

Supplementary Materials

Figure S1. Phylogenetic relationships between human and swine PB2 segments. Time-scaled Bayesian MCC tree of full-length PB2 sequences of 4 swine influenza viruses with PB2 segments identified as of human seasonal virus origin and 126 human seasonal H3N2 influenza viruses sampled globally, collected 1968-2013. Branches associated with viruses from swine are shaded by country of origin: Argentina = sea green, Canada = blue, Europe = orange. Labeling is similar to Fig. 1.

Figure S2. Phylogenetic relationships between human and swine PB1 segments. Time-scaled Bayesian MCC tree of full-length PB1 sequences of 305 swine influenza viruses with PB1 segments identified as of human seasonal virus origin and 126 human seasonal H3N2 influenza viruses sampled globally, collected 1968-2013. Branches associated with viruses from swine are shaded by country of origin: Argentina = sea green, Canada = blue, Europe = orange, USA = dark blue, China = red, South Korea = green, Vietnam = purple. Labeling is similar to Fig. 1.

Figure S3. Phylogenetic relationships between human and swine PA segments. Time-scaled Bayesian MCC tree of full-length PA sequences of four swine influenza viruses with PA segments identified as of human seasonal virus origin and 126 human seasonal H3N2 influenza viruses sampled globally, collected 1968-2013. Shading and labeling is identical to that provided in Fig. S1.

Figure S4. Phylogenetic relationships between human and swine NP segments. Time-scaled Bayesian MCC tree of full-length NP sequences of four swine influenza viruses with NP segments identified as of human seasonal virus origin and 126 human seasonal H3N2 influenza viruses sampled globally, collected 1968-2013. Shading and labeling is identical to that provided in Fig. S1.

Figure S5. Phylogenetic relationships between human and swine N1 segments. Time-scaled Bayesian MCC tree of the NA (N1) sequences of 6 swine influenza viruses identified as of human seasonal virus origin and 116 human seasonal H1N1 influenza viruses, collected 1977-2009. Branches of human seasonal H1N1 influenza viruses origin are shaded blue, while branches associated with viruses from swine are shaded by country of origin: Argentina (Arg) = red and USA = green. Labeling is similar to Fig. 1.

Figure S6. Phylogenetic relationships between human and swine MP segments. Time-scaled Bayesian MCC tree of full-length MP sequences of four swine influenza viruses with MP segments identified as of human seasonal virus origin and 126 human seasonal H3N2 influenza viruses sampled globally, collected 1968-2013. Shading and labeling is identical to that provided in Fig. S1.

Figure S7. Phylogenetic relationships between human and swine NS segments. Time-scaled Bayesian MCC tree of full-length NS sequences of four swine influenza viruses with NS segments identified as of human seasonal virus origin and 126 human seasonal H3N2 influenza viruses sampled globally, collected 1968-2013. Shading and labeling is identical to that provided in Fig. S1.

Figure S8. Maximum likelihood tree of human and swine PB2 segments. Similar tree as that presented in Fig S1, but inferred using maximum likelihood (ML) methods. Branch lengths represent genetic distance and are drawn to scale. Bootstrap values for key nodes > 75 are provided. Introductions 8, 9, and 18 are labeled similar to Fig. S1.

Figure S9. Reassortment in the N2 phylogeny. The identical MCC tree of the N2 presented in Fig. 3, but with branches shaded in FigTree v1.4.0 by the evolutionary origins of the associated PB2 segment, to highlight reassortment events between the N2 and PB2 segments in swine: PB2 segments of classical swine origin = red, Eurasian avian-origin swine = yellow, pandemic H1N1 in

swine = blue, triple reassortant internal genes (TRIG) = purple, and human seasonal lineage = green. Labeling is similar to Fig. 3, but the three swine viruses with PB2 segments related to human seasonal viruses are indicated with an asterisk (*).

Figure S10. Host-specific evolutionary rates in the H1 phylogeny. Similar MCC tree of H1 as presented in Fig. 4, but inferred using a host-specific local clock (HSLC) model implemented for three monophyletic swine clades (introductions 6, 7, and 11, Table 1). Branches representing human-to-swine transmission events are labeled with a solid black circle, and branches are shaded by the host-specific evolutionary rates (nucleotide substitutions per site per year). Posterior probabilities > 90 for key nodes are provided, and for clarity some of the branches in introduction 6 have been collapsed.

Figure S11. Host-specific evolutionary rates in the H3 phylogeny. Similar MCC tree of H3 as presented in Fig. 1, but inferred using a host-specific local clock (HSLC) model implemented for all monophyletic swine clades. Branches representing human-to-swine transmission events are labeled with a solid black circle, and branches are shaded by the host-specific evolutionary rates (nucleotide substitutions per site per year). Posterior probabilities > 90 for key nodes are provided.

Figure S12. Host-specific evolutionary rates in the N2 phylogeny. Similar MCC tree of N2 as presented in Fig. 3, but inferred using a host-specific local clock (HSLC) model implemented for all monophyletic swine clades. Branches representing human-to-swine transmission events are labeled with a solid black circle, and branches are shaded by the host-specific evolutionary rates (nucleotide substitutions per site per year). Posterior probabilities > 90 for key nodes are provided.

Figure S13. Phylogenetic relationships between human and swine H3 segments. Time-scaled Bayesian MCC tree of full-length H3 sequences of 341 swine influenza viruses with H3 segments identified as of human seasonal virus origin and 257 human seasonal H3N2 influenza viruses

sampled globally, collected 1968-2013. Branches associated with viruses from swine are shaded by country of origin: Argentina = brown, Canada = pink, Europe = orange, USA = dark blue, China = red, South Korea = teal green, South-east Asia (Vietnam, Thailand, Indonesia, Sri Lanka) = light blue, Japan = dark green, Mexico = pink. Labeling is similar to Fig. 1, and additional human-to-swine introductions not identified via whole-genome analysis are labeled with lower-case letters and associated country, names of all viruses provided in Table S4.

Figure S14. Phylogenetic relationships between human and swine N1 segments. Time-scaled Bayesian MCC tree of full-length N1 sequences of 15 swine influenza viruses with N1 segments identified as of human seasonal virus origin and 116 human seasonal H1N1 influenza viruses sampled globally, collected 1977-2009. Labeling is similar to Fig. S13.

Figure S15. Phylogenetic relationships between human and swine N2 segments. Time-scaled Bayesian MCC tree of full-length N2 sequences of 936 swine influenza viruses with N2 segments identified as of human seasonal virus origin and 326 human seasonal H1N2 and H3N2 influenza viruses sampled globally, collected 1968-2013. Branches associated with viruses from swine are shaded by country of origin: Argentina = green, Canada = light blue, Europe = orange, USA = dark blue, China = red, South Korea = pink, Thailand = light purple, Japan = light green, Mexico = brown, Vietnam = grey. Labeling is similar to Fig. S13.

- Argentina (swine)
- Canada (swine)
- Europe (swine)
- human

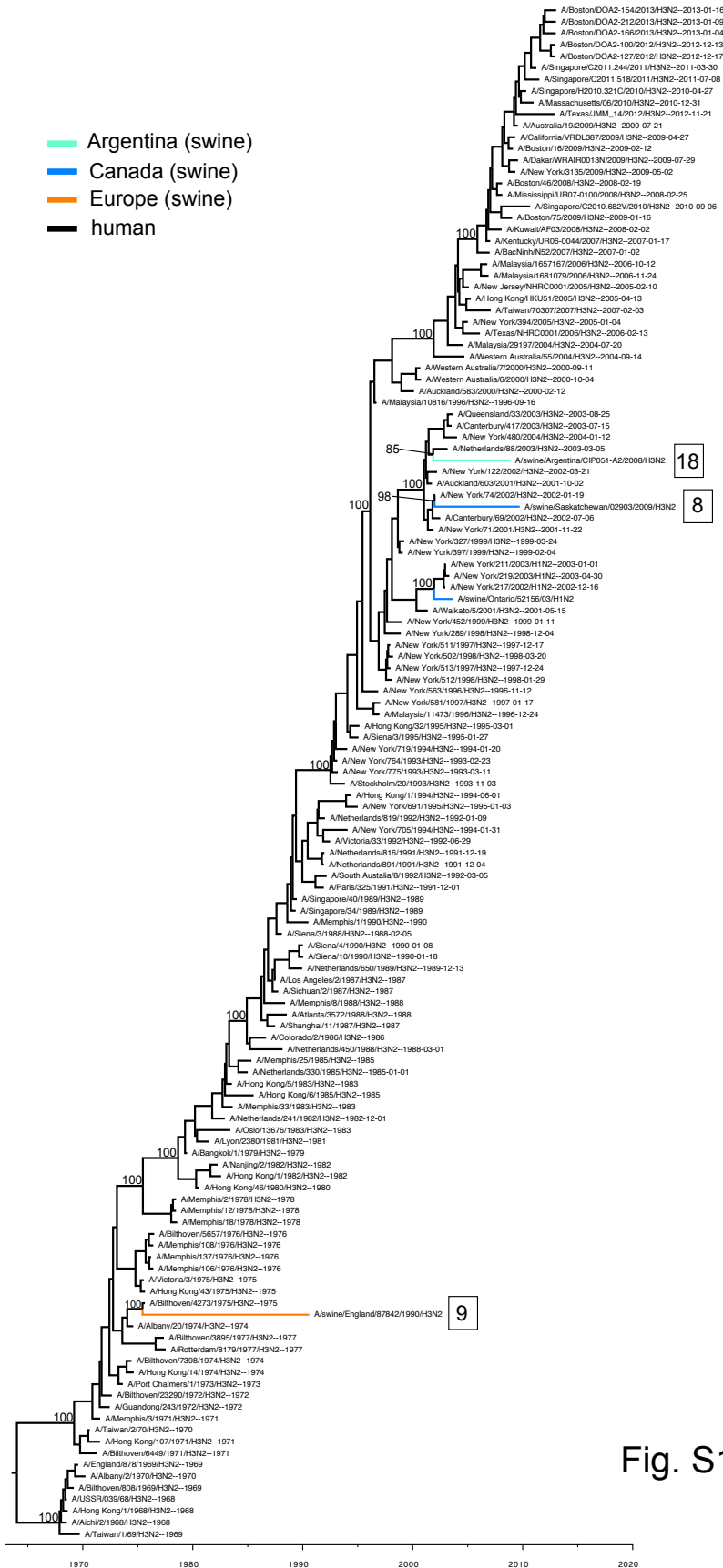


Fig. S1

- █ Argentina
- █ Canada
- █ Europe
- █ USA
- █ China
- █ Korea
- █ Vietnam
- █ human

