

**S3 Table. Receptor binding of H7 mutants**

HA	ELISA-like assay		Glycan array	
	$\alpha$ 2-3	$\alpha$ 2-6	$\alpha$ 2-3	$\alpha$ 2-6
WT	++ <sup>a</sup>	- <sup>b</sup>	++	-
G225D	ND <sup>c</sup>	ND	-	-
E190D	ND	ND	-	-
G225D	ND	ND	-	-
K193T	+ <sup>d</sup>	-	-	-
V186K	-	+	-	-
V186K	+	+	-	-
G228S				
V186G	-	-	+	-
V186G	+	-	+	+
G228S				
V186G	-	-	-	-
K193T	-	-	-	-
V186N	-	-	-	-
N224K	-	-	-	-
N224K	++	++	++	-
G228S				

<sup>a</sup> Significant binding above  $1 \times 10^4$  RFUs (see Fig. S2)

<sup>b</sup> Signals below  $2 \times 10^3$  RFUs

<sup>c</sup> Not determined

<sup>d</sup> Significant binding below  $5 \times 10^3$  RFUs