

Supplemental Figures

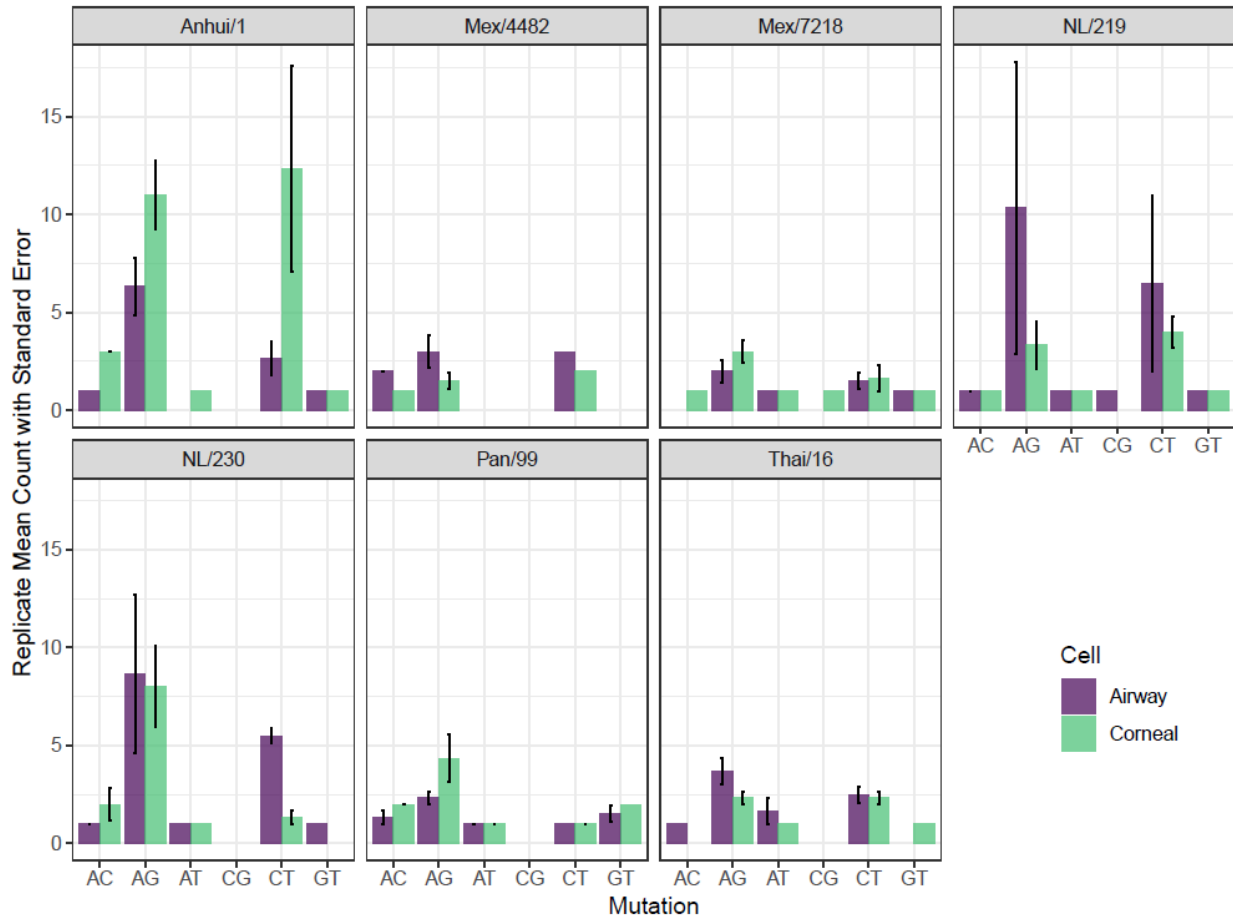


Figure S1. Base change counts of influenza A viruses in respiratory or corneal cultures. Mean counts across all replicates with standard error bars in EpiAiway (purple) and EpiCorneal (green) tissue constructs at 72 hours p.i.