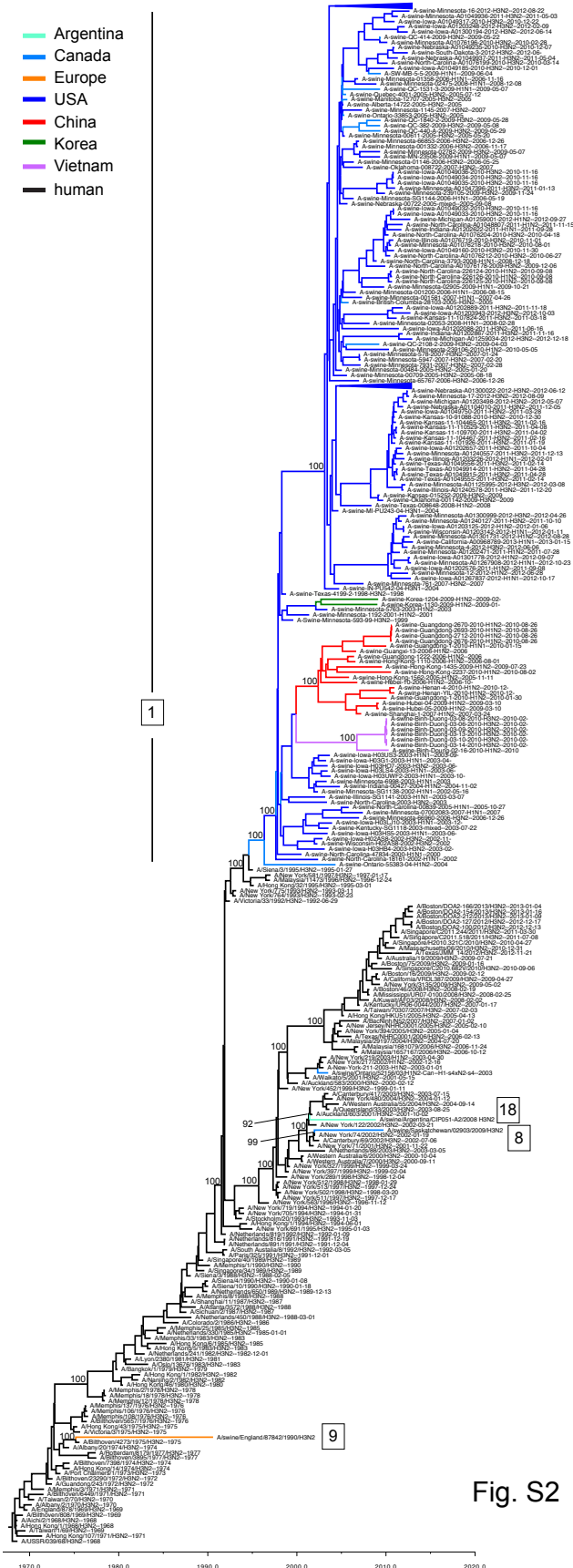


Fig. S2

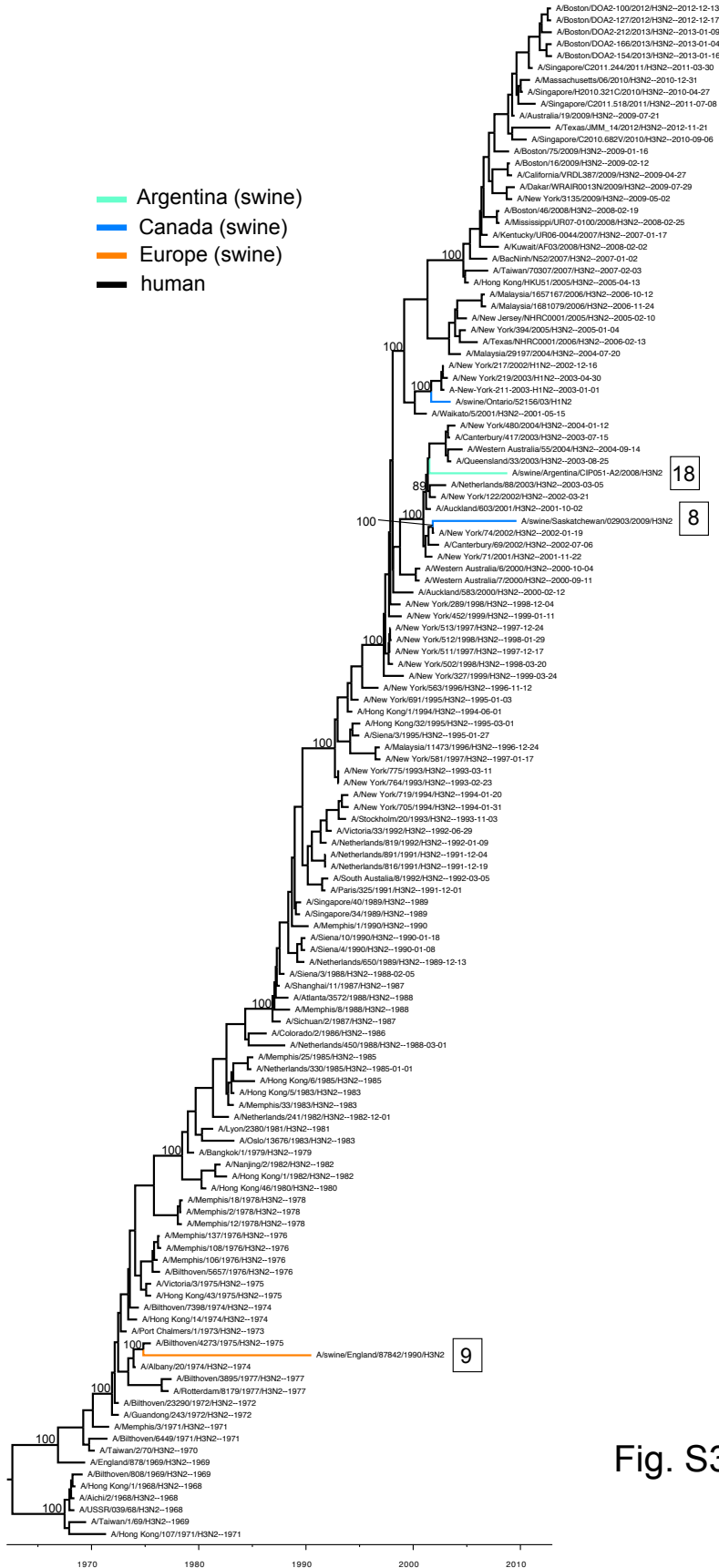


Fig. S3

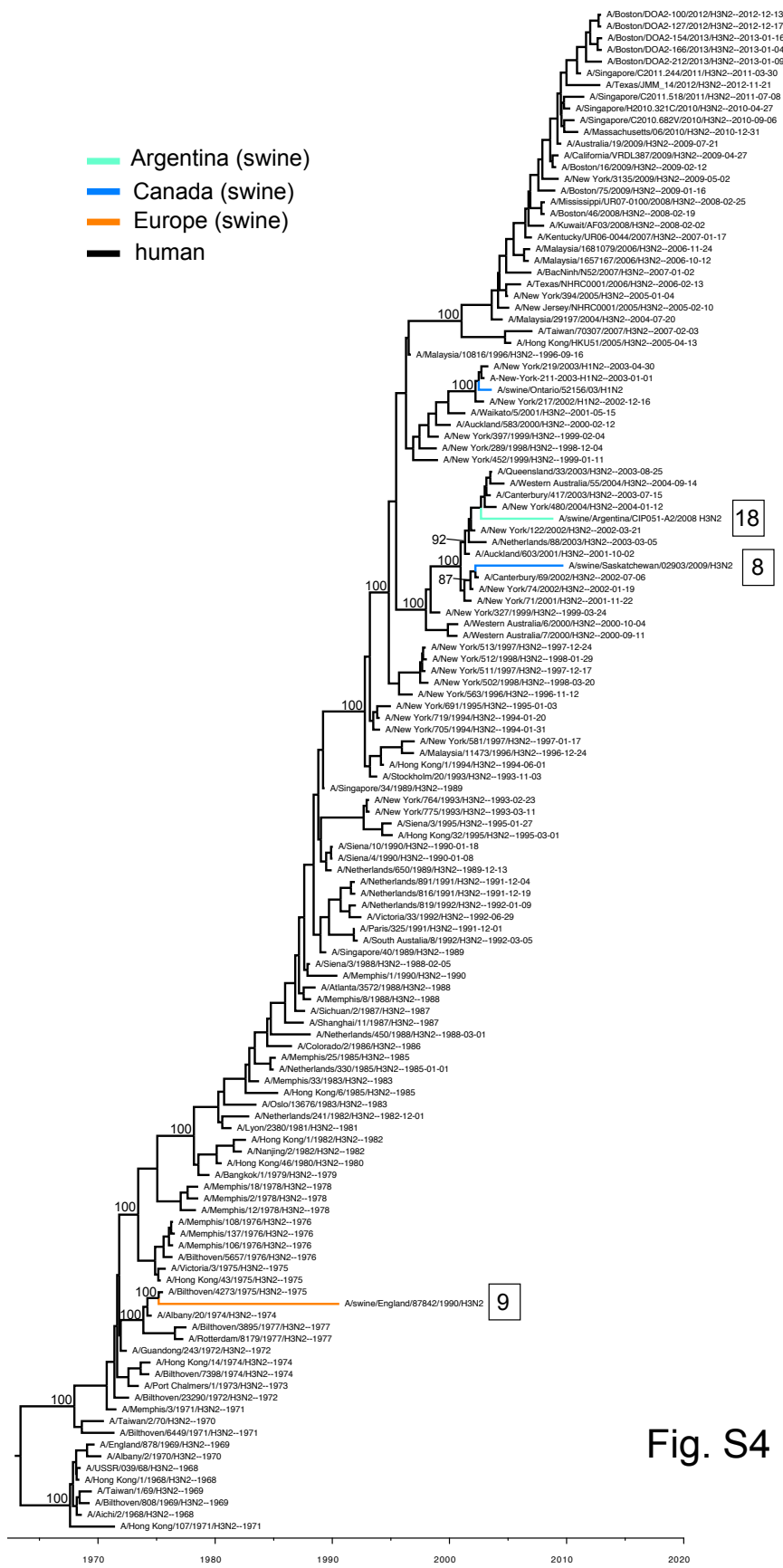


Fig. S4

location
■ Arg
■ USA
■ human

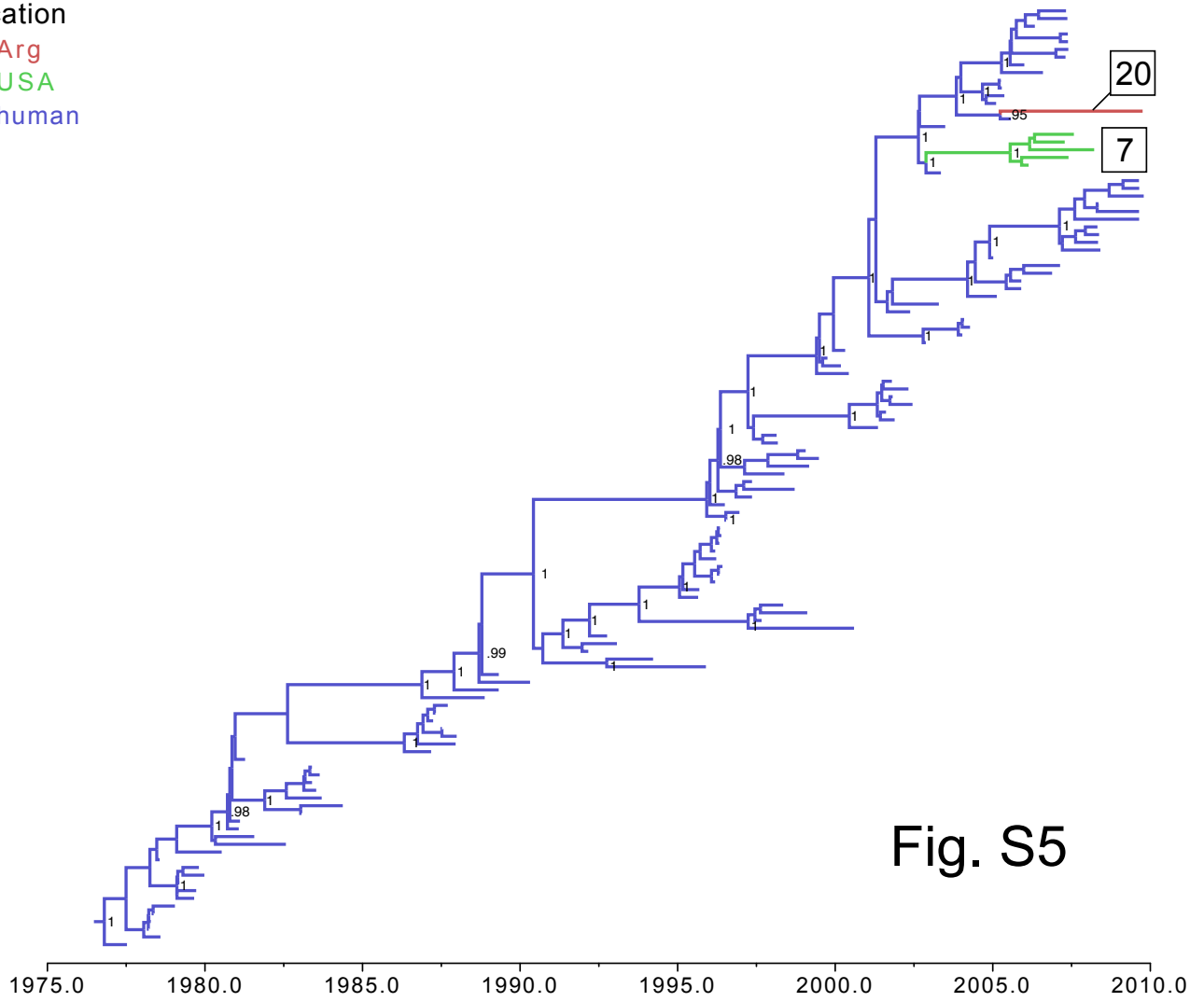
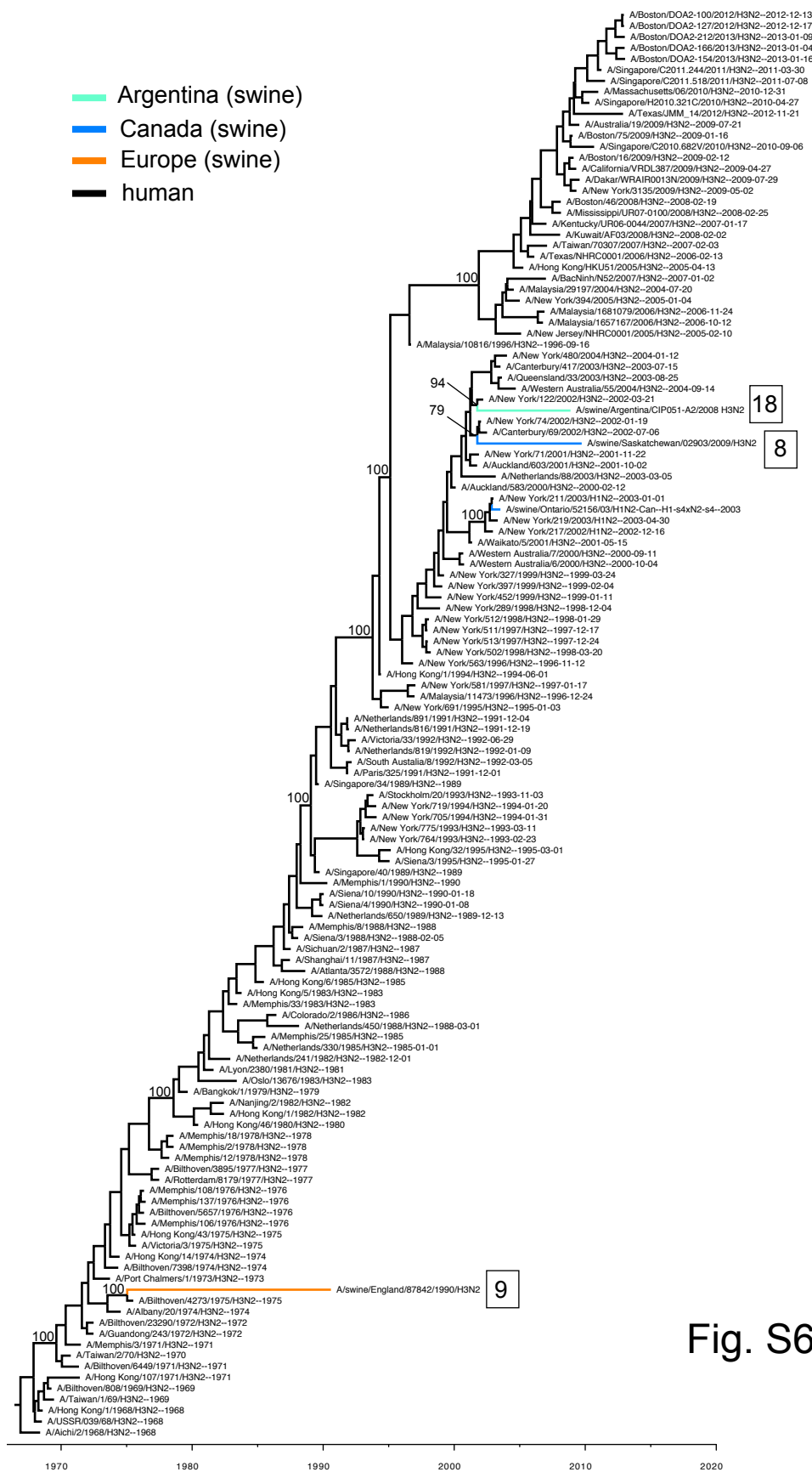


Fig. S5



- Argentina (swine)
- Canada (swine)
- Europe (swine)
- human

Fig. S6

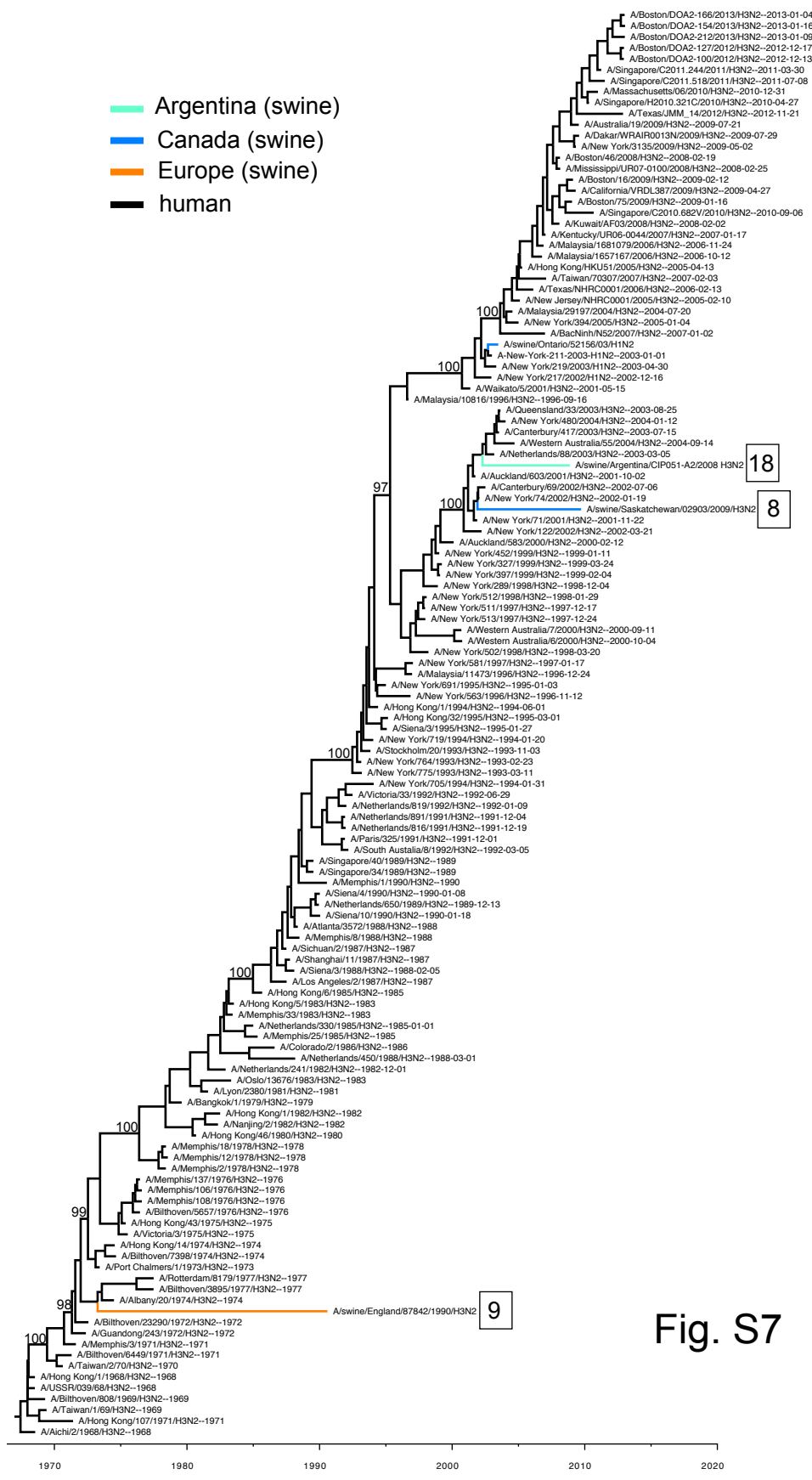


Fig. S7

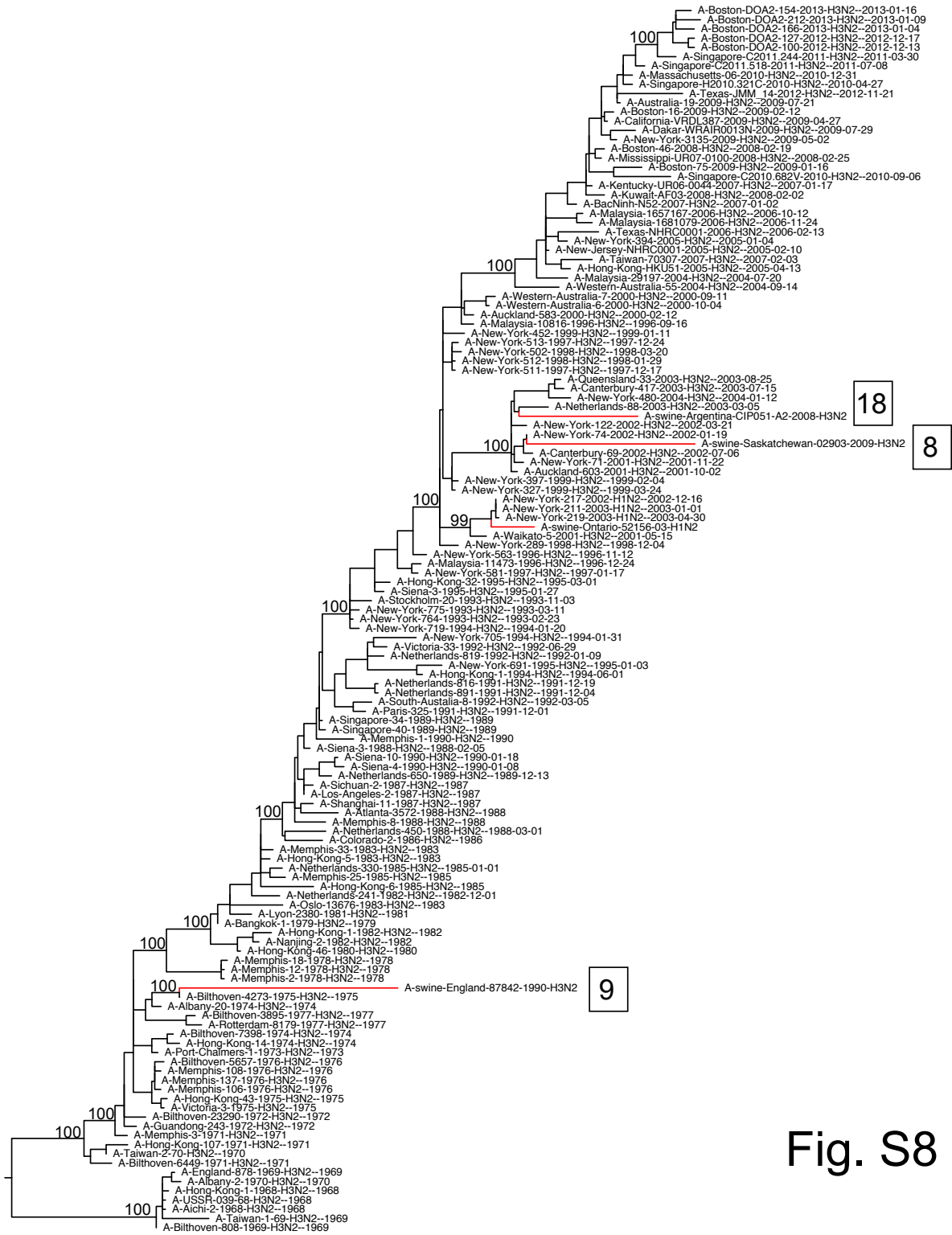
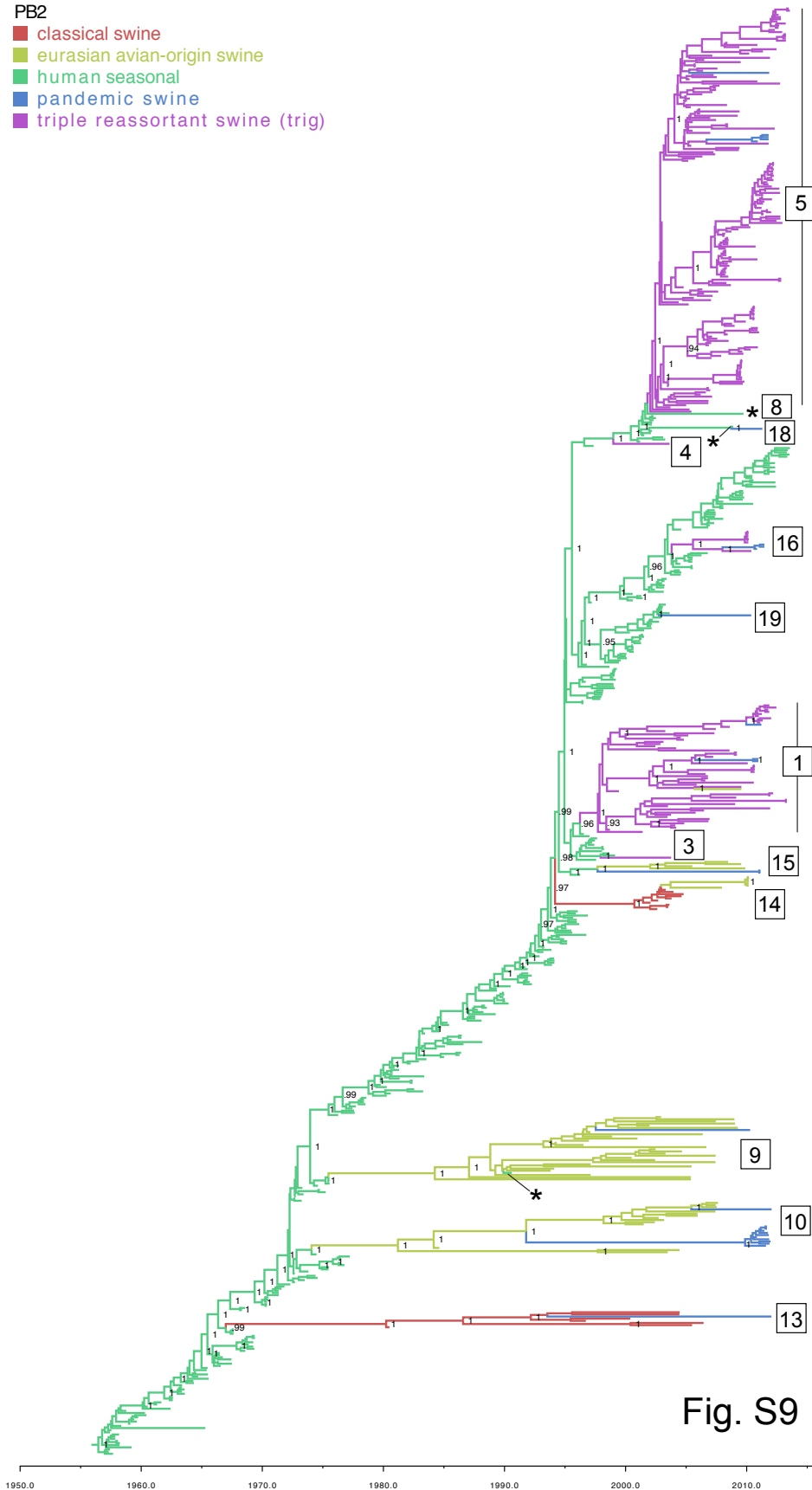


Fig. S8

PB2

- classical swine
- eurasian avian-origin swine
- human seasonal
- pandemic swine
- triple reassortant swine (trig)



