Table S2. List of All Non-Synonymous and Synonymous Mutations Identified During Sequential Transmission Experiments with A/California/07/2009 (H1N1pdm09)

Gene Segment	Nucleotide Change	Amino Acid Change Relative to Inoculum [for HA, (H3 numbering)]	Nucleotide Frequencing																	
			Virus Inoculum	Trio 1: DI 5456 -> no transmission			Trio 2: DI 6361-> RC1 6362-> RC2 6363			Trio 3:DI 6364-> RC1 6365-> RC2 6366			Trio 4:DI 6382-> RC1 6383-> RC2 6384			Trio 5:DI 6385-> RC1 6386-> RC2 6388			Trio 6:DI 6389-> RC1 6390-> RC2 6391		
				DI	RC1	RC2	DI	RC1	RC2	DI	RC1	RC2	DI	RC1	RC2	DI	RC1	RC2	DI	RC1	RC2
H1N1 Amino Acid Mutations/ Non-Synonymous Mutations																					
PB2	C251A	A84D												65.95	82.66						
PB2	T381G	H127Q										4.35									
PB2	G550A	A184T														6.90	20.79	32.88			
PB2	A1684T	I562F															24.26	38.64			
PB2	T2023A	L675M		7.84																	
PB2	G2078T	G693V		8.55																	
PB2	G2114A	G705D													7						
PB2	A2132G	N711S													21.53						
PB2	A2214C	K738N									6.41										
PB1	C38T	P13L									5.24										
PB1	T65C	F22S																	83.13		
PB1	T307A	F103I													32.76						
PB1	T1857A	D619E										9.55									
PB1	G2185T	D729Y																			15.33
PA	G53A	G18E	21.18				10.09			6.95											
PA	T104C	F35S												38.72	28.61						
PA	G141A	M47I												17.51	9.32						
PA	A787G	T263A									9.39										
PA	G810T	L270F											7.69								
PA	A830C	H277P								7.01											
PA	G1913T	R638M									17.47										
PA	A1982C	E661A												37.17	23.02						
PA	C1985T	S662F												35.04	20.8						
PA	A1987G	R663G												29.77	18.03						
PA	A1991G	K664R												41.1	23.5						
PA	A1992T	K664N												48.13	28.84						
PA	C1996T	L666F												35.99	20.32						
PA	T2015A	L672H												50.27	30.96						
PA	G2065A	A689T								8.15											
HA	A424G	N142D (129)	25.31																		
HA	A683G	K228R (214)													17.71						
HA	*A716G*	*D239G (225)*		*86.25*			*91.44*	*98.56*	*95.64*	*90.58*	*94.26*	*95.32*	*93.28*	*96.61*	*96.84*	*92.6*	*96.78*	*98.94*	*94.04*	*97.57*	*97.58*
HA	*G719A*	*R240Q (226)*		*93.29*			*94.84*	*100*	*100*	*94.39*	*100*	*100*	*96.5*	*100*	*100*	*97.35*	*100*	*99.79*	*97.78*	*100*	*99.79*
HA	A957C	K319N (304)	9.22							50.81											
HA	G1433A	G478E (463)								5.08											
NP	G302A	G101D	29.3	7.01			12.88	40.23		27.34	51.2	63.01	13.38			19.58			25.23		
NP	G304A	G102R	5.05													6.28					
NP	G556A	V186I																	5.19		
NP	C865T	H289Y																	10.67		
NP	A932T	Q311L	9.53	4.96			9.09														
NP	G1123A	D375N	6.46					36.14		12.52	47.91	56.87				5.22			11.82		
M	T952C	W318R													7.71						
NS	A631T	R211*															17.34				
H1N1 Synonymous Mutations																					
PB2	G99A	K33	4.66				8.99														
PB2	G120A	E40												95.47	96.18						
PB2	A744G	G248								5.63											
PB2	G1332A	V444													12.62						
PB2	C1711T	L571	28.73	36.78			23.48	29.03		20.64			15.63			12.11			20.52	99.52	99.25
PB2	G1824A	G608											7.73								
PB2	A1851G	K617									53.18										
PB1	T264C	V88													7.07						
PA	C169A	R57															35.24	16.09			
PA	C201T	D67	8.11							18.70						6.15			9.27		
PA	C492T	D164						6.15													
PA	C850T	L284													6.34						
PA	C910T	L304										8.07									
HA	G450A	T150 (136)									35.87	38.02									
HA	A516T	G172 (158)											12.35								
NP	G111A	G37																			
NP	G546A	A182																21.60			
NP	G1137A	L379		5.98																	
NP	T1275C	V425						65.50	100.00												

NA	G258A	A86	5.74	19.30							9.38					5.34					
M	A750G	R250	8.93																		
NS	C111T	R37																			16.88

Notes:
Displayed are mutations detected at a frequency ≥ 5%
HA number is displayed relative to start codon of H1, H3 numbering is indicated in parentheses
Red text denotes mutations that became enriched in multiple trios of ferrets
PB2: Reference has T at position 1711 but inoculum has C. No amino acid change.
PA: Reference has R (A or G) at position 53. Inoculum has G. If A then aa is glutamic acid and if G then aa is glycine.
HA: At position 719 reference has A but inoculum has G. Results in aa (position 240) change from glutamine to arginine.