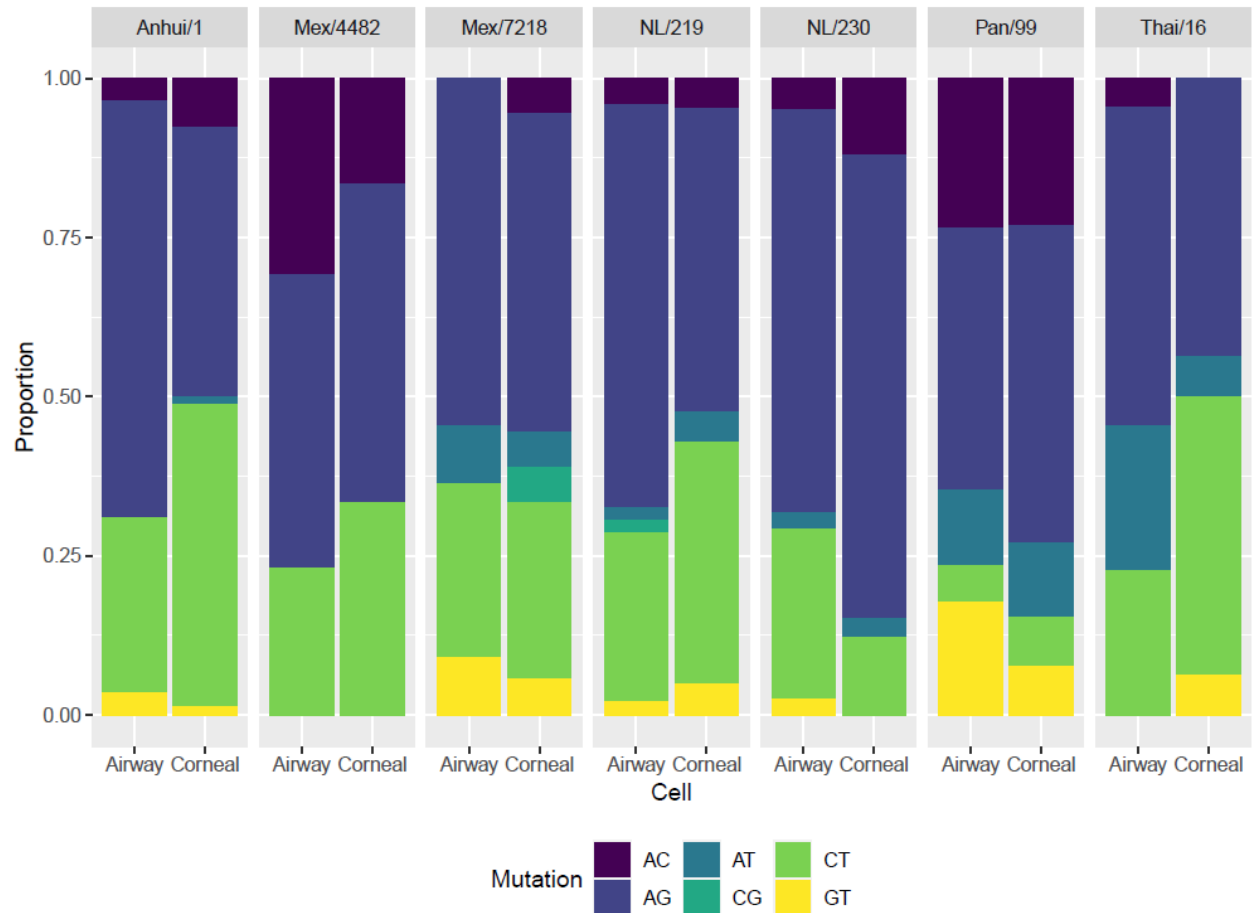


Figure S2. Proportional base change of influenza A viruses in respiratory or corneal cultures.

Mean counts across all replicates as a proportion of the overall total in EpiAiway and EpiCorneal tissue constructs for all viruses.

