



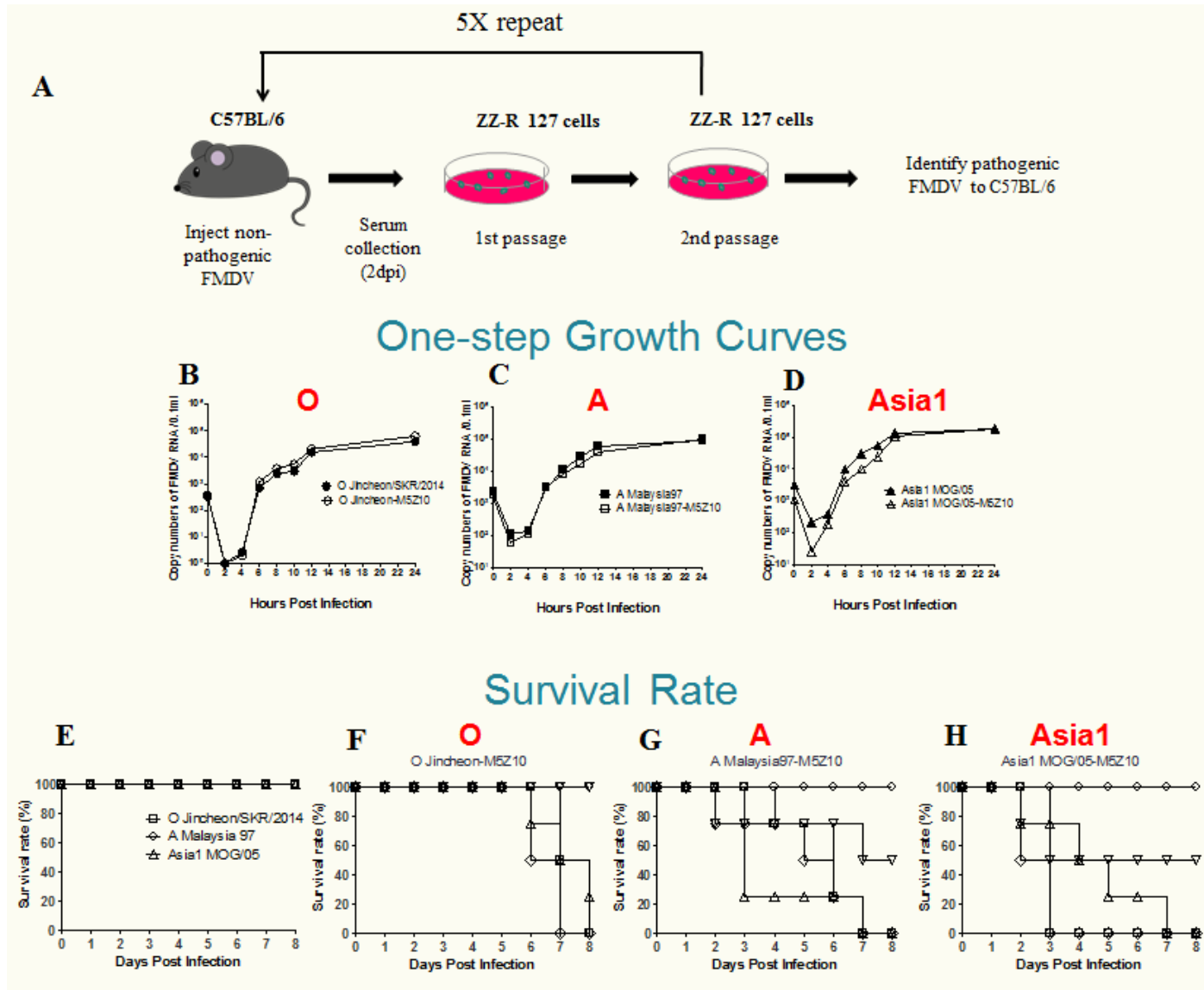
APPLICATION of MOUSE MODEL for Effective Evaluation of FMD Vaccine

Seo-Yong Lee¹, Mi-Kyeong Ko¹, Kwang-Nyeong Lee¹, Joo-Hyung Choi¹, Su-Hwa You¹, Hyun-Mi Pyo¹, Myoung-Heon Lee¹, Byoungghan Kim¹, Jong-Soo Lee², Jo
ng-Hyeon Park¹

¹ Center for FMD Vaccine Research, Animal and Plant Quarantine Agency, Republic of Korea,

- **Efficacy evaluation of FMD vaccines has been conducted in target animals.**
→ expensive, time and labor for the experiments.
- In the present study, **we made a series of lethal challenge viruses for adult C57BL/6 mice.**
 - Types O, A, and Asia1 was evaluated in the mouse model.
 - In-house and commercial vaccines demonstrated vaccine-mediated protection in a dose-dependent manner.

