Table S2. Pairwise identity (%[a] (number of amino acid mutations)) in influenza A hemagglutinin 1 (HA1) peptide and antigenic sites across viruses used in antibody assays and A(H1N1)pdm09 challenge

H3 Subtype (*Antigenic sites A-E comprising 131 amino acid residues[1])	HA1			Antigenic Sites*		
	A/Brisbane/10/2007 (reference)	A/Uruguay/716/2007 X-175C	Assay Brisbane/10/2007	A/Brisbane/10/2007 (reference)	A/Uruguay/716/2007 X-175C	Assay Brisbane/10/2007
A/Brisbane/10/2007 (reference)	–	–	–	–	–	–
A/Uruguay/716/2007 X-175C	99.0 (3)	–	–	97.7 (3)	–	–
Assay Brisbane/10/2007	99.4 (2)	99.0 (3)	–	98.5 (2)	97.7 (3)	–

H1 Subtype (**Antigenic sites Cb, Sa, Ca2, Ca1, Sb comprising 50 amino acid residues[2])	HA1						Antigenic Sites**					
	A/Brisbane/59/2007 (reference)	Brisbane/59/2007 IVR-148	Assay Brisbane/59/2007	A/California/07/2009 (reference)	Assay A/California/07/2009	Challenge A/California/07/2009	A/Brisbane/59/2007 (reference)	Brisbane/59/2007 IVR-148	Assay Brisbane/59/2007	A/California/07/2009 (reference)	Assay A/California/07/2009	Challenge A/California/07/2009
A/Brisbane/59/2007 (reference)	–	–	–	–	–	–	–	–	–	–	–	–
A/Brisbane/59/2007 IVR-148	99.7 (1)	–	–	–	–	–	98 (1)	–	–	–	–	–
Assay Brisbane/59/2007	99.7 (1)	100 (0)	–	–	–	–	98 (1)	100 (0)	–	–	–	–
A/California/07/2009 (reference)	72.8 (89)	72.5 (90)	72.5 (90)	–	–	–	50 (25)	48 (26)	48 (26)	–	–	–
Assay A/California/07/2009	73.1 (88)	72.8 (89)	72.8 (89)	99.7 (1)	–	–	50 (25)	48 (26)	48 (26)	100 (0)	–	–
Challenge A/California/07/2009[¥]	71.9 (92)	71.6 (93)	71.6 (93)	99.1 (3)	98.8 (4)	–	48 (26)	46 (27)	46 (27)	98 (1)	98 (1)	–

a. Percentage pairwise identity calculated as [1-(number of AA substitutions in HA1 or antigenic sites)/(total HA1 or antigenic site AA residues)]X100%

[1] Bush RM, Bender CA, Subbarao K, Cox NJ, Fitch WM. Predicting the evolution of human influenza A. Science 1999;286:1921-5.

[2] Brownlee, G.G & Fodor E. 2001 The predicted antigenicity of the hemagglutinin of the 1918 Spanish influenza pandemic suggests an avian origin. Phil. Trans. R. Soc. Lond. 356, 1871-1876.

[¥]A/Quebec/144147/2009(H1N1) [GenBank Accession Numbers FN434457-FN434464