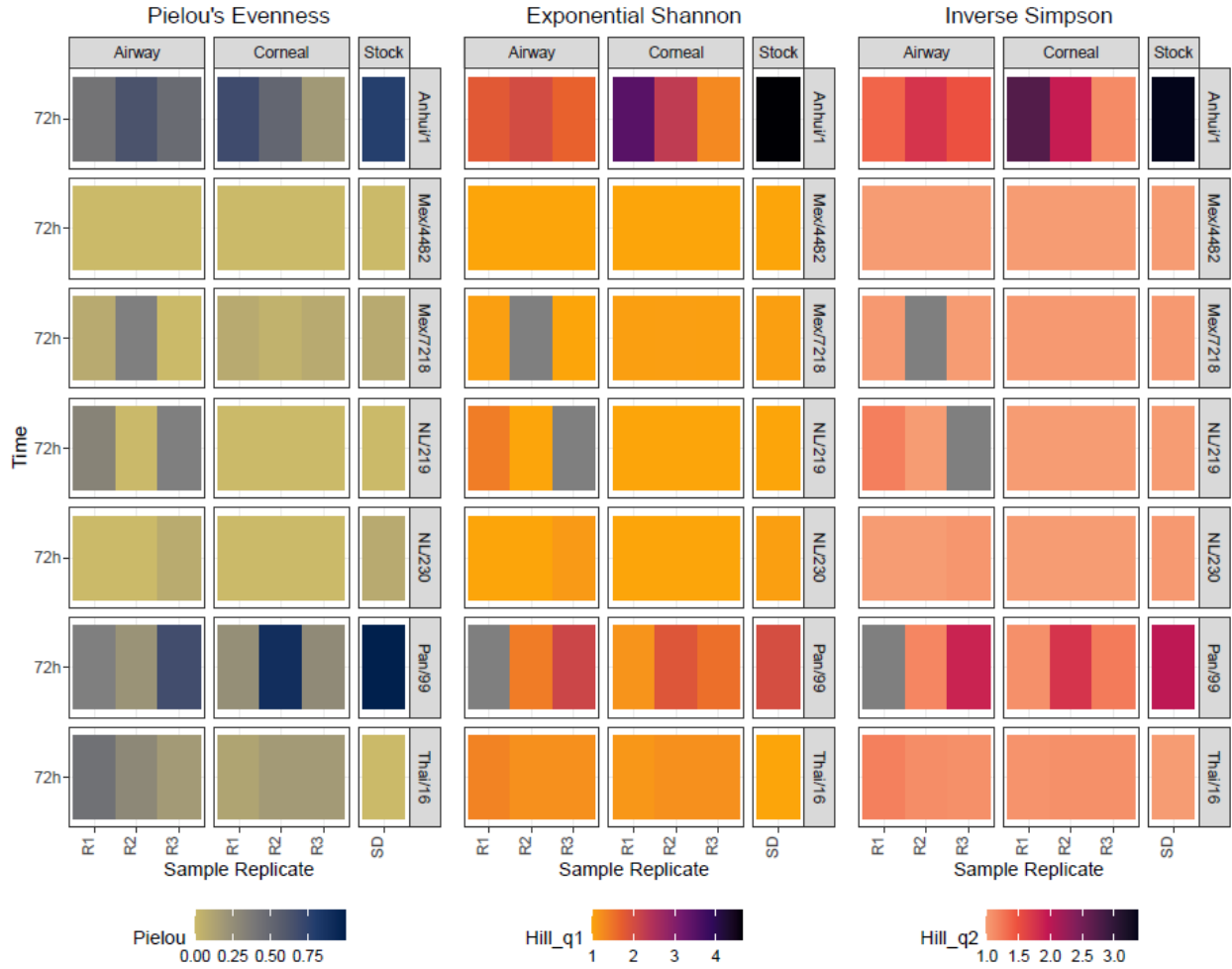


Figure S3. Influenza A virus diversity metrics following multicycle replication in respiratory or corneal cultures. Heatmap of Pielou’s Evenness, Exponential Shannon, or Inverse Simpson for each of the seven influenza A viruses for each tissue construct (airway, corneal) at 72 hours p.i. and stock viral quasispecies populations. R1-R3, individual sample replicates; SD, diluted inoculum stock. Dark gray shading represents missing data.