Strategy for obtaining lethal FMDVs and characterizing the pathogenic viruses



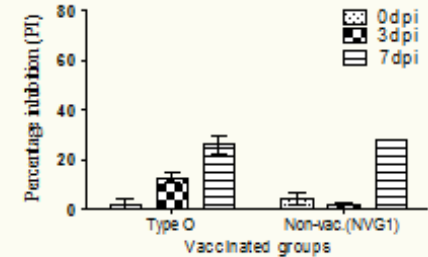
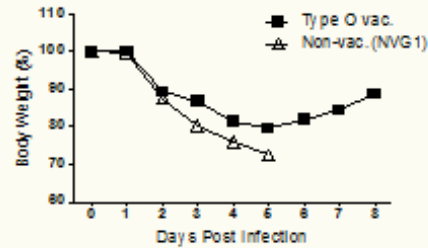
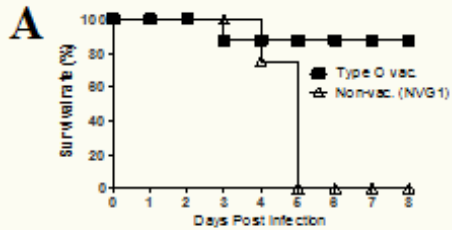
Evaluation of the experimental in-house vaccines in the mouse model

Survival Rate

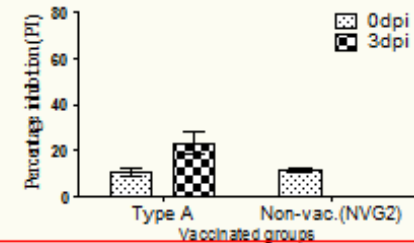
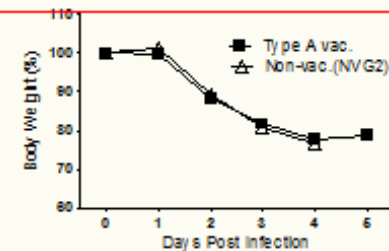
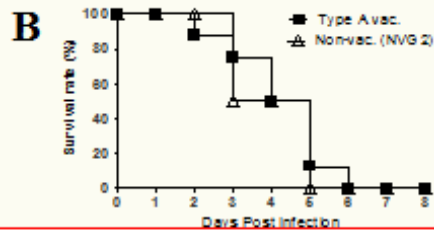
Body Weight

Ab-SP-ELISA

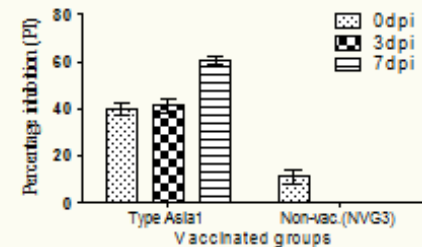
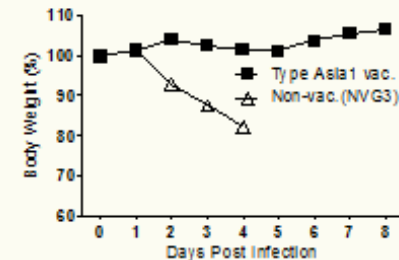
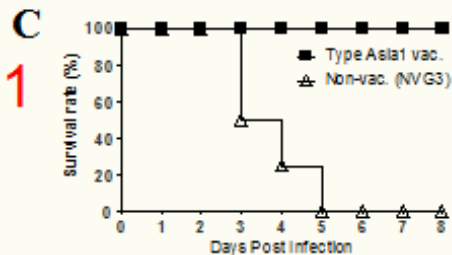
O