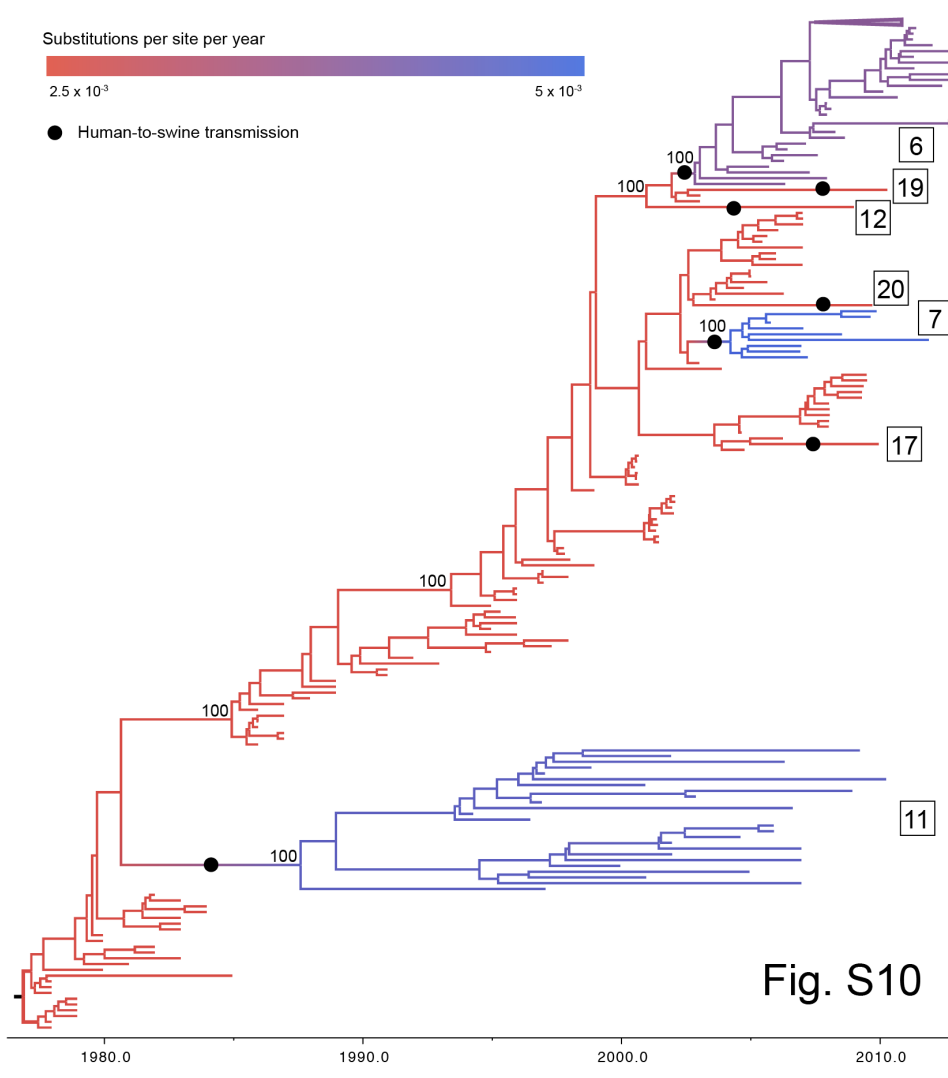


Fig. S10

Substitutions per site per year



● Human-to-swine transmission

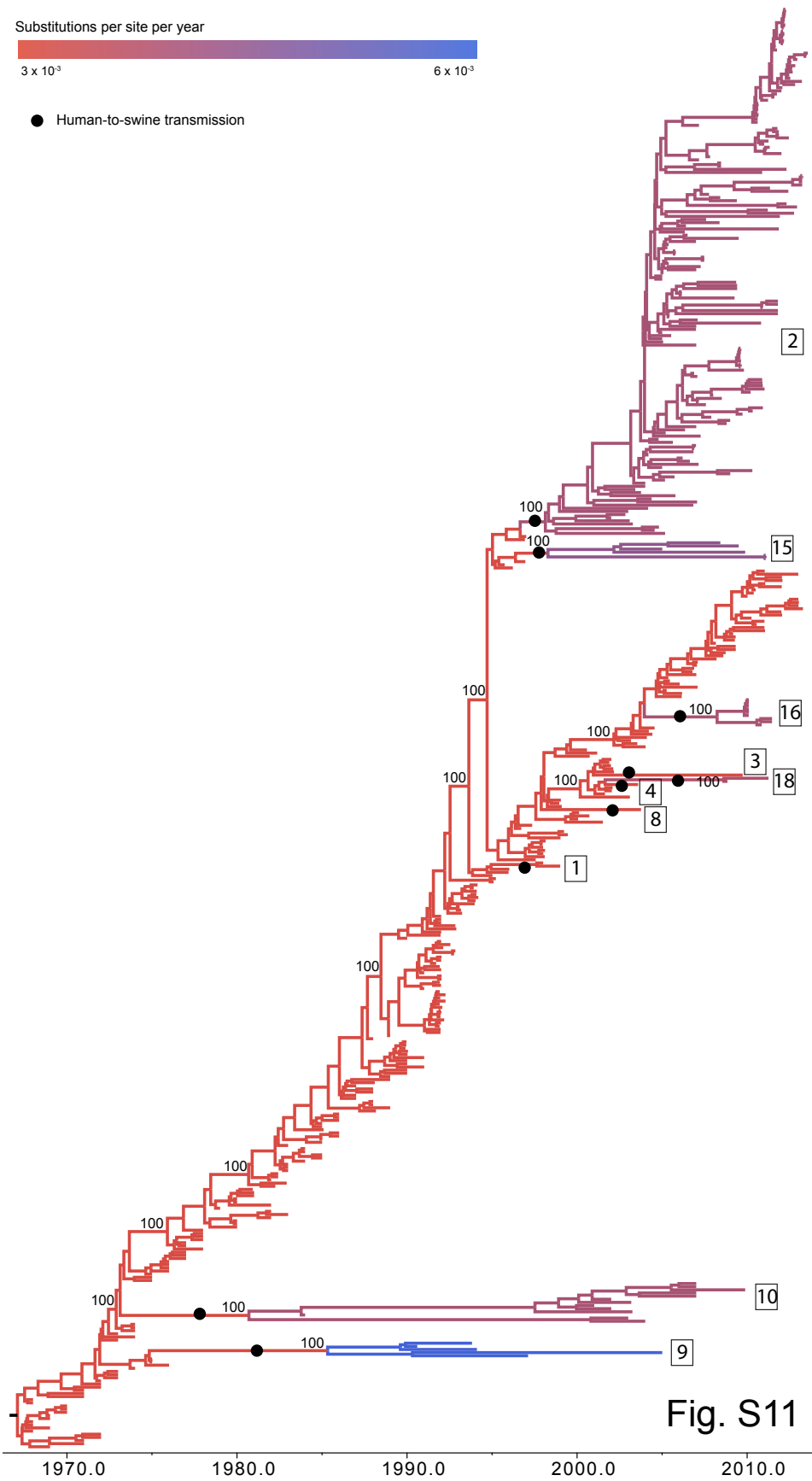


Fig. S11

Substitutions per site per year



● Human-to-swine transmission

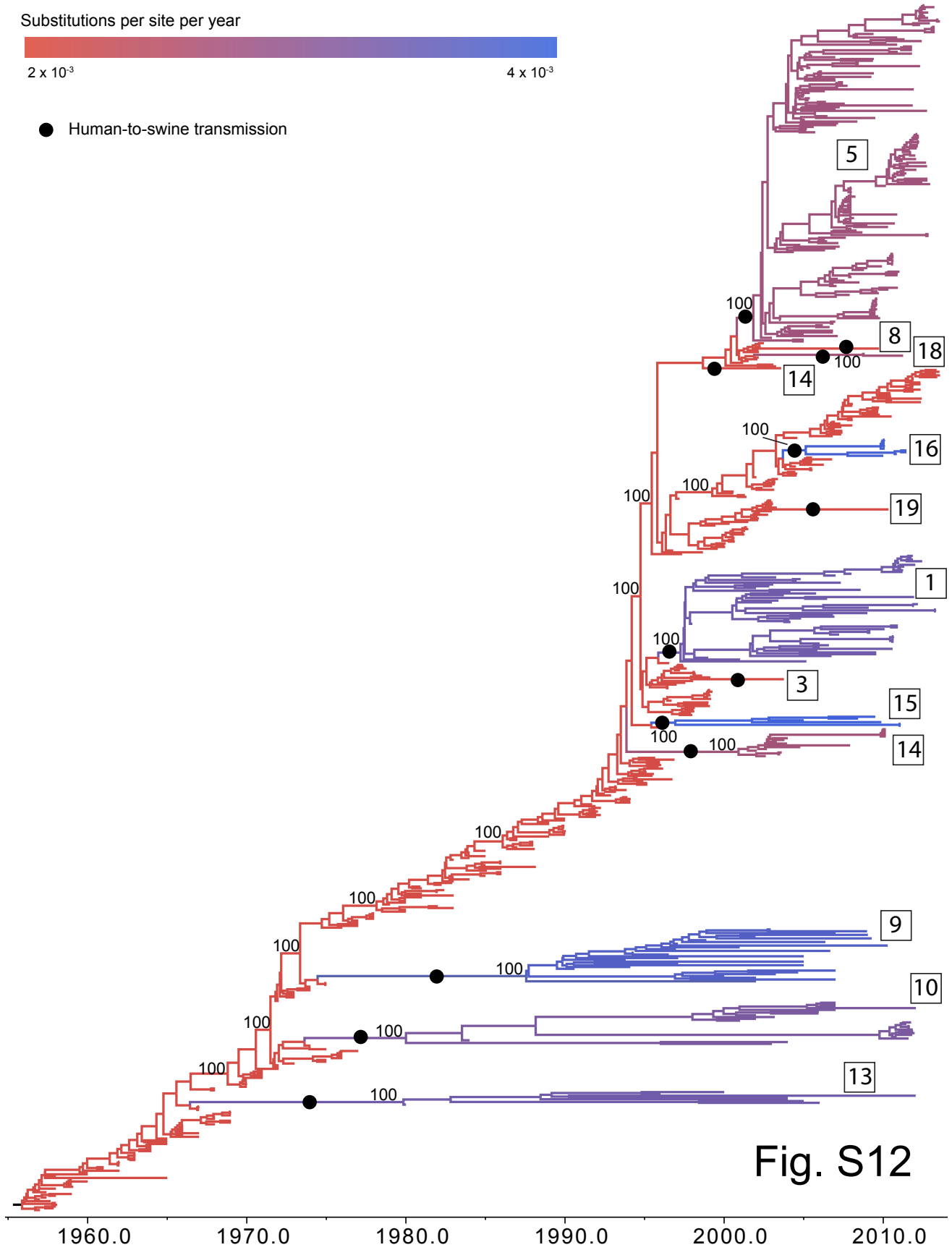


Fig. S12

- USA
- Canada
- China
- Europe
- S Korea
- South-east Asia
- Japan
- Mexico
- Argentina

2

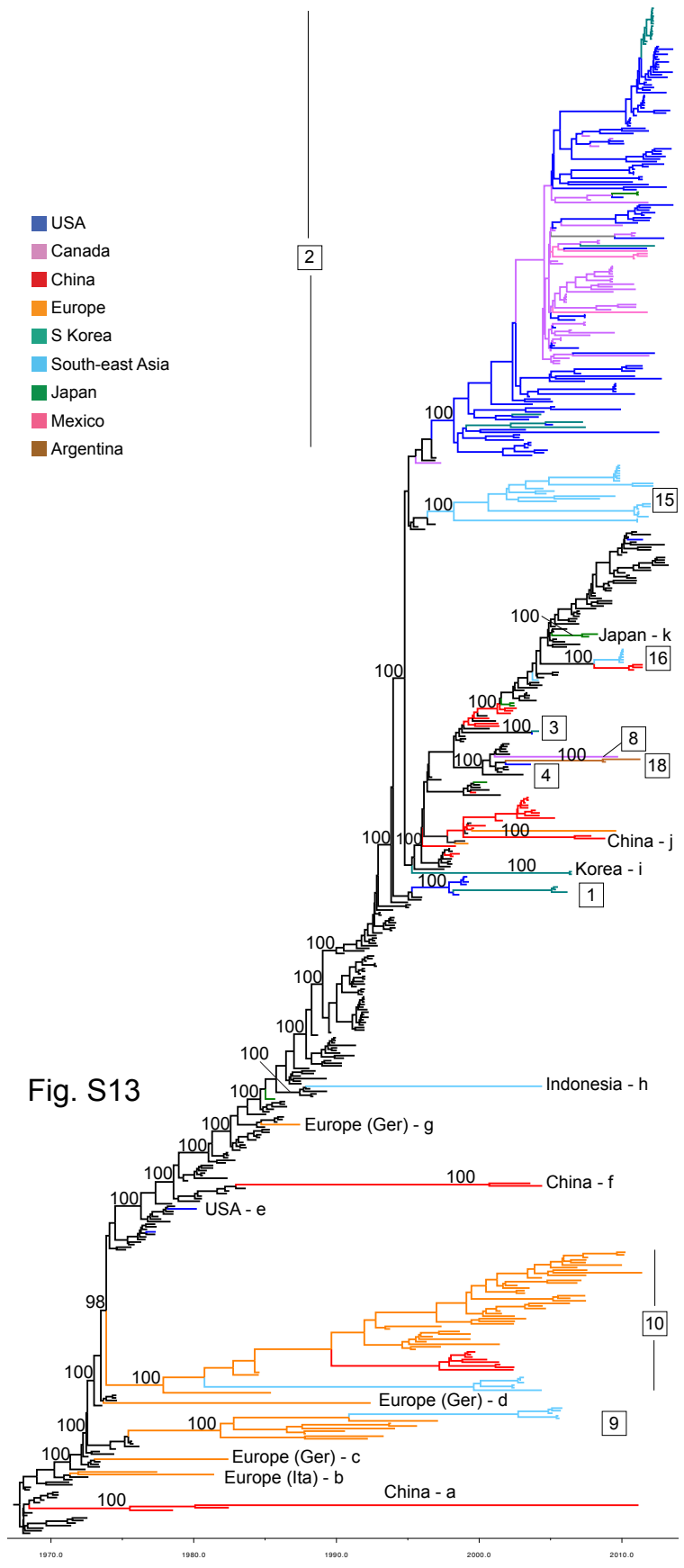


Fig. S13



Fig. S14

- USA
- Canada
- China
- Europe
- S Korea
- Thailand
- Japan
- Mexico
- Vietnam
- Argentina

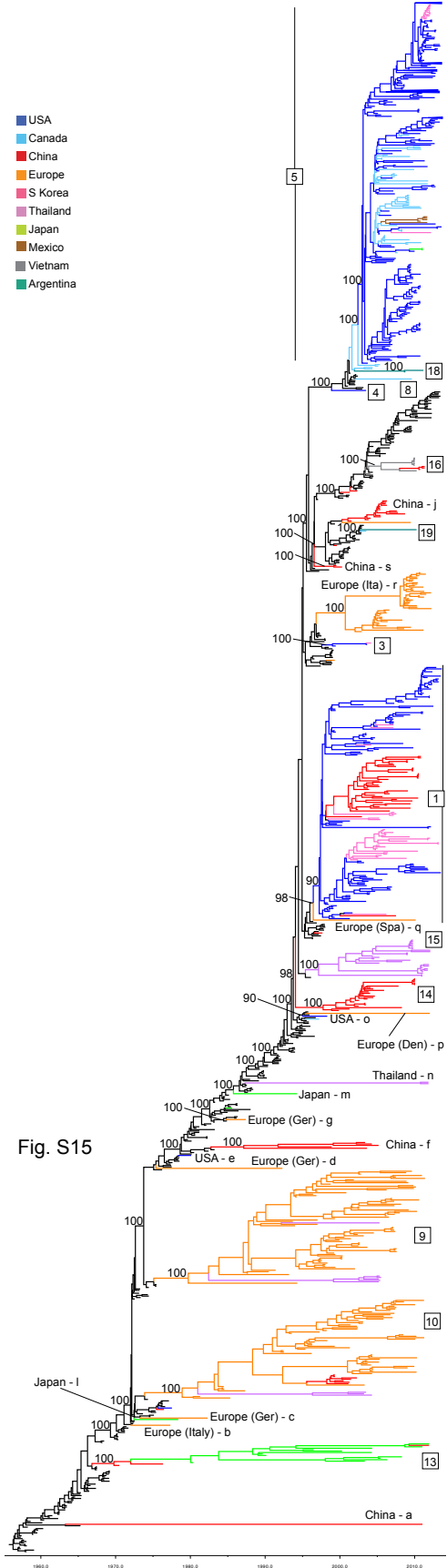


Fig. S15

Table S1. The 141 viruses collected from North American swine (United States, Canada, and Mexico) during 2002-2011 that were whole-genome sequenced for this study at the J. Craig Venter Institute (Rockville, MD). GenBank accession numbers are available (PB2), as well as country and date of viral collection.

	Virus name	Accession	Host	Country	Date
1	A/swine/Alberta/00805/2005(H3N2)	AHB22080	Swine	Canada	10/10/05
2	A/swine/Alberta/SG1405/2005(H3N2)	AHB22068	Swine	Canada	10/7/05
3	A/swine/Alberta/SG1415/2006(H1N1)	AHB22507	Swine	Canada	3/13/06
4	A/swine/Arkansas/01460/2007(H1N1)	AHB21170	Swine	USA	1/31/07
5	A/swine/Arkansas/02927/2009(H1N2)	AHB23082	Swine	USA	12/2/09
6	A/swine/Arkansas/SG1241/2006(H1N1)	AHB21014	Swine	USA	5/2/06
7	A/swine/Arkansas/SG1295/2008(H3N2)	AHB21376	Swine	USA	5/15/08
8	A/swine/Arkansas/SG1297/2008(H3N2)	AHB21388	Swine	USA	10/15/08
9	A/swine/Arkansas/SG1298/2008(H3N2)	AHB21400	Swine	USA	12/30/08
10	A/swine/Arkansas/SG1327/2009(H1N1)	AHB23833	Swine	USA	10/30/09
11	A/swine/Arkansas/SG1377/2011(H1N2)	AHB21864	Swine	USA	4/29/11
12	A/swine/Arkansas/SG1382/2011(H1N2)	AHB24586	Swine	USA	6/14/11
13	A/swine/British Columbia/00633/2005(H3N2)	AHB22056	Swine	Canada	5/19/05
14	A/swine/Georgia/SG1251/2006(H1N1)	AHB23701	Swine	USA	5/12/06
15	A/swine/Illinois/00303/2004(H3N2)	AHB20891	Swine	USA	5/18/04
16	A/swine/Illinois/01131/2006(H3N2)	AHB21158	Swine	USA	5/5/06
17	A/swine/Illinois/02166/2008(H1N1)	AHB22377	Swine	USA	5/1/08
18	A/swine/Iowa/SG1469/2004(H3N2)	AHB22794	Swine	USA	10/14/04
19	A/swine/Kansas/00246/2004(H1N2)	AHB22293	Swine	USA	2/5/04
20	A/swine/Kentucky/SG1118/2003(mixed)	AEO91609	Swine	USA	7/22/03
21	A/swine/Kentucky/SG1277/2007(H1N1)	AHB21254	Swine	USA	3/16/07
22	A/swine/Manitoba/00446/2005(H3N2)	AHB22495	Swine	Canada	1/25/05
23	A/swine/Manitoba/01179/2006(H3N2)	AHB22116	Swine	Canada	6/29/06
24	A/swine/Manitoba/01642/2007(H3N2)	AHB22128	Swine	Canada	6/20/07
25	A/swine/Manitoba/01643/2007(H3N2)	AHB22140	Swine	Canada	6/20/07
26	A/swine/Manitoba/01781/2007(H1N1)	AHB22519	Swine	Canada	10/2/07
27	A/swine/Manitoba/01782/2007(H3N2)	AHB22164	Swine	Canada	10/3/07
28	A/swine/Manitoba/02182/2008(H3N2)	AHB22176	Swine	Canada	5/30/08
29	A/swine/Manitoba/02862/2009(H3N2)	AHB22212	Swine	Canada	7/1/09
30	A/swine/Manitoba/SG1431/2008(H3N2)	AHB22188	Swine	Canada	6/17/08
31	A/swine/Manitoba/SG1432/2008(H3N2)	AHB22200	Swine	Canada	6/17/08
32	A/swine/Manitoba/SG1438/2011(H3N2)	AHB22236	Swine	Canada	11/8/11
33	A/swine/Mexico/SG1442/2010(H3N2)	AHB22247	Swine	Mexico	11/29/10
34	A/swine/Mexico/SG1443/2010(H1N1)	AHB22258	Swine	Mexico	12/2/10