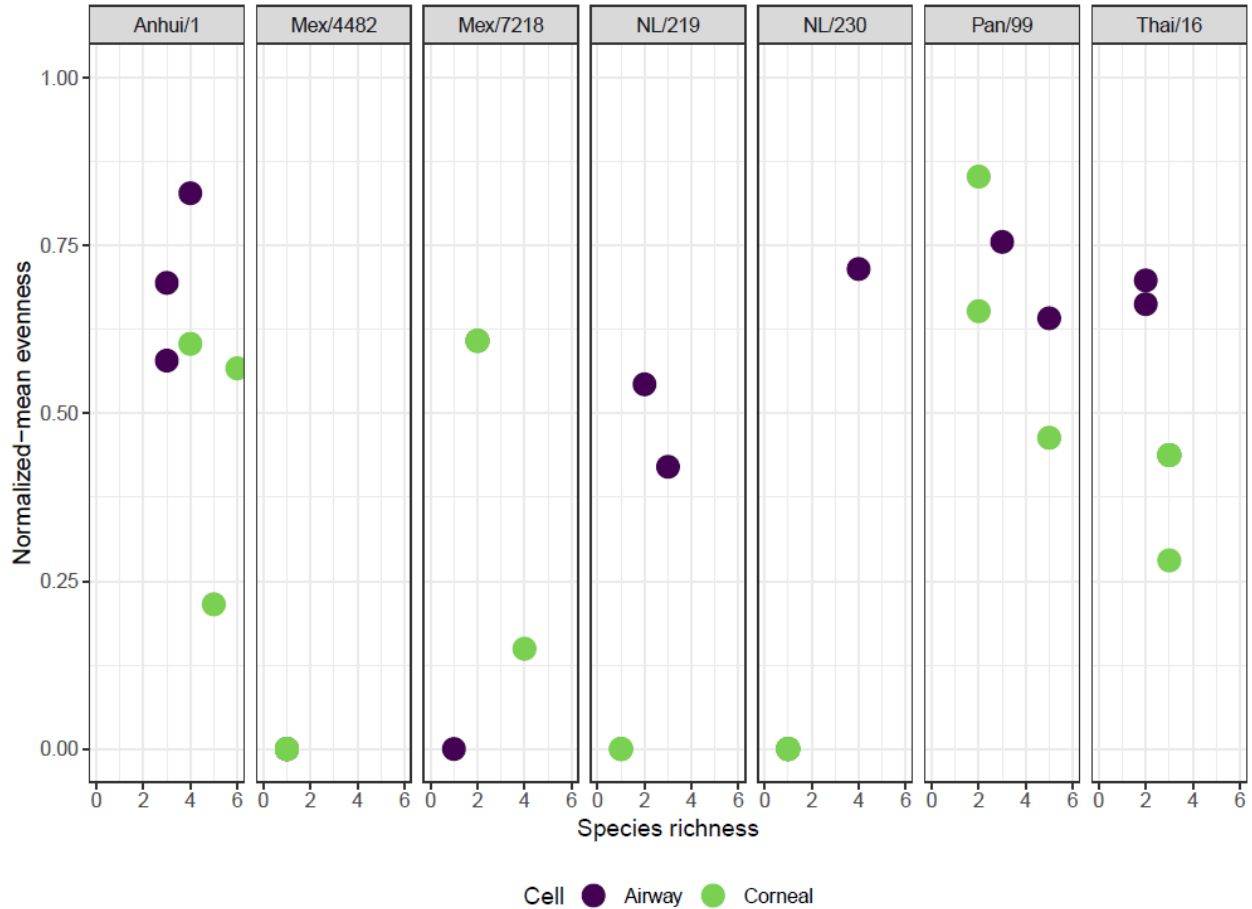


Figure S4. Influenza A virus diversity metrics, Normalized-median evenness by Species richness. Plotted comparison of viral quasispecies diversity of evenness by richness for EpiAirway (purple) and EpiCorneal (green) tissue constructs at 72 hours p.i. for all seven viruses.