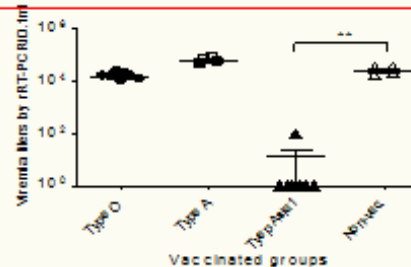
A



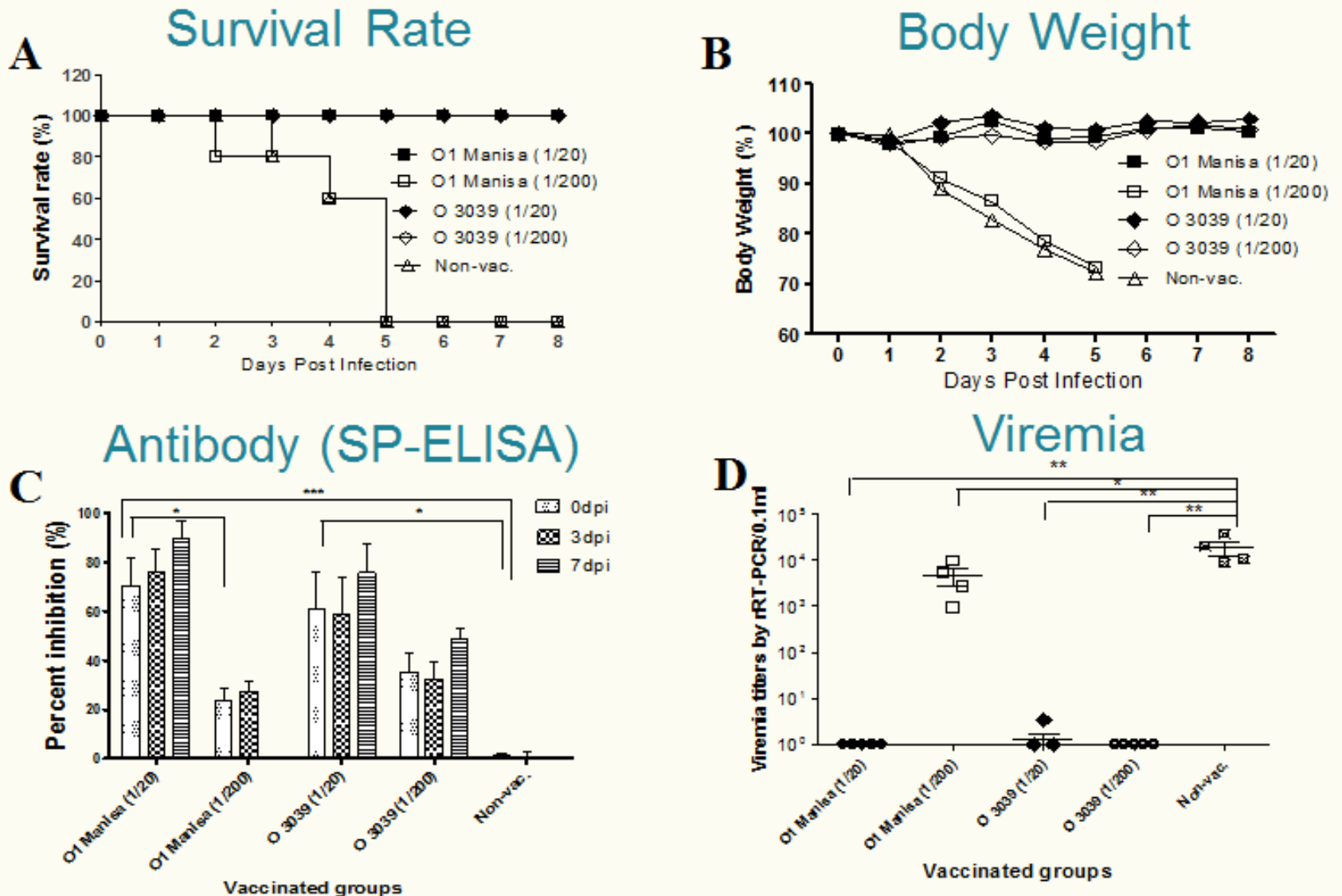
Asia1



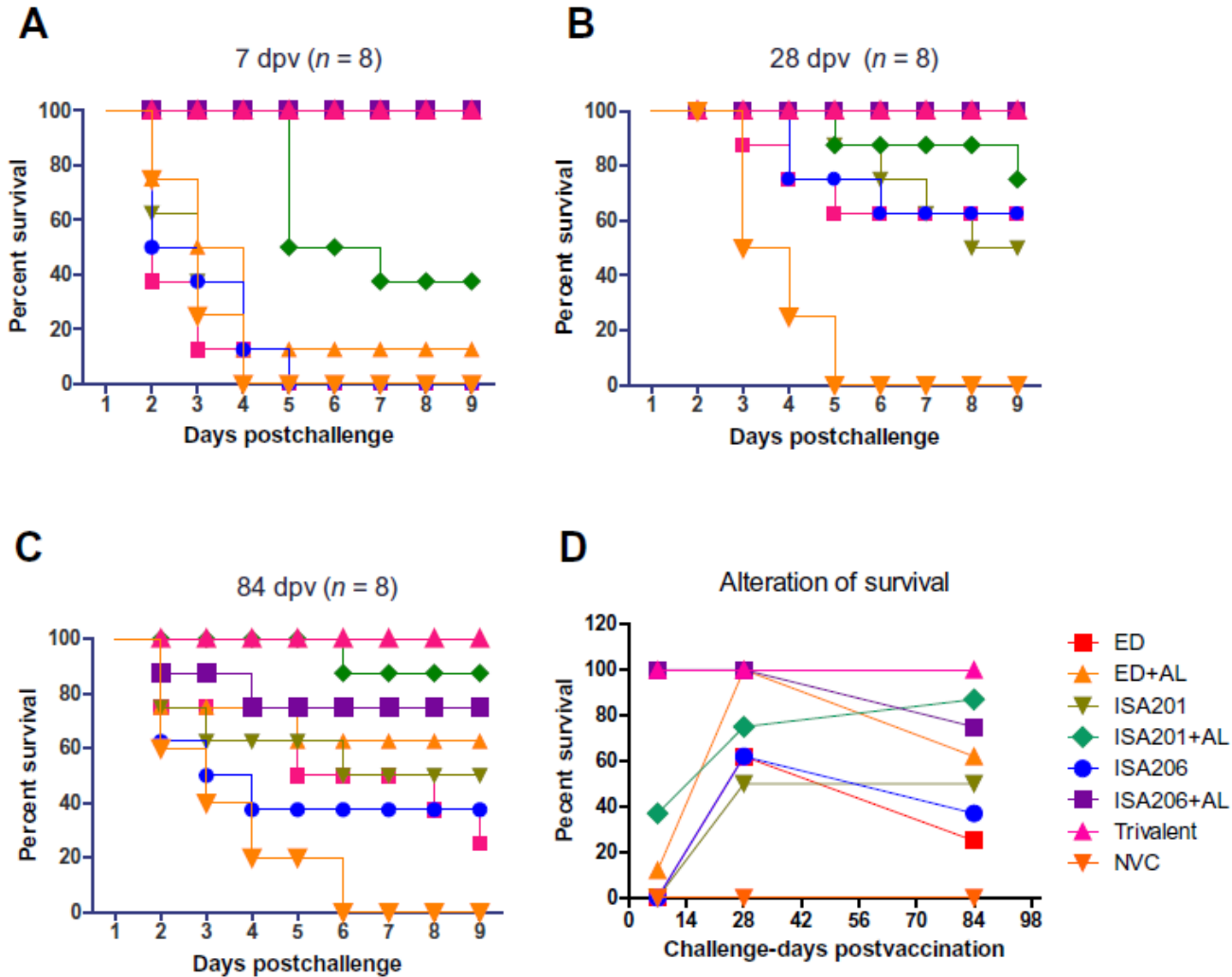
D Viremia



Evaluation of the commercial type O FMD vaccine in the mouse model



Variation of mouse survival according to the various adjuvants and various challenge points



Challenge after type Asia1 vaccination

Conclusions

- **At least, using this methods, we can predict which one is better in short times**
- **We propose that FMD vaccine evaluation should be carried out using mouse-adapted challenge viruses as a swift, effective efficacy test of experimental or commercial vaccines.**