35	A/swine/Mexico/SG1444/2011(H3N2)	AHB22566	Swine	Mexico	10/21/11
36	A/swine/Mexico/SG1447/2011(H3N2)	AHB24775	Swine	Mexico	10/21/11
37	A/swine/Mexico/SG1448/2011(H3N2)	AHB24786	Swine	Mexico	10/21/11
38	A/swine/Mexico/SG1449/2011(H3N2)	AHB22281	Swine	Mexico	10/21/11
39	A/swine/Mexico/SG1450/2011(H1N1)	AHB24797	Swine	Mexico	11/9/11
40	A/swine/Minnesota/00352/2004(H1N1)	AHB22770	Swine	USA	7/23/04
41	A/swine/Minnesota/00401/2004(H1N1)	AHB22782	Swine	USA	9/9/04
42	A/swine/Minnesota/00938/2005(H1N1)	AHB21002	Swine	USA	12/30/05
43	A/swine/Minnesota/00991/2006(H1N1)	AHB21146	Swine	USA	2/7/06
44	A/swine/Minnesota/01136/2006(H1N1)	AHB21134	Swine	USA	5/11/06
45	A/swine/Minnesota/01604/2007(H1N2)	AHB21340	Swine	USA	5/1/07
46	A/swine/Minnesota/01882/2007(H1N1)	AHB21316	Swine	USA	12/5/07
47	A/swine/Minnesota/3128/2010(H1N2)	AHB21828	Swine	USA	9/24/10
48	A/swine/Minnesota/SG1133/2008(H1N2)	AEO91822	Swine	USA	4/28/08
49	A/swine/Minnesota/SG1138/2002(H1N1)	AEO91642	Swine	USA	5/16/02
50	A/swine/Minnesota/SG1144/2006(H1N1)	AEO91854	Swine	USA	5/19/06
51	A/swine/Minnesota/SG1236/2005(H3N2)	AHB20978	Swine	USA	4/22/05
52	A/swine/Minnesota/SG1238/2005(H3N2)	AHB20990	Swine	USA	6/2/05
53	A/swine/Minnesota/SG1261/2006(H1N1)	AHB22341	Swine	USA	11/8/06
54	A/swine/Minnesota/SG1293/2007(H3N2)	AHB21352	Swine	USA	4/6/07
55	A/swine/Minnesota/SG1294/2007(H3N2)	AHB21364	Swine	USA	4/5/07
56	A/swine/Minnesota/SG1317/2008(H1N1)	AHB21555	Swine	USA	4/17/08
57	A/swine/Minnesota/SG1340/2009(H1N1)	AHB21675	Swine	USA	10/22/09
58	A/swine/Minnesota/SG1454/2003(H1N1)	AHB22614	Swine	USA	10/2/03
59	A/swine/Minnesota/SG1470/2004(H1N1)	AHB22806	Swine	USA	8/13/04
60	A/swine/Nebraska/00178/2003(H1N1)	AHB22590	Swine	USA	8/29/03
61	A/swine/Nebraska/00188/2003(H3N2)	AHB22626	Swine	USA	10/3/03
62	A/swine/Nebraska/01711/2007(H3N2)	AHB21328	Swine	USA	7/31/07
63	A/swine/North Carolina/00371/2004(H1N1)	AHB22698	Swine	USA	10/7/04
64	A/swine/North Carolina/00378/2004(H1N1)	AHB22746	Swine	USA	8/3/04
65	A/swine/North Carolina/00850/2005(H1N1)	AHB24809	Swine	USA	11/8/05
66	A/swine/North Carolina/00925/2005(H1N1)	AHB22914	Swine	USA	12/13/05
67	A/swine/North Carolina/01052/2006(H3N2)	AHB22962	Swine	USA	3/14/06
68	A/swine/North Carolina/01169/2006(H1N2)	AHB21086	Swine	USA	6/22/06
69	A/swine/North Carolina/01216/2006(H3N2)	AHB22986	Swine	USA	8/16/06
70	A/swine/North Carolina/01312/2006(H3N2)	AHB21098	Swine	USA	11/16/06
71	A/swine/North Carolina/01469/2007(H3N2)	AHB23010	Swine	USA	2/21/07
72	A/swine/North Carolina/01484/2006(H3N2)	AHB21110	Swine	USA	11/3/06
73	A/swine/North Carolina/01506/2006(H3N2)	AHB22950	Swine	USA	10/31/06
74	A/swine/North Carolina/01514/2007(H1N1)	AHB23034	Swine	USA	1/26/07
75	A/swine/North Carolina/01550/2007(H1N1)	AHB23046	Swine	USA	4/4/07
76	A/swine/North Carolina/01591/2007(H1N1)	AHB22998	Swine	USA	4/24/07
77	A/swine/North Carolina/01855/2007(H1N1)	AHB23022	Swine	USA	11/14/07

78	A/swine/North Carolina/01930/2007(H3N2)	AHB21292	Swine	USA	7/27/07
79	A/swine/North Carolina/02249/2008(H1N2)	AHB21471	Swine	USA	7/30/08
80	A/swine/North Carolina/02403/2008(H1N1)	AHB21507	Swine	USA	9/12/08
81	A/swine/North Carolina/SG1197/2004(H3N2)	AHB20855	Swine	USA	12/30/04
82	A/swine/North Carolina/SG1229/2005(H1N1)	AHB23675	Swine	USA	12/6/05
83	A/swine/North Carolina/SG1230/2005(H3N2)	AHB20966	Swine	USA	3/16/05
84	A/swine/North Carolina/SG1278/2007(H1N1)	AHB21266	Swine	USA	11/20/07
85	A/swine/North Carolina/SG1281/2007(H1N1)	AHB22353	Swine	USA	2/1/07
86	A/swine/North Carolina/SG1282/2007(mixed)	AHB21280	Swine	USA	10/25/07
87	A/swine/North Carolina/SG1306/2008(H3N2)	AHB21447	Swine	USA	7/3/08
88	A/swine/North Carolina/SG1307/2008(H1N1)	AHB22365	Swine	USA	9/16/08
89	A/swine/North Carolina/SG1309/2008(H1N1)	AHB21483	Swine	USA	10/23/08
90	A/swine/North Carolina/SG1310/2008(H1N1)	AHB21495	Swine	USA	11/11/08
91	A/swine/North Carolina/SG1313/2008(H1N1)	AHB21519	Swine	USA	9/26/08
92	A/swine/North Carolina/SG1314/2008(H1N1)	AHB21531	Swine	USA	9/16/08
93	A/swine/North Carolina/SG1361/2010(H1N1)	AHB21781	Swine	USA	6/18/10
94	A/swine/North Carolina/SG1364/2010(H3N2)	AHB24501	Swine	USA	11/24/10
95	A/swine/North Carolina/SG1462/2004(H3N2)	AHB22710	Swine	USA	3/3/04
96	A/swine/North Carolina/SG1463/2004(H1N1)	AHB22722	Swine	USA	8/27/04
97	A/swine/North Carolina/SG1464/2004(H3N2)	AHB22734	Swine	USA	3/10/04
98	A/swine/North Carolina/SG1477/2005(H1N1)	AHB22878	Swine	USA	10/20/05
99	A/swine/North Carolina/SG1478/2005(H1N1)	AHB22890	Swine	USA	5/5/05
100	A/swine/North Carolina/SG1479/2005(H1N1)	AHB22902	Swine	USA	12/8/05
101	A/swine/Oklahoma/00130/2003(H1N1)	AHB23166	Swine	USA	8/12/03
102	A/swine/Oklahoma/00259/2004(H1N2)	AHB22674	Swine	USA	3/3/04
103	A/swine/Oklahoma/00518/2005(H3N2)	AHB22305	Swine	USA	3/1/05
104	A/swine/Oklahoma/00790/2005(H1N1)	AHB22830	Swine	USA	9/23/05
105	A/swine/Oklahoma/00801/2005(H1N1)	AHB22854	Swine	USA	10/4/05
106	A/swine/Oklahoma/SG1216/2005(H3N2)	AHB20942	Swine	USA	3/3/05
107	A/swine/Oklahoma/SG1217/2005(H1N1)	AHB20954	Swine	USA	12/6/05
108	A/swine/Oklahoma/SG1243/2006(H1N1)	AHB21026	Swine	USA	10/6/06
109	A/swine/Oklahoma/SG1244/2006(H1N1)	AHB21038	Swine	USA	6/7/06
110	A/swine/Oklahoma/SG1249/2006(H1N1)	AHB23687	Swine	USA	6/7/06
111	A/swine/Oklahoma/SG1251/2010(H1N1)	AHB21723	Swine	USA	9/24/10
112	A/swine/Oklahoma/SG1325/2009(H1N1)	AHB21591	Swine	USA	2/4/09
113	A/swine/Oklahoma/SG1349/2010(H1N1)	AHB22425	Swine	USA	9/24/10
114	A/swine/Oklahoma/SG1457/2004(H1N1)	AHB22650	Swine	USA	9/23/04
115	A/swine/Oklahoma/SG1458/2004(H1N1)	AHB22662	Swine	USA	9/1/04
116	A/swine/Oklahoma/SG1460/2004(H1N1)	AHB22686	Swine	USA	8/26/04
117	A/swine/Oklahoma/SG1473/2005(H3N2)	AHB22842	Swine	USA	9/23/05
118	A/swine/Quebec/01001/2006(H3N2)	AHB22092	Swine	Canada	2/23/06
119	A/swine/Quebec/01002/2006(H3N2)	AHB24707	Swine	Canada	2/23/06
120	A/swine/Saskatchewan/01114/2006(H3N2)	AHB22104	Swine	Canada	5/1/06

121	A/swine/Saskatchewan/01974/2008(H1N1)	AHB24744	Swine	Canada	1/8/08
122	A/swine/Saskatchewan/02903/2009(H3N2)	AHB22224	Swine	Canada	9/24/09
123	A/swine/Saskatchewan/SD0001/2011(H3N2)	AHB22543	Swine	Canada	12/1/11
124	A/swine/South Carolina/01414/2006(H1N1)	AHB22974	Swine	USA	12/19/06
125	A/swine/South Dakota/SG1453/2003(H3N2)	AHB22602	Swine	USA	4/10/03
126	A/swine/Tennessee/00264/2004(H1N1)	AHB20867	Swine	USA	3/11/04
127	A/swine/Texas/00244/2004(H1N1)	AHB22638	Swine	USA	2/4/04
128	A/swine/Texas/00376/2004(H3N2)	AHB23193	Swine	USA	7/22/04
129	A/swine/Texas/00816/2005(H3N2)	AHB22866	Swine	USA	10/12/05
130	A/swine/Texas/00867/2005(H1N1)	AHB22818	Swine	USA	11/17/05
131	A/swine/Texas/01308/2006(H1N2)	AHB21050	Swine	USA	11/2/06
132	A/swine/Texas/01492/2007(H1N2)	AHB21230	Swine	USA	3/8/07
133	A/swine/Texas/01522/2007(H1N1)	AHB21182	Swine	USA	3/13/07
134	A/swine/Texas/01657/2007(H1N1)	AHB21218	Swine	USA	6/21/07
135	A/swine/Texas/01822/2007(H3N1)	AHB21206	Swine	USA	10/25/07
136	A/swine/Texas/SG1186/2004(H3N2)	AHB20833	Swine	USA	10/22/04
137	A/swine/Texas/SG1250/2006(H1N2)	AHB21062	Swine	USA	6/21/06
138	A/swine/Texas/SG1270/2007(H3N2)	AHB23744	Swine	USA	3/1/07
139	A/swine/Texas/SG1271/2007(H1N1)	AHB21194	Swine	USA	10/25/07
140	A/swine/Texas/SG1380/2011(H1N1)	AHB24562	Swine	USA	10/6/11
141	A/swine/Texas/SG1501/2010(H3N2)	AHB23154	Swine	USA	4/20/10

Table S2. Whole-genome swIAV sequence data. GenBank accession numbers (PB2 segment), country and date of collection, and phylogenetic position of the HA, NA, and PB2 for all whole-genome sequences from swine influenza viruses that have at least one segment that is related to human seasonal viruses. Numbers refer to the introductions listed in Table 1.

Virus name	Accession	Country	Date	HA	NA	PB2
A/swine/Alabama/A01104056/2012/mixed	AGL51625	USA	12/12/12	H3-2	N2-5	trig
A/swine/Alberta/00805/2005/H3N2	AHB22080	Canada	10/10/05	H3-2	N2-5	trig
A/swine/Alberta/14722/2005/H3N2	ABF18003	Canada	2005	H3-2	N2-5	trig
A/swine/Alberta/SG1405/2005/H3N2	AHB22068	Canada	10/7/05	H3-2	N2-5	trig
A/swine/Altenberge/IDT14252/2011/H1N2	AGA19212	Germany	11/17/11	pdm-H1	N2-10	pdm
A/swine/Althausen/IDT14031/2011/H1N2	AGA19252	Germany	10/2/11	pdm-H1	N2-10	pdm
A/swine/Ankum-Stockum/IDT13531/2011/H1N2	AGA19292	Germany	6/16/11	pdm-H1	N2-10	pdm
A/swine/Aomori/1/2005/H1N2	BAK22655	Japan	2005	class-H1	N2-13	class
A/swine/Argentina/CIP051-A160/2011/H3N2	AGK62744	Argentina	2011/04	H3-18	N2-18	pdm
A/swine/Argentina/CIP051-A2/2008/H3N2	AEI60106	Argentina	2008/11	H3-18	N2-18	human
A/swine/Argentina/CIP051-BsAs76/2009/H1N1	ADO65958	Argentina	2009/10	H1-20	N1-20	pdm
A/swine/Argentina/CIP051-StaFeN2/2010/H1N2	ADO65968	Argentina	2010/05	H1-19	N2-19	pdm
A/swine/Arkansas/02927/2009/H1N2	AHB23082	USA	12/2/09	H1-7	N2-5	trig
A/swine/Arkansas/SG1295/2008/H3N2	AHB21376	USA	5/15/08	H3-2	N2-5	trig
A/swine/Arkansas/SG1297/2008/H3N2	AHB21388	USA	10/15/08	H3-2	N2-5	trig
A/swine/Arkansas/SG1298/2008/H3N2	AHB21400	USA	12/30/08	H3-2	N2-5	trig
A/swine/Arkansas/SG1377/2011/H1N2	AHB21864	USA	4/29/11	H1-6	N2-5	trig
A/swine/Arkansas/SG1382/2011/H1N2	AHB24586	USA	6/14/11	H1-6	N2-5	trig
A/swine/Bakum/1832/2000/H1N2	ABS53370	Germany	2000	H1-11	N2-9	euras
A/swine/Bakum/IDT1769/2003/H3N2	ACR39216	Germany	3/7/03	H3-10	N2-10	euras
A/swine/BinhDuong/02-16/2010/H1N2	BAM65743	Viet Nam	2010	H1-17	N2-16	trig
A/swine/BinhDuong/03-06/2010/H3N2	BAK41869	Viet Nam	2010/02	H3-16	N2-16	trig
A/swine/BinhDuong/03-08/2010/H3N2	BAK41870	Viet Nam	2010/02	H3-16	N2-16	trig
A/swine/BinhDuong/03-09/2010/H3N2	BAK41871	Viet Nam	2010/02	H3-16	N2-16	trig
A/swine/BinhDuong/03-10/2010/H3N2	BAK41872	Viet Nam	2010/02	H3-16	N2-16	trig
A/swine/BinhDuong/03-13/2010/H3N2	BAK41873	Viet Nam	2010/02	H3-16	N2-16	trig
A/swine/BinhDuong/03-14/2010/H3N2	BAK41874	Viet Nam	2010/02	H3-16	N2-16	trig
A/swine/Brabant/1984/H3N2	ADT79178	Netherlands	1984	H3-10	N2-10	euras
A/swine/BritishColumbia/00633/2005/H3N2	AHB22056	Canada	5/19/05	H3-2	N2-5	trig
A/swine/BritishColumbia/28103/2005/H3N2	ABF18004	Canada	2005	H3-2	N2-5	trig
A/swine/Chachoengsao/2003/H3N2	BAH02097	Thailand	2003	H3-10	N2-10	euras
A/swine/Chonburi/NIAH106952-	BAM62968	Thailand	2011/02	H3-15	N2-15	pdm

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A/swine/Chonburi/NIAH106952-028/2011/H3N2	BAM62978	Thailand	2011/02	H3-15	N2-15	pdm
A/swine/Cloppenburg/IDT4777/2005/H1N2	ABS53360	Germany	12/13/05	H1-11	N2-10	euras
A/swine/Doetlingen/IDT4735/2005/H1N2	ABS53350	Germany	12/7/05	H1-11	N2-10	euras
A/swine/Duelmen/IDT14128/2011/H1N2	AGA19242	Germany	10/27/11	pdm-H1	N2-10	pdm
A/swine/Ehime/1/1980/H1N2	BAH02167	Japan	1980	class-H1	N2-13	class
A/swine/England/00003/2009/H1N2	AFR75888	UK	1/12/09	H1-12	N2-9	euras
A/swine/England/002295/2002/H1N2	AFR75910	UK	12/4/02	H1-11	N2-9	euras
A/swine/England/1382/2010/H1N2	ADX31842	UK	4/13/10	H1-11	N2-9	pdm
A/swine/England/303/2009/H1N2	AFR76169	UK	4/9/09	H1-11	N2-9	euras
A/swine/England/375017/1993/H3N2	AFR76212	UK	10/24/93	H3-9	N2-9	euras
A/swine/England/40280/1996/H1N2	AFR76245	UK	7/9/96	H1-11	N2-9	euras
A/swine/England/425069/1994/H3N2	AFR76267	UK	2/7/94	H3-9	N2-9	euras
A/swine/England/43142/2001/H1N2	AFR76288	UK	12/21/01	H1-11	N2-9	euras
A/swine/England/448813/1994/H1N2	AFR76297	UK	4/24/94	H1-11	N2-9	euras
A/swine/England/483/2006/H1N2	AFR76318	UK	5/12/06	H1-11	N2-9	euras
A/swine/England/60797/2000/H1N2	AFR76340	UK	12/22/00	H1-11	N2-9	euras
A/swine/England/61605/1998/H1N2	AFR76359	UK	11/18/98	H1-11	N2-9	euras
A/swine/England/645913/1996/H1N2	AFR76381	UK	12/20/96	H1-11	N2-9	euras
A/swine/England/661263/1997/H1N2	AFR76392	UK	2/11/97	H1-11	N2-9	euras
A/swine/England/87842/1990/H3N2	AFR76456	UK	8/6/90	H3-9	N2-9	human
A/swine/England/88761/1997/H1N2	AFR76467	UK	2/3/97	H1-11	N2-9	euras
A/swine/England/90591/1997/H3N2	AFR76478	UK	2/10/97	H3-9	N2-9	euras
A/swine/England/P185/2008/H1N2	AFU83142	UK	12/25/08	H1-11	N2-9	euras
A/swine/Freren/IDT13837-1/2011/H1N2	AGA19272	Germany	8/31/11	pdm-H1	N2-10	pdm
A/swine/Freren/IDT13837-2/2011/H1N2	AGA19262	Germany	8/31/11	pdm-H1	N2-10	pdm
A/swine/Gent/100/2007/H1N2	AFR76597	Belgium	2007	H1-11	N2-9	euras
A/swine/Gent/177/2002/H1N2	AFR76630	Belgium	2002	H1-11	N2-9	euras
A/swine/Gent/96/2007/H3N2	AFR76641	Belgium	2007	H3-10	N2-10	euras
A/swine/Granstedt/IDT3475/2004/H1N2	ACR39218	Germany	8/26/04	H1-11	N2-9	euras
A/swine/Guangdong/1/2010/H1N2	ADV19282	China	1/30/10	class-H1	N2-1	trig
A/swine/Guangdong/1222/2006/H1N2	ACY06511	China	2006	class-H1	N2-1	trig
A/swine/Guangdong/2670/2010/H1N2	AEK86185	China	8/26/10	class-H1	N2-1	trig
A/swine/Guangdong/2676/2010/H1N2	AEK86186	China	8/26/10	class-H1	N2-1	trig
A/swine/Guangdong/2693/2010/H1N2	AEK86187	China	8/26/10	class-H1	N2-1	trig
A/swine/Guangdong/2712/2010/H1N2	AEK86188	China	8/26/10	class-H1	N2-1	trig
A/swine/Guangdong/553/2010/H1N2	AEK86179	China	2/27/10	class-H1	N2-14	euras
A/swine/Guangdong/603/2010/H1N2	AEK86180	China	2/27/10	class-H1	N2-14	euras
A/swine/Guangdong/606/2010/H1N2	AEK86181	China	2/27/10	class-H1	N2-14	euras
A/swine/Guangdong/617/2010/H1N2	AEK86182	China	2/27/10	class-H1	N2-14	euras
A/swine/Guangdong/628/2010/H1N2	AEK86183	China	2/27/10	class-H1	N2-14	euras
A/swine/Guangxi/13/2006/H1N2	ABR87897	China	2006	class-H1	N2-1	trig