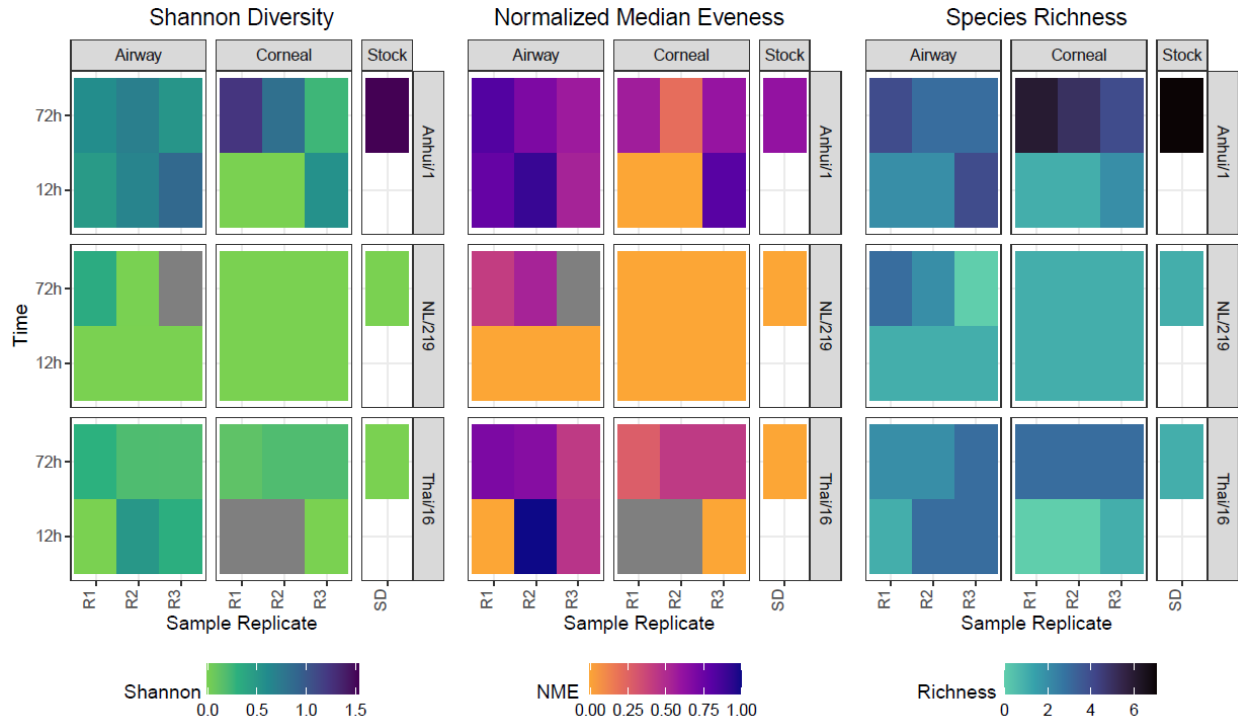


Figure S5. Influenza A virus diversity metrics following multicycle replication in respiratory or corneal cultures. Heatmap of Shannon diversity, normalized median evenness, and species richness for three representative influenza A viruses for each tissue construct (airway, corneal) at either 12 or 72 hours p.i. and stock viral quasispecies populations. R1-R3, individual sample replicates; SD, diluted inoculum stock. Dark gray shading represents missing data.

