with the institution. Also present were three Institutional Representatives and IBC Services staff. The Chair declared that a quorum was present.

### 4. Conflict of Interest:

The Chair requested that voting members report any conflict of interest regarding this meeting. No conflicts of interest were reported.

### 5. Public posting:

An Institutional Representative confirmed that notice of the meeting was publicly posted. No public comments were received by the site or the Committee regarding this review.

### 6. Approval of previous meeting minutes:

Minutes Approved - YES: 6                      NO: 0                      ABSTAIN: 0

### 7. Review of proposed research:

The Chair provided an overview of the project.

The Chair provided an overview of changes since the last review.

### **Point of Discussion:**

1. An Institutional Representative requested to work with *Shigella* and stated it would be used in a nearly identical manner as enterotoxigenic *E. coli*. After discussion, the Committee found this to be acceptable.

### 8. Determination for biosafety level and period of IBC oversight:

The Committee determined:

- **BSL-2 containment facilities and practices** are required for all work with enterotoxigenic *E. coli*, *B. megaterium*, and *Shigella*.
- **BSL-2 containment facilities and practices** with enhanced precautions are required for the production and use of lentivirus and poliovirus derived pseudoviruses. Enhanced precautions include: performing all work in a BSC, sharps avoidance, and inactivation of all materials with an effective disinfectant prior to disposal.

The Committee previously determined and reaffirmed the following:

- **Good Large Scale Practices** are required for growth of Spirulina at volumes >10 liters.
- **BSL-1 containment facilities and practices** are required for growth of Spirulina at volumes <10 liters.
- **BSL-1 containment facilities and practices** are required for phage screening against purified proteins.

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- **BSL-2 containment facilities and practices** are required for CRISPRi-based engineering of Spirulina.
- **BSL-2 containment facilities and practices** are required for all work with mammalian cells in the absence of lentiviral vectors.

The Committee previously determined that IBC oversight will continue as long as the research is active at the institution. The Committee reaffirmed this determination.

### **9. Vote on project:**

The Committee voted for following determination on the Project:

X	APPROVED
	CONDITIONALLY APPROVED
	TABLED
	DISAPPROVED

DETERMINATION VOTE - YES: 6                      NO: 0                      ABSTAIN: 0

### **10. Review of proposed facilities and practices:**

The Chair provided an overview of the arrangement for the facilities and practices.

#### **Points of Discussion:**

1. An Institutional Representative confirmed that materials saturated with bleach are not autoclaved.
2. An Institutional Representative stated that Virkon is used as a disinfectant for phage work and pseudoviruses. The Committee recommended that 5e in the Statement of Safety Procedures section of the General Summary be revised accordingly.
3. An Institutional Representative confirmed that staff wear lab coats when manipulating biohazardous materials.
4. The Committee recommended that the black and yellow area around the sink be free of materials to prevent splash contamination.
5. An Institutional Representative stated that eyewash bottles were made available on a temporary basis due to problems with the building's water supply which have since been resolved.

### **11. Site responsibilities:**

The Chair reviewed training and communication requirements for maintaining IBC approval with the Institutional Representatives.

### **12. Vote on the site:**

The Committee voted for following determination on the Site:

X	APPROVED
	CONDITIONALLY APPROVED
	TABLED
	DISAPPROVED

DETERMINATION VOTE - YES: 6                      NO: 0                      ABSTAIN: 0

### **13. Advice to Institution:** None.

**14. Meeting adjourned:** The meeting was adjourned at 12:33 pm Eastern Time.

**15. Post-Meeting Notes:** None.

### **Documents Reviewed:**

Agenda  
General Summary, received 06-11-2025  
Liquid Nitrogen, dated 06-02-2022  
BBP Handling, dated 07-24-2022  
Exposure Control Plan, dated 10-15-2023  
Employee Incident Report Form, dated 02-28-2025

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Vaccination Form, received 06-13-2023  
Biowaste Removal, dated 03-30-2025  
Research Modification Evaluation Form, Site Changes, dated 06-12-2025  
Site Inspection Checklist, BSL-1 and BSL-2, dated 06-11-2025  
Site Map, dated 06-10-2025  
Photos, dated 06-12-2025  
Biological Safety Cabinet Certifications, dated 2024, 2025  
Training, Shipping Certification, dated 01-08-2025  
CRRF, dated 05-09-2025  
Prior Meeting Minutes, Initial, dated 06-30-2023, revised 07-06-2023