A/swine/Guangxi/NS2783/2010/H3N2	AEX30557	China	11/7/10	H3-16	N2-16	pdm
A/swine/Gunma/1/2012/H1N2	BAN37209	Japan	1/13/12	pdm-H1	N2-13	pdm
A/swine/Hebei/10/2006/H1N2	ADU02124	China	2006/10	class-H1	N2-1	trig
A/swine/Henan/4/2010/H1N2	AEX30528	China	2010/12	class-H1	N2-1	pdm
A/swine/Henan/YIL/2010/H1N2	AFH77150	China	2010/12	class-H1	N2-1	pdm
A/swine/HongKong/1102/2003/H1N2	ADY71208	Hong Kong	8/14/03	class-H1	N2-14	class
A/swine/HongKong/1110/2006/H1N2	ACR84055	Hong Kong	8/1/06	class-H1	N2-1	trig
A/swine/HongKong/1248/2002/H1N2	ADY71133	Hong Kong	9/9/02	class-H1	N2-14	class
A/swine/HongKong/1382/2003/H1N2	ADY71230	Hong Kong	10/16/03	class-H1	N2-14	class
A/swine/HongKong/1435/2009/H1N2	ADG08227	Hong Kong	7/23/09	class-H1	N2-1	trig
A/swine/HongKong/1479/2009/H1N2	ADG08238	Hong Kong	7/23/09	class-H1	N2-1	euras
A/swine/HongKong/1562/2005/H1N2	ACR84050	Hong Kong	11/11/05	class-H1	N2-1	trig
A/swine/HongKong/1763/2003/H1N2	ADY71251	Hong Kong	12/15/03	class-H1	N2-14	class
A/swine/HongKong/2237/2010/H1N2	AEK86184	Hong Kong	8/2/10	class-H1	N2-1	trig
A/swine/HongKong/2503/2011/H3N2	AEX30537	Hong Kong	6/16/11	H3-16	N2-16	pdm
A/swine/HongKong/554/2003/H1N2	ACR84048	Hong Kong	4/24/03	class-H1	N2-14	class
A/swine/HongKong/NS13/2002/H1N2	ADY71083	Hong Kong	1/21/02	class-H1	N2-14	class
A/swine/HongKong/NS2439/2011/H3N2	AEX30547	Hong Kong	6/16/11	H3-16	N2-16	pdm
A/swine/HongKong/NS605/2003/H1N2	ADY71197	Hong Kong	7/10/03	class-H1	N2-14	class
A/swine/HongKong/NS728/2002/H1N2	ADY71123	Hong Kong	8/13/02	class-H1	N2-14	class
A/swine/HongKong/NS915/2004/H1N2	ADY71336	Hong Kong	10/14/04	class-H1	N2-14	class
A/swine/Hubei/04/2009/H1N2	AEH42770	China	3/10/09	class-H1	N2-1	trig
A/swine/Hubei/05/2009/H1N2	AEH42781	China	3/10/09	class-H1	N2-1	trig
A/swine/Illinois/00303/2004/H3N2	AHB20891	USA	5/18/04	H3-2	N2-5	trig
A/swine/Illinois/01131/2006/H3N2	AHB21158	USA	5/5/06	H3-2	N2-5	trig
A/swine/Illinois/02907/2009/H3N2	AHA11532	USA	10/21/09	H3-2	N2-5	trig
A/swine/Illinois/53612-2/2009/H3N2	AFV71382	USA	8/20/09	H3-2	N2-5	trig
A/swine/Illinois/53612-3/2009/H3N2	AFV71375	USA	9/21/09	H3-2	N2-5	trig
A/swine/Illinois/A00857304a/2012/H3N2	AFH41256	USA	1/5/12	H3-2	N2-5	trig
A/swine/Illinois/A00857325/2012/H1N2	AGU69979	USA	6/14/12	H1-6	N2-5	trig
A/swine/Illinois/A01047528/2010/H3N2	AEZ01205	USA	12/2/10	H3-2	N2-5	trig
A/swine/Illinois/A01049968/2011/H1N2	AFL56898	USA	5/11/11	H1-6	N2-5	trig
A/swine/Illinois/A01057087/2010/H3N2	AFK73198	USA	4/28/10	H3-2	N2-5	trig
A/swine/Illinois/A01202825/2011/H3N2	AFM84250	USA	11/9/11	H3-2	N2-1	trig

A/swine/Illinois/A01243094/2012/H1N2	AFX69020	USA	1/30/12	H1-6	N2-5	trig
A/swine/Illinois/A01244402/2012/H3N2	AGT41768	USA	12/5/12	H3-2	N2-5	trig
A/swine/Illinois/A01301796/2012/H1N2	AGG53692	USA	9/10/12	H1-6	N2-5	trig
A/swine/Illinois/A01432127/2012/H3N2	AGS41556	USA	10/29/12	H3-2	N2-5	trig
A/swine/IN/PU542/04/H3N1	ABA27437	USA	2004	H3-2	class-N1	trig
A/swine/Indiana/00427/2004/H1N2	AEO91756	USA	11/2/04	class-H1	N2-1	trig
A/swine/Indiana/13TOSU1128/2013/H3N2	AGY42395	USA	7/25/13	H3-2	N2-5	trig
A/swine/Indiana/A00968376/2012/H3N2	AFR61010	USA	7/13/12	H3-2	N2-5	trig
A/swine/Indiana/A01049744/2011/H3N2	AFI73493	USA	3/23/11	H3-2	N2-5	trig
A/swine/Indiana/A01049953/2011/H1N2	AFL56884	USA	5/7/11	H1-6	N2-5	trig
A/swine/Indiana/A01260254/2013/H3N2	AGS41548	USA	3/20/13	H3-2	N2-5	trig
A/swine/Indiana/A01260313/2013/H3N2	AGS09004	USA	6/21/13	H3-2	N2-5	trig
A/swine/Iowa/00186/2003/H3N2	AHB22578	USA	10/2/03	H3-2	N2-1	trig
A/swine/Iowa/13C019/2013/H3N2	AHA98565	USA	3/26/13	H3-2	N2-5	trig
A/swine/Iowa/13C020/2013/H3N2	AHA98576	USA	3/26/13	H3-2	N2-5	trig
A/swine/Iowa/13C038/2013/H3N2	AHA98554	USA	3/26/13	H3-2	N2-5	trig
A/swine/Iowa/13C040/2013/H3N2	AHA98598	USA	3/26/13	H3-2	N2-5	trig
A/swine/Iowa/A01049032/2010/H3N2	AFI73451	USA	11/16/10	H3-2	N2-5	trig
A/swine/Iowa/A01049036/2010/H3N2	AFD32623	USA	11/16/10	H3-2	N2-5	trig
A/swine/Iowa/A01049160/2010/H3N2	AFM84223	USA	11/30/10	H3-2	N2-5	trig
A/swine/Iowa/A01049970/2011/H1N2	AFL56906	USA	5/16/11	H1-6	N2-5	trig
A/swine/Iowa/A01203121/2012/H3N2	AFM84270	USA	1/5/12	H3-2	N2-1	trig
A/swine/Iowa/A01203942/2012/H3N2	AGC96260	USA	10/2/12	H3-2	N2-5	trig
A/swine/Iowa/A01243311/2012/H3N2	AGS42021	USA	4/23/12	H3-2	N2-5	trig
A/swine/Iowa/A01432034/2012/H1N2	AGN51201	USA	10/11/12	H1-6	N2-5	trig
A/swine/Iowa/H02AS8/2002/H3N2	ACY67070	USA	2002/11	H3-2	N2-1	trig
A/swine/Iowa/H03HB4/2003/H3N2	ACY67067	USA	2003/02	H3-2	N2-1	trig
A/swine/Iowa/H03HO7/2003/H3N2	ACY67066	USA	2003/06	H3-2	N2-1	trig
A/swine/Iowa/H03LDH5/2003/H3N2	ACY67064	USA	2003/08	H3-4	N2-4	trig
A/swine/Iowa/SG1469/2004/H3N2	AHB22794	USA	10/14/04	H3-2	N2-5	trig
A/swine/Italy/15360-3/2001/H3N2	AFR76674	Italy	2001	H3-10	N2-10	euras
A/swine/Italy/172336/2001/H1N1	AFR76692	Italy	2001	H1-11	eur-N1	euras
A/swine/Italy/272121-1/2002/H3N2	AFR76714	Italy	2002	H3-10	N2-10	euras
A/swine/Italy/71251/2005/H1N2	AFR76746	Italy	2005	H1-11	N2-9	euras
A/swine/Kansas/00246/2004/H1N2	AHB22293	USA	2/5/04	class-H1	N2-1	trig
A/swine/Kansas/015252/2009/H3N2	ACV42080	USA	2009	H3-2	N2-5	trig
A/swine/Kansas/10-91088/2010/H3N2	AEL31731	USA	12/30/10	H3-2	N2-1	trig
A/swine/Kansas/11-107824/2011/H3N2	AEL31735	USA	3/18/11	H3-2	N2-1	pdm
A/swine/Kansas/11-109700/2011/H3N2	AEL31736	USA	4/2/11	H3-2	N2-1	trig
A/swine/Kentucky/12TOSU1052/2012/H1N2	AGK62581	USA	11/5/12	H1-6	N2-5	trig
A/swine/Kentucky/12TOSU1053/2012/H1N2	AGK62629	USA	11/5/12	H1-6	N2-5	trig
A/swine/Kentucky/SG1118/2003/mixed	AEO91609	USA	7/22/03	class-H1	N2-5	trig

A/swine/Korea/1130/2009/H1N2	AFR75832	S Korea	2009/01	class-H1	N2-1	trig
A/swine/Korea/1204/2009/H1N2	AFR75843	S Korea	2009/02	class-H1	N2-1	trig
A/swine/Korea/A18/2011/H3N2	AFR42698	S Korea	2011/09	H3-2	N2-5	trig
A/swine/Korea/CY02-07/2012/H3N1	AGE83937	S Korea	2/7/12	H3-2	pdm-N1	pdm
A/swine/Korea/CY02-08/2012/H3N1	AGE83926	S Korea	2/7/12	H3-2	pdm-N1	pdm
A/swine/Korea/CY02-09/2012/H3N2	AGE83915	S Korea	2/7/12	H3-2	N2-5	trig
A/swine/Korea/CY02-10/2012/H3N2	AGE83904	S Korea	2/20/12	H3-2	N2-5	trig
A/swine/Korea/CY03-11/2012/H1N2	AGE83893	S Korea	3/6/12	class-H1	N2-1	trig
A/swine/Korea/CY03-13/2012/H3N1	AGE83872	S Korea	3/6/12	H3-2	pdm-N1	pdm
A/swine/Korea/CY03-14/2012/H3N2	AGE83861	S Korea	3/6/12	H3-2	N2-5	trig
A/swine/Korea/CY03-15/2012/H3N2	AGE83850	S Korea	3/6/12	H3-2	N2-5	trig
A/swine/Korea/CY03-16/2012/H3N2	AGE83839	S Korea	3/27/12	H3-2	N2-5	trig
A/swine/Korea/CY03-17/2012/H3N2	AGE83828	S Korea	3/27/12	H3-2	N2-5	trig
A/swine/Korea/CY03-18/2012/H3N2	AGE83817	S Korea	3/27/12	H3-2	N2-5	trig
A/swine/Korea/CY03-19/2012/H3N2	AGE83806	S Korea	3/27/12	H3-2	N2-5	trig
A/swine/Korea/CY0423-12/2013/H1N2	AGN28819	S Korea	4/23/13	eur-H1	N2-1	trig
A/swine/Korea/CY0423-33/2013/H1N2	AGN28807	S Korea	4/23/13	eur-H1	N2-1	trig
A/swine/Korea/CY12-03/2011/H1N2	AGE83978	S Korea	12/5/11	class-H1	N2-1	trig
A/swine/Korea/D79/2011/H3N2	AFR42699	S Korea	2011/10	H3-2	N2-5	trig
A/swine/Korea/KSB/2012/H3N2	AFR42697	S Korea	2012/03	H3-2	N2-5	trig
A/swine/Korea/PL01/2012/H3N2	AGS08992	S Korea	4/23/12	H3-2	N2-5	trig
A/swine/Langefoerden/IDT14189/2011/H1N2	AGA19222	Germany	11/9/11	pdm-H1	N2-10	pdm
A/swine/Manitoba/00446/2005/H3N2	AHB22495	Canada	1/25/05	H3-2	N2-5	trig
A/swine/Manitoba/01179/2006/H3N2	AHB22116	Canada	6/29/06	H3-2	N2-5	trig
A/swine/Manitoba/01642/2007/H3N2	AHB22128	Canada	6/20/07	H3-2	N2-5	trig
A/swine/Manitoba/01643/2007/H3N2	AHB22140	Canada	6/20/07	H3-2	N2-5	trig
A/swine/Manitoba/01782/2007/H3N2	AHB22164	Canada	10/3/07	H3-2	N2-5	trig
A/swine/Manitoba/02182/2008/H3N2	AHB22176	Canada	5/30/08	H3-2	N2-5	trig
A/swine/Manitoba/02862/2009/H3N2	AHB22212	Canada	7/1/09	H3-2	N2-5	trig
A/swine/Manitoba/12707/2005/H3N2	ABF18005	Canada	2005	H3-2	N2-5	trig
A/swine/Manitoba/SG1431/2008/H3N2	AHB22188	Canada	6/17/08	H3-2	N2-5	trig
A/swine/Manitoba/SG1432/2008/H3N2	AHB22200	Canada	6/17/08	H3-2	N2-5	trig
A/swine/Manitoba/SG1438/2011/H3N2	AHB22236	Canada	11/8/11	H3-2	N2-5	pdm
A/swine/Mexico/SG1442/2010/H3N2	AHB22247	Mexico	11/29/10	H3-2	N2-5	pdm
A/swine/Mexico/SG1444/2011/H3N2	AHB22566	Mexico	10/21/11	H3-2	N2-5	trig
A/swine/Mexico/SG1447/2011/H3N2	AHB24775	Mexico	10/21/11	H3-2	N2-5	pdm
A/swine/Mexico/SG1448/2011/H3N2	AHB24786	Mexico	10/21/11	H3-2	N2-5	pdm
A/swine/Mexico/SG1449/2011/H3N2	AHB22281	Mexico	10/21/11	H3-2	N2-5	pdm
A/swine/MI/PU243/04/H3N1	ABA27429	USA	2004	H3-2	class-N1	trig
A/swine/Minnesota/001332/2006/H3N2	AEO91898	USA	11/17/06	H3-2	N2-5	trig

A/swine/Minnesota/001444/2007/H3N2	AEO91876	USA	1/19/07	H3-2	N2-5	trig
A/swine/Minnesota/00484/2005/H3N2	AEO91920	USA	1/20/05	H3-2	N2-5	trig
A/swine/Minnesota/00611/2005/H3N2	AEO91778	USA	5/20/05	H3-2	N2-5	trig
A/swine/Minnesota/00709/2005/H3N2	AEO91666	USA	8/18/05	H3-2	N2-5	trig
A/swine/Minnesota/01146/2006/H3N2	AEO91631	USA	5/25/06	H3-2	N2-5	trig
A/swine/Minnesota/01604/2007/H1N2	AHB21340	USA	5/1/07	H1-6	N2-1	trig
A/swine/Minnesota/01862/2007/H3N2	AEO91734	USA	11/20/07	H3-2	N2-5	trig
A/swine/Minnesota/02324/2008/H1N2	AEO91865	USA	9/10/08	H1-6	N2-5	trig
A/swine/Minnesota/07002083/2007/H1N1	ACL79902	USA	2007	H1-7	N1-7	trig
A/swine/Minnesota/0745/2010/H1N2	AEV21641	USA	3/3/10	H1-6	N2-5	trig
A/swine/Minnesota/1145/2007/H3N2	ACJ03974	USA	2007	H3-2	N2-5	trig
A/swine/Minnesota/1192/2001/H1N2	AEN94816	USA	2001	class-H1	N2-1	trig
A/swine/Minnesota/1300/2007/H3N2	ADZ05631	USA	1/31/07	H3-2	N2-5	trig
A/swine/Minnesota/3128/2010/H1N2	AHB21828	USA	9/24/10	H1-6	N2-5	trig
A/swine/Minnesota/5763/2003/H1N2	AEN94849	USA	2003	class-H1	N2-1	trig
A/swine/Minnesota/578/2007/H3N2	ADZ05629	USA	1/24/07	H3-2	N2-5	trig
A/swine/Minnesota/593/99/H3N2	AAG01793	USA	1999	H3-1	N2-1	trig
A/swine/Minnesota/5947/2007/H3N2	ADZ05632	USA	2/20/07	H3-2	N2-5	trig
A/swine/Minnesota/65767/2006/H3N2	ADZ05634	USA	12/26/06	H3-2	N2-5	trig
A/swine/Minnesota/66853/2006/H3N2	ADZ05635	USA	12/26/06	H3-2	N2-5	trig
A/swine/Minnesota/66960/2006/H3N2	ADZ05636	USA	12/26/06	H3-2	N2-5	trig
A/swine/Minnesota/761/2007/H3N2	ADZ05630	USA	2007	H3-2	N2-5	trig
A/swine/Minnesota/7931/2007/H3N2	ADZ05633	USA	2/28/07	H3-2	N2-5	trig
A/swine/Minnesota/A01240127/2011/H3N2	AGB84982	USA	10/10/11	H3-2	N2-1	trig
A/swine/Minnesota/SG1133/2008/H1N2	AEO91822	USA	4/28/08	H1-6	N2-5	trig
A/swine/Minnesota/SG1236/2005/H3N2	AHB20978	USA	4/22/05	H3-2	N2-5	trig
A/swine/Minnesota/SG1238/2005/H3N2	AHB20990	USA	6/2/05	H3-2	N2-5	trig
A/swine/Minnesota/SG1293/2007/H3N2	AHB21352	USA	4/6/07	H3-2	N2-5	trig
A/swine/Minnesota/SG1294/2007/H3N2	AHB21364	USA	4/5/07	H3-2	N2-5	trig
A/swine/Missouri/A01270665/2012/H1N2	AGS41660	USA	10/2/12	H1-6	N2-5	trig
A/swine/Miyazaki/1/2006/H1N2	BAG49628	Japan	2006	class-H1	N2-13	class
A/swine/Nakhonpathom/NIAH586-1/2005/H3N2	BAH02117	Thailand	2005	H3-9	N2-9	euras
A/swine/Nebraska/00188/2003/H3N2	AHB22626	USA	10/3/03	H3-3	N2-3	trig
A/swine/Nebraska/01711/2007/H3N2	AHB21328	USA	7/31/07	H3-2	N2-5	trig
A/swine/Nebraska/A01049937/2011/H3N2	AFU92356	USA	5/4/11	H3-2	N2-5	trig
A/swine/Nebraska/A01240337/2011/H3N2	AFO83075	USA	11/13/11	H3-2	N2-1	trig
A/swine/Nebraska/A01270646/2012/H1N2	AGN51290	USA	10/10/12	H1-6	N2-5	trig
A/swine/Nebraska/A01300022/2012/H3N2	AGJ73231	USA	6/12/12	H3-2	N2-1	trig
A/swine/Niederwinden/IDT14445/2011/H1N2	AGA19202	Germany	12/20/11	pdm-H1	N2-10	pdm
A/swine/Niigata/729/2004/H1N2	BAK22652	Japan	2004	class-H1	N2-13	class
A/swine/Nordkirchen/IDT1993/2003/H3N2	ACF94705	Germany	2003/04	H3-10	N2-9	euras
A/swine/North Carolina/00839/2005/H1N1	AEO91789	USA	10/27/05	H1-7	N1-7	trig