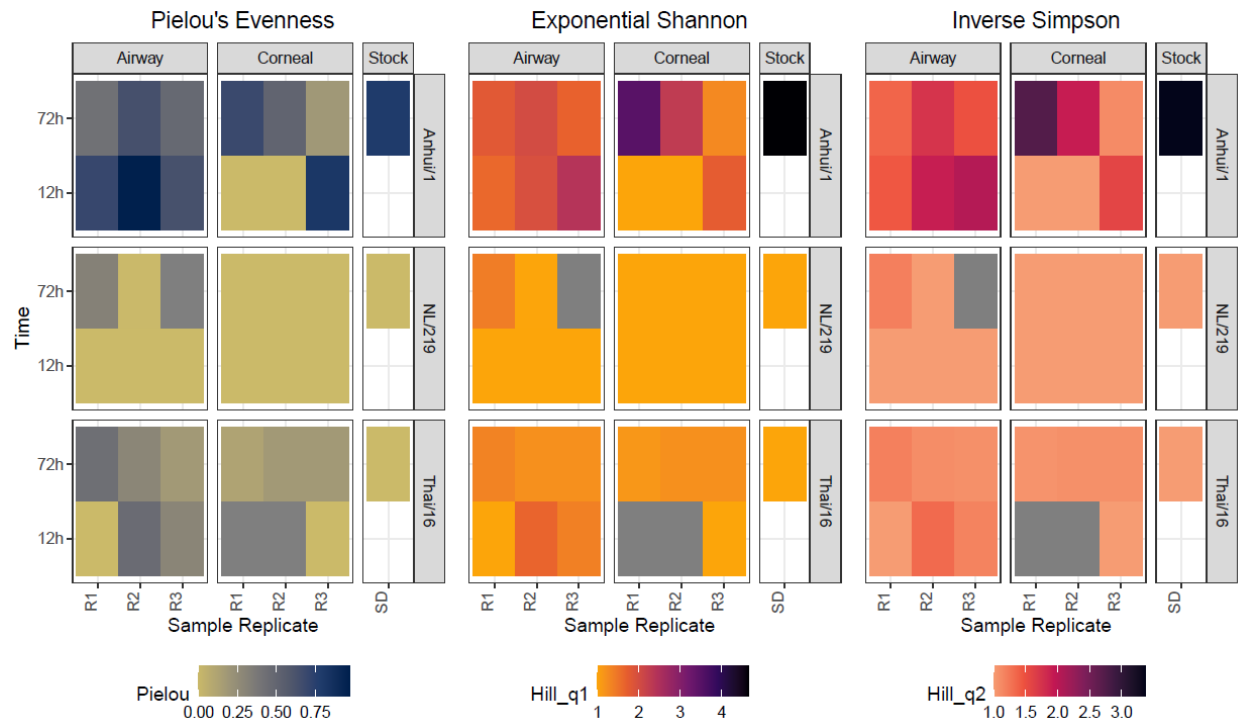


Figure S6. Influenza A virus diversity metrics following multicycle replication in respiratory or corneal cultures. Heatmap of Pielou’s Evenness, Exponential Shannon (Hill number 1), or Inverse Simpson (Hill number 2) for three representative influenza A viruses for each tissue construct (airway, corneal) at either 12 or 72 hours p.i. and stock viral quasispecies populations. R1-R3, individual sample replicates; SD, diluted inoculum stock. Dark gray shading represents missing data.

