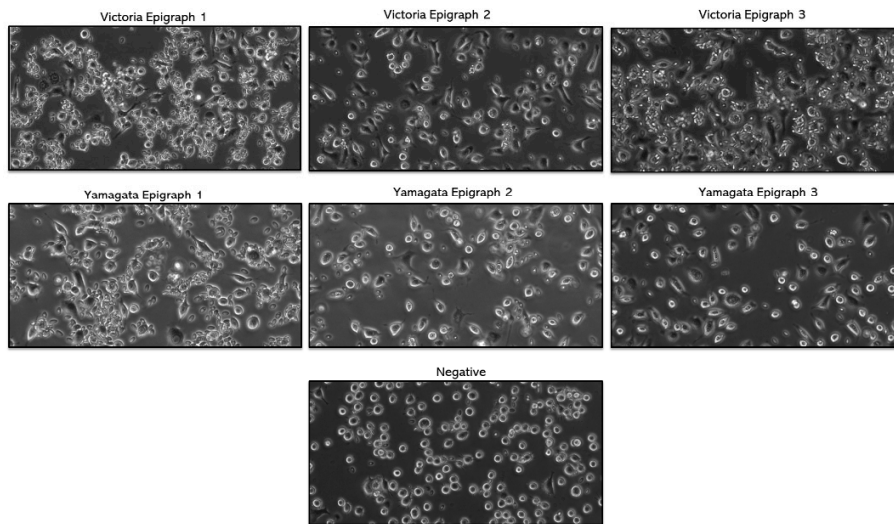
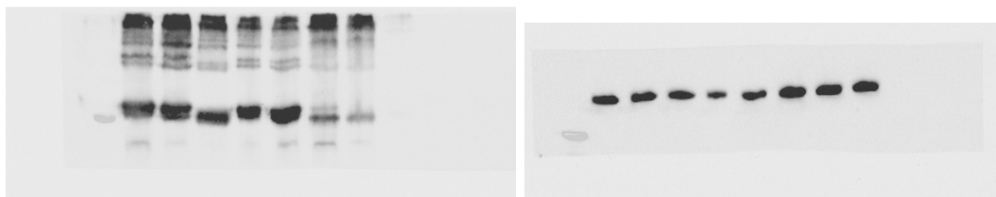
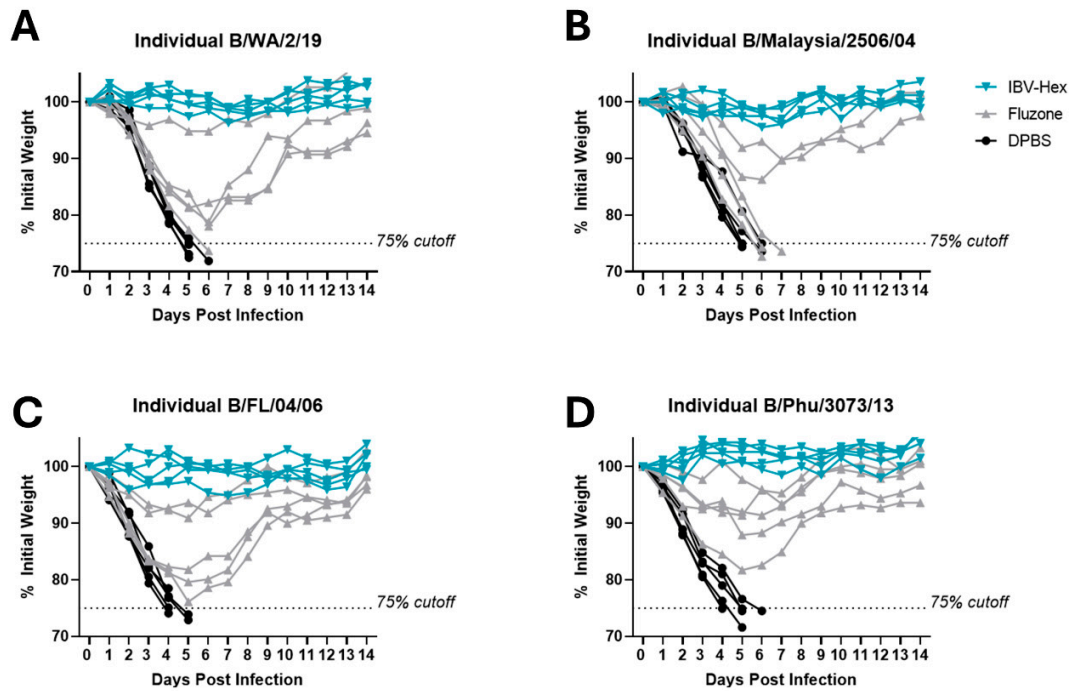


**A**

Ad-HA	VP/mL	IFU/mL	VP:IFU Ratio
Vic-Epi 1	1.26e12	2.27e10	56:1
Vic-Epi 2	7.95e11	4.13e9	192:1
Vic-Epi 3	1.18e12	5.59e9	211:1
Yam-Epi 1	1.12e12	4.08e9	274:1
Yam-Epi 2	6.25e11	1.58e9	395:1
Yam-Epi 3	7.55e11	3.48e9	217:1

**B****C**

**Supplemental Figure 1. Characterization of IBV Epigraph HA proteins.** (A) Infectious unit to viral particle ratio determined by AdenoX Rapid Titer. (B) Rosette Analysis for Epigraph HA proteins. (C) Full western blot analysis of Epigraph HA proteins (Lane 1: ladder; lane 2: Victoria Epigraph 1; lane 3: Victoria Epigraph 2; lane 4: Victoria Epigraph 3; lane 5: mis-pipette; lane 6: Yamagata Epigraph 1; lane 7: Yamagata Epigraph 2; lane 8: Yamagata Epigraph 3; lane 9: uninfected control).



**Supplemental Figure 2. Weight loss of individual mice after lethal challenge.** Mice were challenged with 100MLD<sub>50</sub> of Victoria-like IBV (A) B/WA/2/19 and (B) B/Malaysia/2506/04 or Yamagata-like IBV (C) B/FL/04/06 and (D) B/Phu/3073/2013.