A/swine/North Carolina/01052/2006/H3N2	AHB22962	USA	3/14/06	H3-2	N2-5	trig
A/swine/North Carolina/01169/2006/H1N2	AHB21086	USA	6/22/06	class-H1	N2-1	trig
A/swine/North Carolina/01216/2006/H3N2	AHB22986	USA	8/16/06	H3-2	N2-5	trig
A/swine/North Carolina/01312/2006/H3N2	AHB21098	USA	11/16/06	H3-2	N2-5	trig
A/swine/North Carolina/01469/2007/H3N2	AHB23010	USA	2/21/07	H3-2	N2-5	trig
A/swine/North Carolina/01484/2006/H3N2	AHB21110	USA	11/3/06	H3-2	N2-5	trig
A/swine/North Carolina/01506/2006/H3N2	AHB22950	USA	10/31/06	H3-2	N2-5	trig
A/swine/North Carolina/01550/2007/H1N1	AHB23046	USA	4/4/07	H1-7	N1-7	trig
A/swine/North Carolina/01930/2007/H3N2	AHB21292	USA	7/27/07	H3-2	N2-5	trig
A/swine/North Carolina/02249/2008/H1N2	AHB21471	USA	7/30/08	H1-7	N2-1	trig
A/swine/North Carolina/03289/2011/H3N2	AHB21912	USA	1/7/11	H3-2	N2-5	trig
A/swine/North Carolina/2003/H3N2	ABQ41895	USA	2003	H3-2	N2-5	trig
A/swine/North Carolina/A01076199/2010/H3N2	AFC92990	USA	3/14/10	H3-2	N2-5	trig
A/swine/North Carolina/A01270393/2011/H1N2	AGS41684	USA	12/8/11	H1-7	N2-1	trig
A/swine/North Carolina/R08-001877-D08-013371/2008/H3N2	ACS92891	USA	2008	H3-2	N2-5	trig
A/swine/North Carolina/SG1197/2004/H3N2	AHB20855	USA	12/30/04	H3-2	N2-5	trig
A/swine/North Carolina/SG1230/2005/H3N2	AHB20966	USA	3/16/05	H3-2	N2-5	trig
A/swine/North Carolina/SG1281/2007/H1N1	AHB22353	USA	2/1/07	H1-7	N1-7	trig
A/swine/North Carolina/SG1306/2008/H3N2	AHB21447	USA	7/3/08	H3-2	N2-5	trig
A/swine/North Carolina/SG1364/2010/H3N2	AHB24501	USA	11/24/10	H3-2	N2-5	trig
A/swine/North Carolina/SG1462/2004/H3N2	AHB22710	USA	3/3/04	H3-2	N2-1	trig
A/swine/North Carolina/SG1464/2004/H3N2	AHB22734	USA	3/10/04	H3-2	N2-5	trig
A/swine/Ohio/09SW1483M/2009/H1N2	AGB98545	USA	7/5/09	class-H1	N2-5	trig
A/swine/Ohio/09SW1484M/2009/H1N2	AGB98556	USA	7/5/09	class-H1	N2-5	trig
A/swine/Ohio/09SW1488E/2009/H1N2	AGB98468	USA	7/5/09	class-H1	N2-5	trig
A/swine/Ohio/09SW1490E/2009/H1N2	AGB98490	USA	7/5/09	class-H1	N2-5	trig
A/swine/Ohio/09SW63/2009/H3N2	AGB98677	USA	8/8/09	H3-2	N2-5	trig
A/swine/Ohio/09SW66/2009/H3N2	AGB98710	USA	8/8/09	H3-2	N2-5	trig
A/swine/Ohio/09SW73M/2009/H3N2	AGB98732	USA	8/8/09	H3-2	N2-5	trig
A/swine/Ohio/09SW82/2009/H3N2	AGB98820	USA	8/13/09	H3-2	N2-5	trig
A/swine/Ohio/09SW87/2009/H3N2	AGB98864	USA	8/13/09	H3-2	N2-5	trig
A/swine/Ohio/09SW92/2009/H3N2	AGB98919	USA	8/13/09	H3-2	N2-5	trig
A/swine/Ohio/10SW122/2010/H3N2	AGB99007	USA	8/12/10	H3-2	N2-5	trig
A/swine/Ohio/10SW125/2010/H3N2	AGB99018	USA	8/12/10	H3-2	N2-5	trig
A/swine/Ohio/10SW126/2010/H3N2	AGB99029	USA	8/12/10	H3-2	N2-5	trig
A/swine/Ohio/10SW132/2010/H3N2	AGB99073	USA	8/12/10	H3-2	N2-5	trig
A/swine/Ohio/10SW213/2010/H3N2	AGB99282	USA	8/24/10	H3-2	N2-5	trig
A/swine/Ohio/10SW214/2010/H3N2	AGB99293	USA	8/24/10	H3-2	N2-5	trig
A/swine/Ohio/10SW219/2010/H3N2	AGB99326	USA	8/24/10	H3-2	N2-5	trig
A/swine/Ohio/11SW103/2011/H3N2	AGB99348	USA	8/5/11	H3-2	N2-5	trig
A/swine/Ohio/11SW344/2011/H3N2	AGN69789	USA	9/30/11	H3-2	N2-5	trig

A/swine/Ohio/12TOSU370/2012/H3N2	AGG12626	USA	2012/08	H3-2	N2-5	trig
A/swine/Ohio/12TOSU52/2012/H3N2	AGK62473	USA	6/22/12	H3-2	N2-5	trig
A/swine/Ohio/A00138552/2012/H3N2	AFX69009	USA	9/2/12	H3-2	N2-5	trig
A/swine/Ohio/A01203186/2012/H3N2	AFO83338	USA	1/24/12	H3-2	N2-5	trig
A/swine/Oklahoma/00259/2004/H1N2	AHB22674	USA	3/3/04	class-H1	N2-1	trig
A/swine/Oklahoma/00518/2005/H3N2	AHB22305	USA	3/1/05	H3-2	N2-5	trig
A/swine/Oklahoma/00801/2005/H1N1	AHB22854	USA	10/4/05	H1-6	class-N1	trig
A/swine/Oklahoma/008722/2007/H3N2	ACV42091	USA	2007	H3-2	N2-5	trig
A/swine/Oklahoma/010226-16/2008/H1N2	ACV42124	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/010226-17/2008/H1N2	ACV42135	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/010710-8/2008/H1N2	ACV42157	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/010710-9/2008/H1N2	ACV42146	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/01117/2006/H1N2	AHB22317	USA	5/2/06	H1-6	N2-5	trig
A/swine/Oklahoma/011289-10/2008/H1N2	ACV42179	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/011289-8/2008/H1N2	ACV42190	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/011289-9/2008/H1N2	ACV42168	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/01139/2006/H1N1	AHB22926	USA	5/17/06	H1-6	class-N1	trig
A/swine/Oklahoma/011506/2007/H3N2	ACV42102	USA	2007	H3-2	N2-1	trig
A/swine/Oklahoma/011521-4/2008/H1N2	ACV42212	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/011521-5/2008/H1N2	ACV42201	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/01382/2006/H1N2	AHB22938	USA	12/6/06	class-H1	N2-1	trig
A/swine/Oklahoma/016179-8/2008/H1N2	ACV42223	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/016179-9/2008/H1N2	ACV42234	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/01741/2007/H1N2	AHB21242	USA	8/23/07	H1-6	N2-5	trig
A/swine/Oklahoma/02056/2008/H1N2	AHB21424	USA	2/29/08	H1-6	N2-5	trig
A/swine/Oklahoma/020734-2/2008/H1N2	ACV42245	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/020734-3/2008/H1N2	ACV42256	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/020736-1/2008/H1N2	ACV42278	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/020736-2/2008/H1N2	ACV42267	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/02107/2008/H1N2	AHB21412	USA	4/2/08	H1-6	N2-5	trig
A/swine/Oklahoma/042169/2008/H1N2	ACV42289	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/053259/2008/H1N2	ACV42058	USA	2008	H1-6	N2-5	trig
A/swine/Oklahoma/SG1216/2005/H3N2	AHB20942	USA	3/3/05	H3-2	N2-1	trig
A/swine/Oklahoma/SG1473/2005/H3N2	AHB22842	USA	9/23/05	H3-2	N2-5	trig
A/swine/Oklahoma/SG1501/2010/mixed	AHB23141	USA	11/18/10	H1-6	N2-5	trig
A/swine/Ontario/33853/2005/H3N2	ABF18006	Canada	2005	H3-2	N2-5	trig
A/swine/Papenburg/IDT12653/2010/H1N2	AGA19312	Germany	11/3/10	pdm-H1	N2-10	pdm
A/swine/Pennsylvania/62170-3/2010/H3N2	ADU85678	USA	10/25/10	H3-2	N2-5	trig
A/swine/Ploufragan/0214/2006/H1N2	AFR76763	France	9/2/06	H1-11	N2-9	euras
A/swine/QC/1840-2/2009/H3N2	ADV58922	Canada	5/28/09	H3-2	N2-5	trig
A/swine/QC/2108-2/2009/H3N2	ADV58923	Canada	4/3/09	H3-2	N2-5	trig
A/swine/QC/382/2009/H3N2	ADV58918	Canada	5/8/09	H3-2	N2-5	trig

A/swine/QC/414/2009/H3N2	ADV58917	Canada	5/22/09	H3-2	N2-5	trig
A/swine/QC/440-A/2009/H3N2	ADV58919	Canada	5/29/09	H3-2	N2-5	trig
A/swine/Quebec/01001/2006/H3N2	AHB22092	Canada	2/23/06	H3-2	N2-5	trig
A/swine/Quebec/01002/2006/H3N2	AHB24707	Canada	2/23/06	H3-2	N2-5	trig
A/swine/Quebec/4001/2005/H3N2	ACF04401	Canada	7/12/05	H3-2	N2-5	trig
A/swine/Ratchaburi/NIAH874/2005/H3N2	BAH02137	Thailand	2005	H3-15	N2-15	euras
A/swine/Saitama/1/2000/H1N2	BAK22653	Japan	2000	class-H1	N2-13	class
A/swine/Saitama/1996/H1N2	BAH02177	Japan	1996	class-H1	N2-13	class
A/swine/Saitama/21/2004/H1N2	BAK22654	Japan	2004	class-H1	N2-13	class
A/swine/Saraburi/NIAH107725-28/2008/H3N2	BAL70441	Thailand	2008/06	H3-15	N2-15	euras
A/swine/Saraburi/NIAH109713-36/2009/H3N2	BAL70451	Thailand	2009/07	H3-15	N2-15	euras
A/swine/Saraburi/NIAH13021/2005/H1N2	BAH02087	Thailand	2005	class-H1	N2-9	euras
A/swine/Saskatchewan/01114/2006/H3N2	AHB22104	Canada	5/1/06	H3-2	N2-5	trig
A/swine/Saskatchewan/02903/2009/H3N2	AHB22224	Canada	9/24/09	H3-8	N2-8	human
A/swine/Saskatchewan/SD0001/2011/H3N2	AHB22543	Canada	12/1/11	H3-2	N2-5	trig
A/swine/Shanghai/1/2007/H1N2	ACI48761	China	3/24/07	class-H1	N2-1	trig
A/swine/SouthCarolina/01414/2006/H1N1	AHB22974	USA	12/19/06	H1-7	N1-7	trig
A/swine/SouthDakota/152B/2009/H1N2	ADU85822	USA	9/4/09	H1-7	N2-5	trig
A/swine/SouthDakota/3/2012/H3N2	AFS50183	USA	2012/06	H3-2	N2-5	trig
A/swine/SouthDakota/SG1453/2003/H3N2	AHB22602	USA	4/10/03	H3-2	N2-1	trig
A/swine/Spain/40564/2002/H1N2	AFR76779	Spain	2002	H1-11	N2-9	euras
A/swine/Spain/42386/2002/H3N2	ABO44045	Spain	2002	H3-10	N2-10	euras
A/swine/Spain/80598LP1/2007/H3N2	CCQ71970	Spain	2007	H3-10	N2-10	euras
A/swine/Spain/80598LP4/2007/H1N2	AFR76790	Spain	2007	H1-11	N2-9	euras
A/swine/Spain/82108/2007/H3N2	CCQ71982	Spain	2007	H3-10	N2-10	euras
A/swine/Spain/SF12091/2007/H1N2	CCG47911	Spain	2007	H1-11	N2-9	euras
A/swine/Spain/SF32071/2007/H3N2	AGC96197	USA	10/25/12	H3-10	N2-10	euras
A/swine/Tennessee/A01104055/2012/H3N2	AHB23193	USA	7/22/04	H3-2	N2-5	trig
A/swine/Texas/00376/2004/H3N2	AHB22866	USA	10/12/05	H3-2	N2-1	trig
A/swine/Texas/00816/2005/H3N2	ACV42113	USA	2008	H3-2	N2-1	trig
A/swine/Texas/008648/2008/H1N2	AHB21050	USA	11/2/06	H1-6	N2-1	trig
A/swine/Texas/01308/2006/H1N2	AHB21230	USA	3/8/07	class-H1	N2-1	trig
A/swine/Texas/01492/2007/H1N2	AHB21206	USA	10/25/07	H1-6	N2-5	trig
A/swine/Texas/01822/2007/H3N1	ACV42047	USA	2008	H3-2	class-N1	trig
A/swine/Texas/050625/2008/H1N2	AAD51248	USA	1998	H1-6	N2-5	trig
A/swine/Texas/4199-2/1998/H3N2	AEK70338	USA	1998	H3-1	N2-1	trig
A/swine/Texas/A01049555/2011/H3N2	AEZ01207	USA	2/14/11	H3-2	N2-1	trig
A/swine/Texas/A01049915/2011/H3N2	AEZ01211	USA	4/28/11	H3-2	N2-1	trig
A/swine/Texas/SG1186/2004/H3N2	AHB20833	USA	10/22/04	H3-2	N2-1	trig
A/swine/Texas/SG1250/2006/H1N2	AHB21062	USA	6/21/06	H1-6	N2-5	trig
A/swine/Texas/SG1270/2007/H3N2	AHB23744	USA	3/1/07	H3-2	N2-5	trig

A/swine/Texas/SG1501/2010/H3N2	AHB23154	USA	4/20/10	H3-2	N2-5	trig
A/swine/Thailand/PB482/2009/H3N2	AGK24404	Thailand	11/17/09	H3-15	N2-15	euras
A/swine/Tianjin/1/2007/H1N2	ADU02114	China	2007/12	class-H1	N2-14	euras
A/swine/Tornitz/IDT14598/2012/H1N2	AGA19192	Germany	1/19/12	pdm-H1	N2-10	pdm
A/swine/UdonThani/NIAH464/2004/H3N2	BAH02107	Thailand	2004	H3-10	N2-10	euras
A/swine/Wettringen/IDT13795/2011/H1N2	AGA19282	Germany	8/3/11	pdm-H1	N2-10	pdm
A/swine/Wisconsin/A00677500/2012/H3N2	AFV71413	USA	8/19/12	H3-2	N2-5	trig
A/swine/Wisconsin/H02AS8/2002/H3N2	AFR76801	USA	2002	H3-2	N2-1	trig
A/swine/Wuerusreuth/IDT10990/2009/H3N1	AGA19322	Germany	11/17/09	H3-10	pdm- N1	pdm
A/swine/Zhejiang/1/2004/H1N2	AAZ79398	China	2004	class-H1	N2-14	class

Table S3. HA data used in HA/NA analysis. GenBank accession numbers (PB2 segment), and country and date of collection for the 341 H3 sequences from swine influenza viruses that are related to human seasonal viruses used in this study.

Virus name	Accession	Subtype	Country	Date
A/swine/Alabama/SG1224/2005	AHB52173	H3N2	USA	4/26/05
A/swine/Alberta/00805/2005	AHB22069	H3N2	Canada	10/10/05
A/swine/Alberta/14722/2005	ABF17955	H3N2	Canada	2005
A/swine/Alberta/SG1405/2005	AHB22057	H3N2	Canada	10/7/05
A/swine/Argentina/CIP051-A160/2011	AGK62750	H3N2	Argentina	2011/04
A/swine/Argentina/CIP051-A2/2008	AEI60109	H3N2	Argentina	2008/11
A/swine/Bakum/8602/99	ABQ97205	H3N2	Germany	1999
A/swine/Bakum/909/93	CAC81016	H3	Germany	1993
A/swine/Bakum/IDT1769/2003	ACR39187	H3N2	Germany	3/7/03
A/swine/Binh Duong/03-06/2010	BAK41887	H3N2	Viet Nam	2010/02
A/swine/Binh Duong/03-08/2010	BAK41888	H3N2	Viet Nam	2010/02
A/swine/Binh Duong/03-09/2010	BAK41889	H3N2	Viet Nam	2010/02
A/swine/Binh Duong/03-10/2010	BAK41890	H3N2	Viet Nam	2010/02
A/swine/Binh Duong/03-13/2010	BAK41891	H3N2	Viet Nam	2010/02
A/swine/Binh Duong/03-14/2010	BAK41892	H3N2	Viet Nam	2010/02
A/swine/Bissendorf/IDT1864/2003	ACR39197	H3N2	Germany	3/19/03
A/swine/Bondelum/IDT5959/2007	ACR39194	H3N2	Germany	2/28/07
A/swine/Brabant/1984	ADT79182	H3N2	Netherlands	1984
A/swine/British Columbia/00633/2005	AHB22045	H3N2	Canada	5/19/05
A/swine/British Columbia/28103/2005	ABF17956	H3N2	Canada	2005
A/swine/Chachoengsao/2002	BAJ11772	H3N2	Thailand	2002
A/swine/Chachoengsao/2003	BAH02100	H3N2	Thailand	2003
A/swine/Chachoengsao/NIAH-Nongwa/2003	ABY40411	H3N2	Thailand	2003
A/swine/Chachoengsao/NIAH586/2005	ABY40412	H3N2	Thailand	2005
A/swine/Chonburi/05CB2/2005	ABY40417	H3N2	Thailand	2005
A/swine/Chonburi/2002	BAJ12103	H3N2	Thailand	2002
A/swine/Chonburi/NIAH106952-026/2011	BAM62971	H3N2	Thailand	2011/02
A/swine/Chonburi/NIAH106952-028/2011	BAM62981	H3N2	Thailand	2011/02
A/swine/Colombo/48/2004	AGA18968	H3N2	Sri Lanka	3/3/04
A/swine/Colorado/1/1977	ABD61551	H3N2	USA	1977
A/swine/Colorado/A01203748/2012	AFU10042	H3N2	USA	8/13/12
A/swine/Damme/IDT5673/2006	ACR39192	H3N2	Germany	11/16/06
A/swine/Eastern China/S17/2003	AGF68617	H3N2	China	4/1/03
A/swine/Ehime/1/2002	BAN14744	H3N2	Japan	2002
A/swine/Ehime/2/2002	BAN14745	H3N2	Japan	2002
A/swine/England/163266/1987	AFR76027	H3N2	United	1987

			Kingdom	
A/swine/England/203759/1992	AFR76101	H3N1	United Kingdom	3/12/92
A/swine/England/285393/1993	AFR76162	H3N2	United Kingdom	4/21/93
A/swine/England/375017/1993	AFR76216	H3N2	United Kingdom	10/24/93
A/swine/England/425069/1994	AFR76270	H3N2	United Kingdom	2/7/94
A/swine/England/704563/1995	AFR76416	H3N1	United Kingdom	8/23/95
A/swine/England/87842/1990	AFR76460	H3N2	United Kingdom	8/6/90
A/swine/England/90591/1997	AFR76481	H3N2	United Kingdom	2/10/97
A/swine/Finistere/127/99	CAC86626	H3N2	France	1999
A/swine/Gent/96/2007	AFR76645	H3N2	Belgium	2007
A/swine/Germany/S043/2002	CAP49197	H3N2	Germany	2002
A/swine/Germany/SEC27/97	CAP49188	H3N2	Germany	1997
A/swine/Germany/Vi3161/95	CAP49178	H3N2	Germany	1995
A/swine/Guangdong/02/2005	ACH69613	H3N2	China	2005
A/swine/Guangdong/1/2003	AAW34374	H3N2	China	2003
A/swine/Guangdong/3/2003	AAW34375	H3N2	China	2003
A/swine/Guangdong/4/2003	AAW34376	H3N2	China	2003
A/swine/Guangdong/5/2003	AAW34377	H3N2	China	2003
A/swine/Guangdong/6/2004	AAW34378	H3N2	China	2004
A/swine/Guangdong/L21/2011	AFM47165	H3N2	China	2/27/11
A/swine/Guangdong/Z5/2003	ACQ77601	H3N2	China	2003/12
A/swine/Guangxi/1/2004	ACH69645	H3N2	China	3/25/04
A/swine/Guangxi/NS2783/2010	AEX30560	H3N2	China	11/7/10
A/swine/Henan/S4/2001	ABP82768	H3N2	China	2001
A/swine/Hong Kong/1144/02	AAR12348	H3N2	Hong Kong	2002
A/swine/Hong Kong/1197/02	AAR12349	H3N2	Hong Kong	2002
A/swine/Hong Kong/1212/02	AAR12340	H3N2	Hong Kong	2002
A/swine/Hong Kong/126/1982	AAA43211	H3N2	Hong Kong	1982
A/swine/Hong Kong/1311/01	AAR12336	H3N2	Hong Kong	2001
A/Swine/Hong Kong/2405/98	AAL30462	H3N2	Hong Kong	1998
A/Swine/Hong Kong/2422/98	AAL30463	H3N2	Hong Kong	1998
A/Swine/Hong Kong/2429/98	AAL30464	H3N2	Hong Kong	1998
A/swine/Hong Kong/2503/2011	AEX30540	H3N2	Hong Kong	6/16/11
A/swine/Hong Kong/312/00	AAR12334	H3N2	Hong Kong	2000
A/swine/Hong Kong/411/02	AAR12339	H3N2	Hong Kong	2002
A/swine/Hong Kong/4361/99	AAR12332	H3N2	Hong Kong	1999
A/swine/Hong Kong/5190/99	AAR12342	H3N2	Hong Kong	1999
A/swine/Hong Kong/5200/99	AAR12343	H3N2	Hong Kong	1999
A/swine/Hong Kong/5212/99	AAR12344	H3N2	Hong Kong	1999