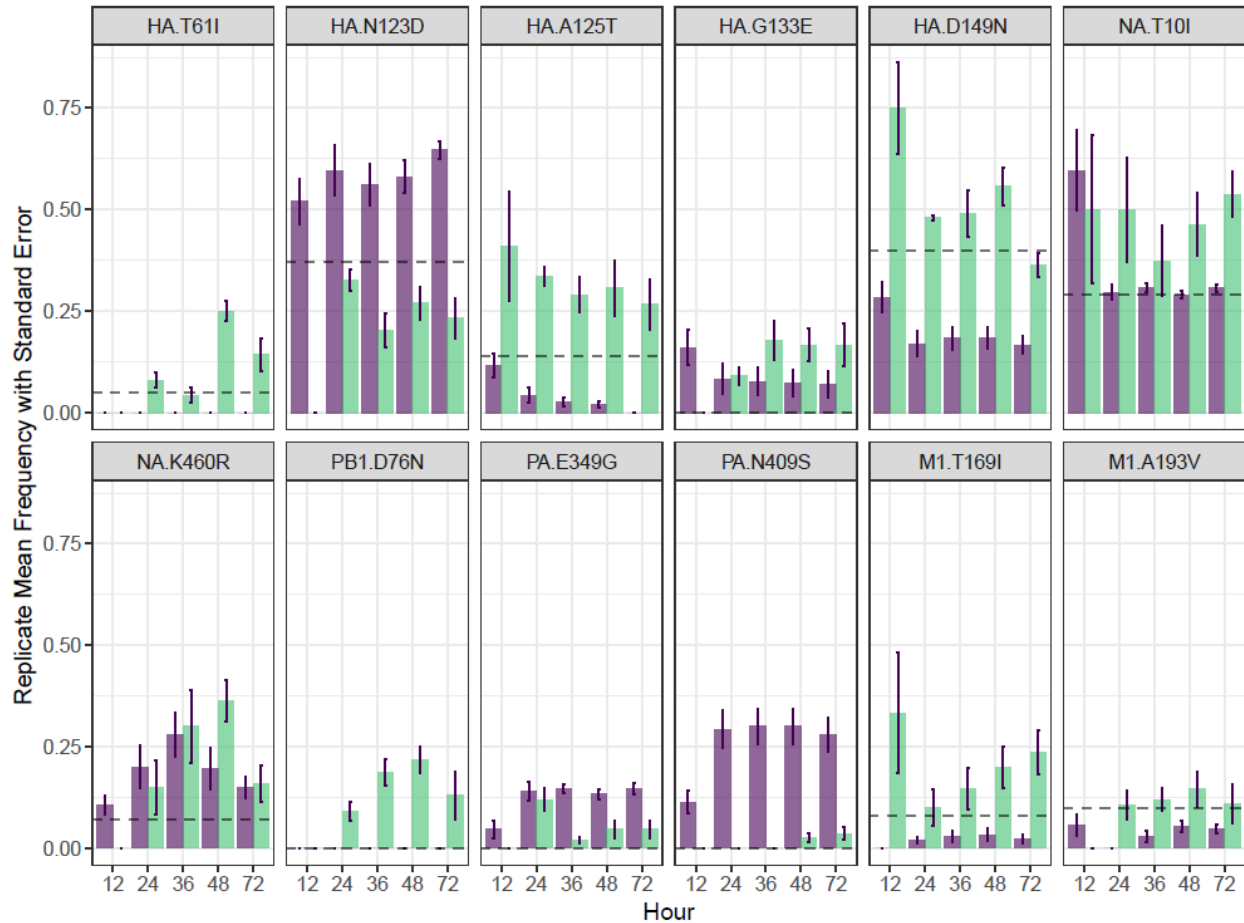


Figure S7. Viral mutation frequency of Anhui/1 (LPAI H7N9) influenza A virus over time in respiratory or corneal cultures. Selected mutations of interest showing mean frequency across all replicates with standard error bars in EpiAiway (purple) and EpiCorneal (green) tissue constructs between 12-72 hours p.i. Dashed black line represents the stock inoculum mean frequency.



Figure S8. Viral mutation frequency of NL/219 (HPAI H7N7) influenza A virus over time in respiratory or corneal cultures. Selected mutations of interest showing mean frequency across all replicates with standard error bars in EpiAiway (purple) and EpiCorneal (green) tissue constructs between 12-72 hours p.i. Dashed black line represents the stock inoculum mean frequency.

