



**Figure S4. Histological lesions caused by H9N2 viruses in the lungs of ferrets.** Ferrets were euthanized on day 4 p.i. with  $10^6$ EID<sub>50</sub> of test virus, and the lungs were collected for pathological study. The lungs of DK/ZJ/C2046/12 virus-inoculated animal showed only mild histopathological changes (H&E staining,) (A), whereas the lungs of CK/HuN/C4136/10 (B), CK/CQ/C1258/11 (C), CK/HuB/C4196/09 (D), CK/ZJ/SC324/13 (E), and CK/SH/SC197/13 (F) virus-inoculated ferrets showed severe pathological lesions (H&E staining). Viral antigen was detected in the epithelial cells of bronchus and alveoli by means of immunohistochemical (IHC) staining (G, from the lung samples of a ferret inoculated with CK/GX/C1435/12 virus; H, from the lung samples of a ferret inoculated with CK/SH/SC197/13 virus). Images A–F were taken at x100 magnification; images G and H were taken at x400 and x200 magnification, respectively.