A/swine/Hong Kong/7220/00	AAR12333	H3N2	Hong Kong	2000
A/swine/Hong Kong/74/02	AAR12338	H3N2	Hong Kong	2002
A/swine/Hong Kong/7982/00	AAR12345	H3N2	Hong Kong	2000
A/swine/Hong Kong/81/1978	AAA43212	H3N2	Hong Kong	1978
A/swine/Hong Kong/9285/01	AAR12335	H3N2	Hong Kong	2001
A/swine/Hong Kong/9296/01	AAR12346	H3N2	Hong Kong	2001
A/swine/Hong Kong/9745/01	AAR12347	H3N2	Hong Kong	2001
A/swine/Hong Kong/NS2439/2011	AEX30550	H3N2	Hong Kong	6/16/11
A/swine/Hong Kong/q066/99	AAR12341	H3N2	Hong Kong	1999
A/swine/Hungary/13509/2007	ACN72632	H3N2	Hungary	2007/08
A/swine/Illinois/A00857304a/2012	AFH41260	H3N2	USA	1/5/12
A/swine/Illinois/A01047183/2010	AFD32590	H3N2	USA	11/30/10
A/swine/Illinois/A01047528/2010	AFD32586	H3N2	USA	12/2/10
A/swine/Illinois/A01201763/2011	AFM47137	H3N2	USA	6/23/11
A/swine/Illinois/A01201770/2011	AFH53676	H3N2	USA	6/19/11
A/swine/Illinois/A01241066/2012	AFU09020	H3N2	USA	1/16/12
A/swine/Illinois/A01241469/2012	AFU08940	H3N2	USA	2/8/12
A/swine/Illinois/A01445725/2013	AGJ73142	H3N2	USA	2/20/13
A/swine/Indiana/13TOSU1122/2013	AGY42412	H3N2	USA	7/25/13
A/swine/Indiana/A00968308/2012	AFV31473	H3N2	USA	8/9/12
A/swine/Indiana/A00968373/2012	AFR61025	H3N2	USA	7/13/12
A/swine/Indiana/A01076191/2010	AEZ02129	H3N2	USA	2/7/10
A/swine/Indiana/A01203372/2012	AFM46405	H3N2	USA	4/3/12
A/swine/Indiana/A01260280/2013	AGO18233	H3N2	USA	4/19/13
A/swine/Indonesia/P6-09-04/2004	ADD21428	H3N1	Indonesia	2004
A/swine/Iowa/00186/2003	AHB22567	H3N2	USA	10/2/03
A/Swine/Iowa/533/99	AAG01767	H3N2	USA	1999
A/Swine/Iowa/569/99	AAG01776	H3N2	USA	1999
A/swine/Iowa/A01047906/2010	AFH53661	H3N2	USA	12/7/10
A/swine/Iowa/A01076630/2010	AFH53666	H3N2	USA	10/26/10
A/swine/Iowa/A01202088/2011	AFD32597	H3N2	USA	6/16/11
A/swine/Iowa/A01202089/2011	AFM46636	H3N2	USA	6/16/11
A/swine/Iowa/A01202639/2011	AFM46680	H3N2	USA	9/30/11
A/swine/Iowa/A01203992/2012	AFY08172	H3N2	USA	2012/10
A/swine/Iowa/A01290302/2013	AGV74403	H3N2	USA	2013/08
A/swine/Iowa/A01432072/2012	AFZ15835	H3N2	USA	2012/10
A/swine/Iowa/A01432077/2012	AFZ15823	H3N2	USA	2012/10
A/swine/Iowa/A01432207/2012	AGC96349	H3N2	USA	2012/12
A/swine/Iowa/A01432529/2013	AGJ73321	H3N2	USA	2013/03
A/swine/Iowa/H02AS8/2002	ABZ81074	H3N2	USA	2002/11
A/swine/Iowa/H03HB4/2003	ACY67024	H3N2	USA	2003/02
A/swine/Iowa/H03LDH5/2003	ACY67022	H3N2	USA	2003/08
A/swine/Italy/10659-1/2007	ACG59938	H3N2	Italy	2007

A/swine/Italy/1510/98	CAC40050	H3N2	Italy	1998
A/swine/Italy/15360-3/2001	AFR76678	H3N2	Italy	2001
A/swine/Italy/1850/1977	ADT79140	H3N2	Italy	1977
A/swine/Italy/268086/2003	ACG59941	H3N2	Italy	2003
A/swine/Italy/272121-1/2002	AFR76717	H3N2	Italy	2002
A/swine/Italy/297576/2004	ABS50308	H3N2	Italy	2004
A/swine/Italy/302219-3/2004	ACG59942	H3N2	Italy	2004
A/swine/Italy/50127/2007	ACG59939	H3N2	Italy	2007
A/swine/Italy/526/1985	ADT79150	H3N2	Italy	1985
A/swine/Italy/6/1981	ADT79161	H3N2	Italy	1981
A/swine/Italy/600/1999	ABS50299	H3N2	Italy	1999
A/swine/Italy/65260-11/2006	ACG59940	H3N2	Italy	2006
A/swine/Italy/66945/2006	ABS30898	H3N1	Italy	2006
A/swine/Italy/7680/2001	ABS50302	H3N2	Italy	2001
A/swine/Jena/5/1996	ABQ97203	H3N2	Germany	1996
A/swine/Jilin/19/2007	ACZ53967	H3N2	China	11/9/07
A/swine/Jilin/37/2008	ACZ53978	H3N2	China	10/30/08
A/swine/Kansas/11-104467/2011	AEL31713	H3N2	USA	2/16/11
A/swine/Karrenzien/2/87	ABQ97201	H3N2	Germany	1987
A/swine/Kentucky/SG1118/2003	AEO91595	mixed,H3	USA	7/22/03
A/swine/Korea/A18/2011	AFR42701	H3N2	South Korea	2011/09
A/swine/Korea/CAN04/2005	ACE77939	H3N2	South Korea	2005
A/swine/Korea/CAS05/2004	ACE77938	H3N2	South Korea	2004
A/swine/Korea/CAS07/2005	ACE77940	H3N2	South Korea	2005
A/swine/Korea/CAS09/2006	ACE77941	H3N2	South Korea	2006
A/swine/Korea/CN22/2006	ABI54389	H3N1	South Korea	2006
A/swine/Korea/CY02-07/2012	AGE83941	H3N1	South Korea	2/7/12
A/swine/Korea/CY02-08/2012	AGE83930	H3N1	South Korea	2/7/12
A/swine/Korea/CY02-09/2012	AGE83919	H3N2	South Korea	2/7/12
A/swine/Korea/CY02-10/2012	AGE83908	H3N2	South Korea	2/20/12
A/swine/Korea/CY03-12/2012	AGE83886	H3N1	South Korea	3/6/12
A/swine/Korea/CY03-13/2012	AGE83876	H3N1	South Korea	3/6/12
A/swine/Korea/CY03-14/2012	AGE83865	H3N2	South Korea	3/6/12
A/swine/Korea/CY03-15/2012	AGE83854	H3N2	South Korea	3/6/12
A/swine/Korea/CY03-16/2012	AGE83843	H3N2	South Korea	3/27/12
A/swine/Korea/CY03-17/2012	AGE83832	H3N2	South Korea	3/27/12
A/swine/Korea/CY03-18/2012	AGE83821	H3N2	South Korea	3/27/12
A/swine/Korea/CY03-19/2012	AGE83810	H3N2	South Korea	3/27/12
A/swine/Korea/CY07/2007	ACE77944	H3N2	South Korea	2007
A/swine/Korea/CY10/2007	ACE77946	H3N2	South Korea	2007
A/swine/Korea/D79/2011	AFR42702	H3N2	South Korea	2011/10
A/swine/Korea/JNS06/2004	ABY81821	H3N2	South Korea	2004
A/swine/Korea/KSB/2012	AFR42700	H3N2	South Korea	2012/03

A/swine/Korea/PL01/2012	AGS08997	H3N2	South Korea	4/23/12
A/swine/Korea/PZ72-1/2006	ABI54388	H3N1	South Korea	2006
A/swine/Leipzig/145/92	ABQ97202	H3N2	Germany	1992
A/swine/Lohne/1/97	ABQ97204	H3N2	Germany	1997
A/swine/Manitoba/00446/2005	AHB22484	H3N2	Canada	1/25/05
A/swine/Manitoba/01179/2006	AHB22105	H3N2	Canada	6/29/06
A/swine/Manitoba/01642/2007	AHB22117	H3N2	Canada	6/20/07
A/swine/Manitoba/01643/2007	AHB22129	H3N2	Canada	6/20/07
A/swine/Manitoba/01782/2007	AHB22153	H3N2	Canada	10/3/07
A/swine/Manitoba/01799/2007	AHB51448	H3N2	Canada	10/16/07
A/swine/Manitoba/02182/2008	AHB22165	H3N2	Canada	5/30/08
A/swine/Manitoba/02862/2009	AHB22201	H3N2	Canada	7/1/09
A/swine/Manitoba/02946/2010	AHB51484	H3N2	Canada	1/20/10
A/swine/Manitoba/12707/2005	ABF17957	H3N2	Canada	2005
A/swine/Manitoba/SG1431/2008	AHB22177	H3N2	Canada	6/17/08
A/swine/Manitoba/SG1432/2008	AHB22189	H3N2	Canada	6/17/08
A/swine/Manitoba/SG1438/2011	AHB22225	H3N2	Canada	11/8/11
A/swine/Melle/IDT5706/2006	ACR39193	H3N2	Germany	11/16/06
A/swine/Mexico/SG1442/2010	AHB22237	H3N2	Mexico	11/29/10
A/swine/Mexico/SG1444/2011	AHB22555	H3N2	Mexico	10/21/11
A/swine/Mexico/SG1447/2011	AHB24765	H3N2	Mexico	10/21/11
A/swine/Mexico/SG1448/2011	AHB24776	H3N2	Mexico	10/21/11
A/swine/Mexico/SG1449/2011	AHB22271	H3N2	Mexico	10/21/11
A/swine/Michigan/A01202655/2011	AFM46828	H3N2	USA	10/5/11
A/swine/Michigan/A01259034/2012	AGJ73211	H3N2	USA	12/18/12
A/swine/Minnesota/00611/2005	AEO91768	H3N2	USA	5/20/05
A/swine/Minnesota/593/99	AAG01785	H3N2	USA	1999
A/swine/Minnesota/66853/2006	ACK43236	H3N2	USA	12/26/06
A/swine/Minnesota/761/2007	ACK43239	H3N2	USA	2007
A/swine/Minnesota/A00907734/2011	AFH53660	H3N2	USA	8/4/11
A/swine/Minnesota/A01047396/2011	AFD32673	H3N2	USA	1/13/11
A/swine/Minnesota/A01076193/2010	AFL56791	H3N2	USA	2/14/10
A/swine/Minnesota/A01076196/2010	AEZ02140	H3N2	USA	2/28/10
A/swine/Minnesota/A01076531/2010	AFL56803	H3N2	USA	10/7/10
A/swine/Minnesota/A01116200/2011	AFH53671	H3N2	USA	8/29/11
A/swine/Minnesota/A01240095/2011	AFH53640	H3N2	USA	11/21/11
A/swine/Minnesota/A01240557/2011	AFI71257	H3N2	USA	12/13/11
A/swine/Minnesota/A01280543/2013	AGG12659	H3N2	USA	1/25/13
A/swine/Minnesota/A01300213/2012	AFU10029	H3N2	USA	6/15/12
A/swine/Minnesota/A01301000/2012	AFU10081	H3N2	USA	5/3/12
A/swine/Minnesota/A01301617/2012	AFU92374	H3N2	USA	9/7/12
A/swine/Minnesota/A01327769/2012	AFU08944	H3N2	USA	4/23/12
A/swine/Minnesota/A01397282/2013	AGS08785	H3N2	USA	6/24/13

A/swine/Minnesota/SG1236/2005	AHB20967	H3N2	USA	4/22/05
A/swine/Minnesota/SG1238/2005	AHB20979	H3N2	USA	6/2/05
A/swine/Minnesota/SG235/2007	ACI89682	H3N2	USA	6/11/07
A/swine/Minnesota/SG236/2007	ACI89685	H3N2	USA	6/10/07
A/swine/Missouri/00355/2004	AHB51316	H3N2	USA	7/30/04
A/swine/Missouri/A01240016/2011	AFJ19078	H3N2	USA	11/15/11
A/swine/Nagano/2000	BAN14743	H3N2	Japan	2000
A/swine/Nakhon Pathom/2002	BAJ14039	H3N2	Thailand	2002
A/swine/Nakhon pathom/NIAH586-1/2005	ABY40413	H3N2	Thailand	2005
A/swine/Nakhon pathom/NIAH586-2/2005	ABY40414	H3N2	Thailand	2005
A/swine/Nebraska/00188/2003	AHB22615	H3N2	USA	10/3/03
A/Swine/Nebraska/209/98	AAG01758	H3N2	USA	1998
A/swine/Nebraska/A01104010/2011	AFD32608	H3N2	USA	12/5/11
A/swine/Nebraska/A01241114/2012	AFU08624	H3N2	USA	1/10/12
A/swine/Nebraska/A01399268/2013	AGY14425	H3N2	USA	8/9/13
A/swine/New Mexico/SG1158/2003	AHB51112	H3N2	USA	6/19/03
A/swine/Nordkirchen/IDT1993/2003	ACF94709	H3N2	Germany	2003/04
A/swine/North Carolina/00116/2003	AHB51520	H3N2	USA	7/2/03
A/swine/North Carolina/00950/2006	AHB24810	H3N2	USA	9/27/06
A/swine/North Carolina/01469/2007	AHB22999	H3N2	USA	2/21/07
A/swine/North Carolina/A01048779/2011	AEZ54202	H3N2	USA	11/15/11
A/swine/North Carolina/A01049436/2011	AEI87831	H3N2	USA	1/19/11
A/swine/North Carolina/A01076178/2009	AEZ02122	H3N2	USA	12/6/09
A/swine/North Carolina/SG1197/2004	AHB20844	H3N2	USA	12/30/04
A/swine/North Carolina/SG1462/2004	AHB22699	H3N2	USA	3/3/04
A/swine/Obihiro/10/1985	BAH98103	H3N2	Japan	1985
A/swine/Oedenrode/7c/1996	ADT79171	H3N2	Netherlands	1996
A/swine/Ohio/09SW65/2009	AGB98689	H3N2	USA	8/8/09
A/swine/Ohio/09SW74M/2009	AGB98733	H3N2	USA	8/8/09
A/swine/Ohio/09SW84/2009	AGB98832	H3N2	USA	8/13/09
A/swine/Ohio/09SW88/2009	AGB98865	H3N2	USA	8/13/09
A/swine/Ohio/10SW127/2010	AGB99030	H3N2	USA	8/12/10
A/swine/Ohio/10SW131/2010	AGB99052	H3N2	USA	8/12/10
A/swine/Ohio/10SW207/2010	AGB99206	H3N2	USA	8/24/10
A/swine/Ohio/10SW219/2010	AGB99316	H3N2	USA	8/24/10
A/swine/Ohio/11SW109/2011	AGB99360	H3N2	USA	8/5/11
A/swine/Ohio/11SW119/2011	AGB99426	H3N2	USA	8/5/11
A/swine/Ohio/11SW171/2011	AGB99782	mixed,H3	USA	8/8/11
A/swine/Ohio/11SW195/2011	AGB99969	mixed,H3	USA	8/8/11
A/swine/Ohio/11SW347/2011	AGC00370	H3N2	USA	8/19/11
A/swine/Ohio/11SW95/2011	AGB99470	H3N2	USA	8/5/11
A/swine/Ohio/12TOSU129/2012	AGK24520	H3N2	USA	7/12/12
A/swine/Ohio/12TOSU363/2012	AGG12620	H3N2	USA	2012/08

A/swine/Ohio/12TOSU420/2012	AFR78019	H3N2	USA	8/6/12
A/swine/Ohio/12TOSU439/2012	AGK62551	H3N2	USA	8/6/12
A/swine/Ohio/A00152576/2012	AFV71395	H3N2	USA	8/15/12
A/swine/Ohio/A01203186/2012	AFM47014	H3N2	USA	1/24/12
A/swine/Ohio/A01280883/2013	AGI02508	H3N2	USA	2/15/13
A/swine/Ohio/A01349495/2013	AGJ73406	H3N2	USA	3/22/13
A/swine/Oklahoma/00141/2003	AHB51184	H3N2	USA	8/28/03
A/swine/Oklahoma/00142/2003	AHB51124	H3N2	USA	8/28/03
A/swine/Oklahoma/00153/2003	AHB51148	H3N2	USA	9/18/03
A/swine/Oklahoma/00518/2005	AHB22294	H3N2	USA	3/1/05
A/swine/Oklahoma/SG1216/2005	AHB20931	H3N2	USA	3/3/05
A/swine/Ontario/00130/97	AAG01749	H3N2	Canada	1997
A/swine/Ontario/33853/2005	ABF17958	H3N2	Canada	2005
A/swine/Osaka-C/0805/2007	BAN14746	H3N2	Japan	2007
A/swine/Osaka-C/12-20/2008	BAN14747	H3N2	Japan	2008
A/swine/Pennsylvania/A01047912/2010	AFH53662	H3N2	USA	11/29/10
A/swine/Pennsylvania/A01076777/2010	AFU10122	H3N2	USA	11/3/10
A/swine/Pennsylvania/A01076779/2010	AFU10198	H3N2	USA	11/3/10
A/swine/Pennsylvania/A01201666/2011	AFH53675	H3N2	USA	6/14/11
A/swine/Potsdam/35/82	CAC81018	H3N2	Germany	1982
A/swine/QC/1685-1/2009	ADV58880	H3N2	Canada	5/15/09
A/swine/QC/1685-5/2009	ADV58881	H3N2	Canada	5/15/09
A/swine/QC/1698-1/2009	ADV58882	H3N2	Canada	5/15/09
A/swine/QC/1698-2/2009	ADV58883	H3N2	Canada	5/15/09
A/swine/QC/1698-4/2009	ADV58884	H3N2	Canada	5/15/09
A/swine/QC/1698-5/2009	ADV58885	H3N2	Canada	5/15/09
A/swine/QC/1840-2/2009	ADV58886	H3N2	Canada	5/28/09
A/swine/QC/2108-2/2009	ADV58887	H3N2	Canada	4/3/09
A/swine/QC/382/2009	ADV58878	H3N2	Canada	5/8/09
A/swine/QC/414/2009	ADV58877	H3N2	Canada	5/22/09
A/swine/QC/440-A/2009	ADV58879	H3N2	Canada	5/29/09
A/swine/Quebec/01000/2006	AHB24683	H3N2	Canada	2/23/06
A/swine/Quebec/01001/2006	AHB22081	H3N2	Canada	2/23/06
A/swine/Quebec/01002/2006	AHB24696	H3N2	Canada	2/23/06
A/swine/Quebec/01003/2006	AHB24708	H3N2	Canada	2/23/06
A/swine/Quebec/1257777/2010	AEN68524	H3N2	Canada	11/8/10
A/swine/Quebec/1259260/2010	ADY16756	H3N2	Canada	12/20/10
A/swine/Quebec/1262080/2010	AEN68504	H3N2	Canada	12/1/10
A/swine/Quebec/1265553/2010	ADZ96203	H3N2	Canada	12/22/10
A/swine/Quebec/1267566/2011	AEN68533	H3N2	Canada	1/6/11
A/swine/Quebec/1267568/2010	AEM91952	H3N2	Canada	12/30/10
A/swine/Quebec/4001/2005	ACF04392	H3N2	Canada	7/12/05
A/swine/Ratchaburi/NIAH59/2004	BAH02130	H3N2	Thailand	2004