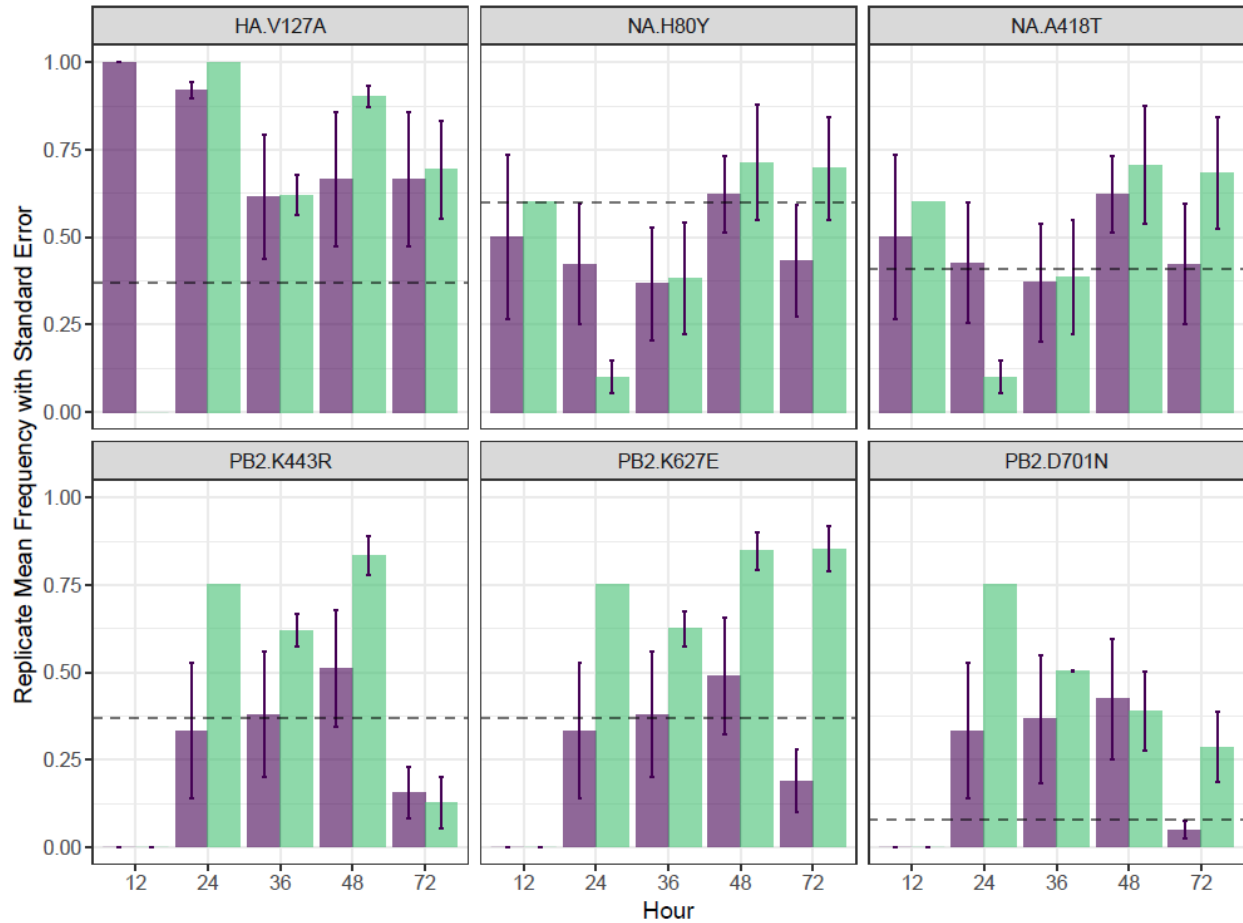


Figure S9. Viral mutation frequency of Thai/16 (HPAI H5N1) influenza A virus over time in respiratory or corneal cultures. Selected mutations of interest showing mean frequency across all replicates with standard error bars in EpiAiway (purple) and EpiCorneal (green) tissue constructs between 12-72 hours p.i. Dashed black line represents the stock inoculum mean frequency.