

1 Table S4. Coding changes. UK cluster-specific coding changes.

Gene	Position ^a	Global ^b	Cluster ^c												Potential functional significance	
			A 25	B 3	C 27	D 3	E 4	F 8	G 5	H 3	I 3	J 4	K 5	L 12		
PB2	191	E(587),K(8)													K(8),E(4)	
PB2	267	V(591),I(4)		I(3)												
PB2	495	V(590),A(4),I(1)										A(4)				
PB2	526	K(555),R(40)			R(27)											
PB1	353	K(541),R(52),X(2)	R(24),X(1)													
PB1	435	I(575),V(18),X(2)				V(3)										
PB1	587	V(557),A(32),G(6)			A(27)											
PB1	736	K(566),G(27),X(1),R(1)						G(5)								
PA	3	D(567),G(24),-(4)	G(23),-(2)													
PA	14	V(557),I(38)							I(5)							
PA	208	T(592),A(3)								A(3)						
PA	259	P(591),S(4)				S(3)										
PA	351	E(591),G(3),X(1)									G(3)					
PA	581	M(525),L(70)		L(3)	L(27)											
PA	602	V(591),I(4)										I(4)				
PA	716	K(560),Q(29),-(6)							Q(5)							
HA	2	K(569),E(22),-(3),X(1)					E(4)									
HA	49(32)	L(538),I(57)	I(25)													
HA	178(161)	L(591),F(3),I(1)								F(3)					Within antigenic site Sa (1)	
HA	179(162)	S(587),N(8)			N(3)										Within antigenic site Sa (1)	
HA	202(185)	S(589),N(3),I(3)								I(3)						
HA	220(203)	T(354),S(235),X(5),A(1)	S(25)	S(3)	S(27)	S(3)	S(4)									
HA	239(222)	D(561),E(16),G(9),X(6),N(3)										E(5)			Within antigenic site Ca2 (1)	
HA	300(283)	K(585),E(8),X(1),N(1)										E(4)				
HA	310(293)	Q(568),H(22),X(5)					H(4)									
HA	391(374)	E(547),K(48)							K(5)				K(3),E(2)			
NP	61	I(566),M(27),X(2)			M(27)											
NP	100	I(449),V(145),R(1)	V(25)	V(3)	V(27)											
NP	373	T(521),I(71),X(2),S(1)		I(3)	I(27)											
NA	106	I(446),V(148),X(1)	V(25)	V(3)	V(26),I(1)											
NA	248	D(441),N(153),B(1)	N(25)	N(3)	N(27)											
NA	340	S(565),F(29),X(1)			F(27)											
NS1	123	V(357),I(236),X(2)	I(25)	I(3)	I(27)	I(3)	I(4)									
NS1	133	N(590),D(5)										D(5)				
NS2	64	K(593),R(2)		R(2),K(1)												

2 ^a Coding position in open reading frame. For the HA protein, positions based of H1 numbering scheme are shown in parentheses.

3 ^b Global frequencies (including UK clusters) of amino acids at this position

4 ^c Frequencies of amino acids at this position for each cluster