University of Washington
AUGUST 8, 2023 IACUC Special Meeting Minutes

Members Present:	AB	ES	KG	MRB
	AS alt		LM alt	
	AP	GL	MB	
	CC	JPVH		
		JS		
Members Absent:	AW	JFI	MK	
	DM	GS		MRK
				MS
	DT			SP

Opening Business

- No public comments.
- The IACUC Chair called the meeting to order at 1:02 pm.

Confirmation of a Quorum and Announcement

- Quorum was confirmed by ZR.

Full-Committee Protocol Review

- Review– **Amendment for 4266-10: Design and Optimization of a Clinical Gene Gun**

Summary: This amendment is being reviewed by Full Committee Review at a Special Meeting to meet an NIH funding deadline.

The AV presented a summary of the proposed amendment as follows: The existing protocol, Design and Optimization of a Clinical Gene Gun, has allowed the exploration of effective gene gun technology to enhance gene expression and immune responses to novel nucleic acid

sequences. For anyone unfamiliar with what a gene gun is, it is a method of vaccination using a burst of air pressure that delivers tiny (micron) gold beads coated in vaccine that penetrates cell. These beads are able to be penetrate through the cell membrane without killing the cell so that the nucleic acid sequences can actually be replicated within the living cell.

The use of the gene gun is already approved in the parent protocol.

This amendment is to add 1008 animals for 9 new experiments with the goal of optimizing the gene gun technology. These new experiments include:

- Characterizing the impact of replacing the AC trigger with a DC switch to make the gene gun easier to use and manufacture
- Evaluation of helium source to power the gun to aid in adaptability of the device
- Evaluation of different bead sizes to maximize gene expression and immunogenicity
- Evaluation of a Vaccine Delivery Unit (VDU) which is a module that attaches to the gene gun allowing for multiple doses to be given without reloading
- Evaluation of stability of the VDU after storage at 2 different temperatures for variable lengths of time as it relates to gene expression and immunogenicity
- A challenge study in which mice are vaccinated and then challenged with influenza

These experiments include anesthesia (either Isoflurane or Ketamine/Xylazine) to allow for vaccination, imaging, and blood draws (submental or anesthestized retro-orbital). Most of animal procedures were already approved in other experiments in the parent protocol. The administration of influenza virus is new with this amendment (50uL given intranasally). In the flu challenge study, antiviral treatments are withheld to allow progression of signs which is critical to assess efficacy. It is anticipated that unvaccinated animals will experience flu-like symptoms for ~5 days (ruffled fur, shivering, huddling behavior, and decreased activity). Veterinary staff will be consulted for treatment options when clinical signs are observed. Animals are monitored by the lab staff twice weekly for the duration of the study and daily for 14 days following influenza inoculation. Humane endpoint criteria include typical monitoring criteria as well as weight loss of up to 30%.

In the 8 refinement experiments, animals are euthanized at day 42 (by overdose). In the flu challenge study, euthanasia is scheduled for day 70 following infection for all animals.

Overall mortality of this study may be up to be 15%.

Discussion/Questions:

The PI and a member of the research team were present to address committee questions. IACUC members had a robust discussion with the research group on disease trajectory and expected clinical symptoms, monitoring frequency, euthanasia criteria (including weight loss), and expected mortality. The research group was open to committee members' suggestions to further support the well-being of the mice, including use of a nutritional gel supplement and provision of an igloo or

similar enrichment device to aid in thermoregulation. Committee members also discussed adding this protocol to veterinary monitoring with the goal of helping the group refine their monitoring plan and euthanasia criteria. The research group welcomed the opportunity to work with a veterinarian on these aspects of the project.

The research group left the meeting at 1:44pm.

IACUC member MB left the meeting at 1:45pm.

Motion was made and seconded: to approve the Amendment as written.

Further Discussion: *With addition of placing this protocol onveterinary monitoring.*

Vote: Approved with 11 members voting in favor, 0 against, 0 abstentions.

Closing Business:

The Meeting was brought to a close at 1:47 pm.