A/swine/Ratchaburi/NIAH874/2005	ABY40415	H3N2	Thailand	2005
A/swine/Ratchaburi/NIAH9426/2005	ABY40416	H3N2	Thailand	2005
A/swine/Saraburi/NIAH107725-28/2008	BAL70444	H3N2	Thailand	2008/06
A/swine/Saraburi/NIAH109713-36/2009	BAL70454	H3N2	Thailand	2009/07
A/swine/Saskatchewan/01114/2006	AHB22093	H3N2	Canada	5/1/06
A/swine/Saskatchewan/01834/2007	AHB51460	H3N2	Canada	10/29/07
A/swine/Saskatchewan/02903/2009	AHB22213	H3N2	Canada	9/24/09
A/swine/Saskatchewan/SD0001/2011	AHB22532	H3N2	Canada	12/1/11
A/swine/South Dakota/SG1453/2003	AHB22591	H3N2	USA	4/10/03
A/swine/Spain/11/2010	AFV33761	H3N2	Spain	1/1/10
A/swine/Spain/12/2010	AFV33783	H3N2	Spain	3/1/10
A/swine/Spain/13/2010	AFV33805	H3N2	Spain	4/1/10
A/swine/Spain/14/2011	AFV33882	H3N2	Spain	6/1/11
A/swine/Spain/33601/2001	ABD62833	H3N2	Spain	2001
A/swine/Spain/39139/2002	ABD62794	H3N2	Spain	2002
A/swine/Spain/42386/2002	ABO44035	H3N2	Spain	2002
A/swine/Spain/54008/2004	ABE27164	H3N2	Spain	2004
A/Swine/Spain/80598LP1/2007	CCQ71959	H3N2	Spain	2007
A/swine/Spain/82108/2007	AFR76794	H3N2	Spain	2007
A/swine/Spain/SF32071/2007	CCG47908	H3N2	Spain	2007
A/swine/Tainan/103-11/2003	ACN90987	H3N1	Taiwan	8/1/03
A/swine/Taiwan/0408/2004	ABD85122	H3N1	Taiwan	2004
A/swine/Tennessee/A01104055/2012	AGC96201	H3N2	USA	10/25/12
A/swine/Texas/00376/2004	AHB23182	H3N2	USA	7/22/04
A/swine/Texas/4199-2/1998	AEK70342	H3N2	USA	1998
A/swine/Texas/SG1186/2004	AHB20822	H3N2	USA	10/22/04
A/swine/Thailand/CM480/2009	AGK24397	H3N2	Thailand	11/17/09
A/swine/Thailand/CM481/2009	AGK24287	H3N2	Thailand	11/17/09
A/swine/Thailand/CU-BN53/2012	AGG53177	H3N2	Thailand	3/15/12
A/swine/Thailand/CU-BN54/2012	AGG53168	H3N2	Thailand	3/15/12
A/swine/Thailand/CU-CG43/2011	AFO82790	H3N2	Thailand	2011/03
A/swine/Thailand/CU-CG45/2011	AFO82789	H3N2	Thailand	2011/03
A/swine/Thailand/CU-CG48/2011	AFO82791	H3N2	Thailand	2011/03
A/swine/Thailand/CU-CG55/2011	AGG53152	H3N2	Thailand	11/14/11
A/swine/Thailand/CU-P43/2012	AGG53118	H3N2	Thailand	1/9/12
A/swine/Thailand/CU-P53/2012	AGG53108	H3N2	Thailand	1/9/12
A/swine/Thailand/KU5.1/2004	ACL11952	H3N2	Thailand	9/19/04
A/swine/Thailand/PB482/2009	AGK24407	H3N2	Thailand	11/17/09
A/swine/Thailand/PB483/2009	AGJ73471	H3N2	Thailand	11/17/09
A/swine/Thailand/PB484/2009	AGK24417	H3N2	Thailand	11/17/09
A/swine/Thailand/PB485/2009	AGJ73461	H3N2	Thailand	11/17/09
A/swine/Thailand/PB486/2009	AGK24297	H3N2	Thailand	11/17/09
A/swine/Thailand/S1/2005	ACM80372	H3N2	Thailand	2005/08

A/swine/Udon Thani/NIAH464/2004	BAH02110	H3N2	Thailand	2004
A/swine/Ukkel/1/1984	ABF60579	H3N2	Belgium	1984
A/swine/Vladimir/VL/2009	AFV31487	H3N2	Russia	8/7/09
A/swine/Wisconsin/194/1980	ABD61249	H3N2	USA	1980
A/swine/Wisconsin/H02AS8/2002	AFR76805	H3N2	USA	2002
A/swine/Wyoming/A01381213/2013	AGO51419	H3N2	USA	5/21/13
A/swine/Wyoming/A01445296/2013	AGI02422	H3N2	USA	2/8/13
A/swine/Yokohama/aq114/2011	BAM78392	H3N2	Japan	3/8/11
A/swine/Yokohama/aq138/2011	BAM78400	H3N2	Japan	3/8/11

Table S4. NA data used in HA/NA analysis. GenBank accession numbers (PB2 segment), and country and date of collection for the 936 N2 sequences from swine influenza viruses that are related to human seasonal viruses used in this study.

Virus name	Accession	Subtype	Country	Date
A/sw/Gent/108/01	AAT00442	H1N2	Belgium	2001
A/sw/Gent/24/00	AAT00440	H1N2	Belgium	2000
A/sw/Obihiro/1/1994	BAA13092	H3N2	Japan	1994
A/sw/Shizuoka/110/97	AAO15350	H3N2	Japan	1997
A/sw/Shizuoka/115/97	AAO15351	H3N2	Japan	1997
A/sw/Shizuoka/119/97	AAO15352	H3N2	Japan	1997
A/swine/Alabama/SG1224/2005	AHB52176	H3N2	USA	4/26/05
A/swine/Alberta/00805/2005	AHB22072	H3N2	Canada	10/10/05
A/swine/Alberta/14722/2005	ABF17973	H3N2	Canada	2005
A/swine/Alberta/SG1405/2005	AHB22060	H3N2	Canada	10/7/05
A/swine/Aomori/1/2005	BAK23288	H1N2	Japan	2005
A/swine/Argentina/CIP051-A160/2011	AGK62745	H3N2	Argentina	2011/04
A/swine/Argentina/CIP051-A2/2008	AEI60111	H3N2	Argentina	2008/11
A/swine/Argentina/CIP051-StaFeN2/2010	ADO65973	H1N2	Argentina	2010/05
A/swine/Arkansas/02404/2008	AHB51842	H1N2	USA	10/10/08
A/swine/Arkansas/02598/2009	AHB23062	H3N2	USA	2/12/09
A/swine/Arkansas/02720/2009	AHB23802	H1N2	USA	4/6/09
A/swine/Arkansas/02863/2009	AHB23086	H3N2	USA	6/26/09
A/swine/Arkansas/02927/2009	AHB23074	H1N2	USA	12/2/09
A/swine/Arkansas/SG1295/2008	AHB21368	H3N2	USA	5/15/08
A/swine/Arkansas/SG1297/2008	AHB21380	H3N2	USA	10/15/08
A/swine/Arkansas/SG1298/2008	AHB21392	H3N2	USA	12/30/08
A/swine/Arkansas/SG1319/2009	AHB23788	H3N2	USA	1/14/09
A/swine/Arkansas/SG1375/2011	AHB21832	H1N2	USA	8/17/11
A/swine/Arkansas/SG1376/2011	AHB21844	H1N2	USA	1/26/11
A/swine/Arkansas/SG1377/2011	AHB21856	H1N2	USA	4/29/11
A/swine/Bakum/1832/2000	ABS53374	H1N2	Germany	2000
A/swine/Bakum/8602/99	ABQ97213	H3N2	Germany	1999
A/swine/Bakum/909/93	ABQ97210	H3N2	Germany	1993
A/swine/Bakum/IDT1769/2003	ABV60699	H3N2	Germany	3/7/03
A/swine/Belgium/220/92	CAC36996	H3N2	Belgium	1992
A/swine/Binh Doung/02-16/2010	BAM65748	H1N2	Viet Nam	2010
A/swine/Binh Duong/03-06/2010	BAK41899	H3N2	Viet Nam	2010/02
A/swine/Binh Duong/03-08/2010	BAK41900	H3N2	Viet Nam	2010/02
A/swine/Binh Duong/03-09/2010	BAK41901	H3N2	Viet Nam	2010/02
A/swine/Binh Duong/03-10/2010	BAK41902	H3N2	Viet Nam	2010/02

A/swine/Binh Duong/03-13/2010	BAK41903	H3N2	Viet Nam	2010/02
A/swine/Binh Duong/03-14/2010	BAK41904	H3N2	Viet Nam	2010/02
A/swine/Bissendorf/IDT1864/2003	ACR39314	H3N2	Germany	3/19/03
A/swine/Bondelum/IDT5959/2007	ACR39311	H3N2	Germany	2/28/07
A/swine/Brabant/1984	ADT79184	H3N2	Netherlands	1984
A/swine/British Columbia/00633/2005	AHB22048	H3N2	Canada	5/19/05
A/swine/British Columbia/28103/2005	ABF17974	H3N2	Canada	2005
A/swine/Chachoengsao/2003	BAH02102	H3N2	Thailand	2003
A/swine/Chachoengsao/NIAH-Nongwa/2003	ABY40399	H3N2	Thailand	2003
A/swine/Chachoengsao/NIAH586/2005	ABY40400	H3N2	Thailand	2005
A/swine/Chonburi/05CB2/2005	ABY40405	H3N2	Thailand	2005
A/swine/Chonburi/NIAH106952-026/2011	BAM62973	H3N2	Thailand	2011/02
A/swine/Chonburi/NIAH106952-028/2011	BAM62983	H3N2	Thailand	2011/02
A/swine/Cloppenburg/IDT4777/2005	ABS53365	H1N2	Germany	12/13/05
A/swine/Colombo/48/2004	AGA18963	H3N2	Sri Lanka	3/3/04
A/swine/Colorado/02875/2009	AHB23098	H1N2	USA	7/21/09
A/swine/Colorado/1/1977	ABD61554	H3N2	USA	1977
A/swine/Colorado/23619/99	AAG10750	H3N2	USA	1999
A/swine/Colorado/A01203748/2012	AFU10044	H3N2	USA	8/13/12
A/swine/Cotes d'Armor/0040/2007	CAO82686	H1N2	France	2007
A/swine/Cotes d'Armor/0041/2007	CAO82687	H1N2	France	2007
A/swine/Cotes d'Armor/0102/2008	CBI83271	H1N2	France	2008/04
A/swine/Cotes d'Armor/0111/2007	CAO82688	H1N2	France	2007
A/swine/Cotes d'Armor/0123/2006	CAO82689	H1N2	France	5/12/06
A/swine/Cotes d'Armor/0136-17/2006	CAO82690	H1N2	France	5/9/06
A/swine/Cotes d'Armor/0186/2010	CCC82853	H1N2	France	2010/09
A/swine/Cotes d'Armor/1174/2009	AFR76534	H1N2	France	2009
A/swine/Cotes d'Armor/1190/2002	AFR76541	H1N2	France	2002
A/swine/Cotes d'Armor/2433/98	CAC86329	H1N2	France	1998
A/swine/Cotes d'Armor/43394/2002	CAO82691	H1N2	France	2002
A/swine/Cotes d'Armor/604/99	CAC86327	H1N2	France	1999
A/swine/Cotes d'Armor/790/1997	AFR76592	H1N2	France	1997
A/swine/Cotes d'Armor/790/1997	CAC86330	H1N2	France	1997
A/swine/Cotes d'Armor/799/00	CAC86319	H1N2	France	2000
A/swine/Cotes d'Armor/800/00	CAC86320	H1N2	France	2000
A/swine/Damme/IDT5673/2006	ACR39309	H3N2	Germany	11/16/06
A/swine/Denmark/10044/2004	AGL04377	H1N2	Denmark	2004
A/swine/Denmark/10074/2004	AGL04379	H1N2	Denmark	2004
A/swine/Denmark/10210/2005	AGL04372	H3N2	Denmark	2005
A/swine/Denmark/10302-2/2012	AGT37104	H1N2	Denmark	2/21/12
A/swine/Denmark/10501//2004	AGL04375	H1N2	Denmark	2004
A/swine/Denmark/12231-1/2005	AGL04380	H1N2	Denmark	2005

A/swine/Denmark/12687/2003	AGL04339	H1N2	Denmark	2003
A/swine/Denmark/13380/2004	AGL04357	H1N2	Denmark	2004
A/swine/Denmark/13411/2004	AGL04359	H1N2	Denmark	2004
A/swine/Denmark/13608/2004	AGL04351	H1N2	Denmark	2004
A/swine/Denmark/13991/2003	AGL04373	H3N2	Denmark	2003
A/swine/Denmark/14348-9/2003	AGL04367	H3N2	Denmark	2003
A/swine/Doetlingen/IDT4735/2005	ABS53355	H1N2	Germany	12/7/05
A/swine/Ehime/1/1980	BAA00618	H1N2	Japan	1980
A/swine/England/00003/2009	AFR75894	H1N2	UK	1/12/09
A/swine/England/002295/2002	AFR75916	H1N2	UK	12/4/02
A/swine/England/1382/2010	ADX31847	H1N2	UK	4/13/10
A/swine/England/1428/2009	ADX31856	H1N2	UK	12/8/09
A/swine/England/163266/1987	AFR76029	H3N2	UK	1987
A/swine/England/236/2009	ADX31853	H1N2	UK	9/28/09
A/swine/England/285393/1993	AFR76164	H3N2	UK	4/21/93
A/swine/England/303/2009	AFR76175	H1N2	UK	4/9/09
A/swine/England/375017/1993	AFR76218	H3N2	UK	10/24/93
A/swine/England/40280/1996	AFR76251	H1N2	UK	7/9/96
A/swine/England/425069/1994	AFR76272	H3N2	UK	2/7/94
A/swine/England/43142/2001	AFR76292	H1N2	UK	12/21/01
A/swine/England/448813/1994	AFR76303	H1N2	UK	4/24/94
A/swine/England/483/2006	AFR76324	H1N2	UK	5/12/06
A/swine/England/523/2010	ADX31857	H1N2	UK	1/4/10
A/swine/England/60797/2000	AFR76346	H1N2	UK	12/22/00
A/swine/England/61605/1998	AFR76365	H1N2	UK	11/18/98
A/swine/England/645913/1996	AFR76387	H1N2	UK	12/20/96
A/swine/England/661263/1997	AFR76398	H1N2	UK	2/11/97
A/swine/England/87842/1990	AFR76462	H3N2	UK	8/6/90
A/swine/England/88761/1997	AFR76473	H1N2	UK	2/3/97
A/swine/England/90591/1997	AFR76483	H3N2	UK	2/10/97
A/swine/England/P185/2008	AFR76500	H1N2	UK	12/25/08
A/swine/Finistere/0045/2008	CBI83268	H1N2	France	2008/02
A/swine/Finistere/0181/2010	CCD57876	H1N2	France	2010
A/swine/Finistere/127/99	CAC86328	H3N2	France	1999
A/swine/Flanders/1/1998	AAT00439	H3N2	Belgium	1998
A/swine/Gent/1/84	AAT00441	H3N2	Belgium	1984
A/swine/Gent/100/2007	ACN72574	H1N2	Belgium	9/11/07
A/swine/Gent/100/2007	AFR76603	H1N2	Belgium	2007
A/swine/Gent/102/2007	ACN72575	H1N2	Belgium	9/14/07
A/swine/Gent/143/2002	ACN72576	H1N2	Belgium	8/9/02
A/swine/Gent/172/2008	AFY08273	H3N2	Belgium	9/5/08
A/swine/Gent/177/2002	ACN72573	H1N2	Belgium	10/9/02
A/swine/Gent/70/84	CAC40052	H3N2	Belgium	1984

A/swine/Gent/7625/1999	AAT00443	H1N2	Belgium	1999
A/swine/Gent/96/2007	AFR76647	H3N2	Belgium	2007
A/swine/Georgia/02604/2009	AHB21595	H3N2	USA	2/20/09
A/swine/Germany/S043/2002	CAP49198	H3N2	Germany	2002
A/swine/Germany/SEK1178/2000	CAP49193	H1N2	Germany	2000
A/swine/Germany/Vi3161/95	CAP49179	H3N2	Germany	1995
A/swine/Granstedt/IDT3475/2004	ACR39313	H1N2	Germany	8/26/04
A/swine/Groitzsch/IDT6016-1/2007	ACR39306	H1N2	Germany	3/22/07
A/swine/Groitzsch/IDT6016-2/2007	ACR39307	H1N2	Germany	3/22/07
A/swine/Guangdong/01/2005	ABR22243	H3N2	China	2005
A/swine/Guangdong/02/2005	ACH69614	H3N2	China	2005
A/swine/Guangdong/03/2005	ACH69603	H3N2	China	2005
A/swine/Guangdong/04/2005	ACH69592	H3N2	China	2005
A/swine/Guangdong/1/2010	ADV19287	H1N2	China	1/30/10
A/swine/Guangdong/1222/2006	ACY06416	H1N2	China	2006
A/swine/Guangdong/164/06	ABY16762	H3N2	China	2006
A/swine/Guangdong/165/06	ABY16763	H3N2	China	2006
A/swine/Guangdong/166/06	ABY16764	H3N2	China	2006
A/swine/Guangdong/2670/2010	AEK85975	H1N2	China	8/26/10
A/swine/Guangdong/2676/2010	AEK85976	H1N2	China	8/26/10
A/swine/Guangdong/2693/2010	AEK85977	H1N2	China	8/26/10
A/swine/Guangdong/2712/2010	AEK85978	H1N2	China	8/26/10
A/swine/Guangdong/553/2010	AEK85969	H1N2	China	2/27/10
A/swine/Guangdong/603/2010	AEK85970	H1N2	China	2/27/10
A/swine/Guangdong/606/2010	AEK85971	H1N2	China	2/27/10
A/swine/Guangdong/617/2010	AEK85972	H1N2	China	2/27/10
A/swine/Guangdong/628/2010	AEK85973	H1N2	China	2/27/10
A/swine/Guangdong/7/2006	ACY06417	H3N2	China	2006
A/swine/Guangdong/L21/2011	AFM47167	H3N2	China	2/27/11
A/swine/Guangdong/Z5/2003	ACQ77603	H3N2	China	2003/12
A/swine/Guangxi/1/2004	ACH69646	H3N2	China	3/25/04
A/swine/Guangxi/13/2006	ABQ42445	H1N2	China	2006
A/swine/Guangxi/17/2005	ABQ42447	H1N2	China	2005
A/swine/Guangxi/NS2783/2010	AEX30562	H3N2	China	11/7/10
A/swine/Gunma/1/2012	BAN37214	H1N2	Japan	1/13/12
A/swine/Hainan/1/2005	ABQ42449	H1N2	China	2005
A/swine/Hebei/10/2006	ADU02118	H1N2	China	2006/10
A/swine/Heilongjiang/10/2007	ADK89129	H3N2	China	2007/08
A/swine/Henan/4/2010	AEX30522	H1N2	China	2010/12
A/swine/Henan/S4/2001	ABP82769	H3N2	China	2001
A/swine/Henan/YIL/2010	AFH77155	H1N2	China	2010/12
A/swine/Hong Kong/1102/2003	ADY71214	H1N2	Hong Kong	8/14/03
A/swine/Hong Kong/1110/2006	ACR83977	H1N2	Hong Kong	8/1/06

A/swine/Hong Kong/1111/2004	ADY71320	H1N2	Hong Kong	8/12/04
A/swine/Hong Kong/1112/2007	ADY72635	H1N2	Hong Kong	8/13/07
A/swine/Hong Kong/1197/02	AAR12385	H3N2	Hong Kong	2002
A/swine/Hong Kong/1248/2002	ADY71138	H1N2	Hong Kong	9/9/02
A/swine/Hong Kong/1304/2003	ADY71225	H1N2	Hong Kong	9/28/03
A/swine/Hong Kong/1311/01	AAR12372	H3N2	Hong Kong	2001
A/swine/Hong Kong/1382/2003	ADY71235	H1N2	Hong Kong	10/16/03
A/swine/Hong Kong/1435/2009	ADG08233	H1N2	Hong Kong	7/23/09
A/swine/Hong Kong/1462/2005	ADY72577	H1N2	Hong Kong	10/27/05
A/swine/Hong Kong/1479/2009	ADG08244	H1N2	Hong Kong	7/23/09
A/swine/Hong Kong/1562/2005	ACR83972	H1N2	Hong Kong	11/11/05
A/swine/Hong Kong/1578/2003	ADY71246	H1N2	Hong Kong	11/10/03
A/swine/Hong Kong/1763/2003	ADY71256	H1N2	Hong Kong	12/15/03
A/swine/Hong Kong/2237/2010	AEK85974	H1N2	Hong Kong	8/2/10
A/swine/Hong Kong/2314/2009	ADG08352	H1N2	Hong Kong	10/22/09
A/swine/Hong Kong/2503/2011	AEX30542	H3N2	Hong Kong	6/16/11
A/swine/Hong Kong/294/2009	ACR83973	H1N2	Hong Kong	2/23/09
A/swine/Hong Kong/3/1976	BAA00620	H3N2	Hong Kong	1976
A/swine/Hong Kong/4/1976	BAA00621	H3N2	Hong Kong	1976
A/swine/Hong Kong/411/02	AAR12375	H3N2	Hong Kong	2002
A/swine/Hong Kong/4361/99	AAR12368	H3N2	Hong Kong	1999
A/swine/Hong Kong/5190/99	AAR12378	H3N2	Hong Kong	1999
A/swine/Hong Kong/5212/99	AAR12380	H3N2	Hong Kong	1999
A/swine/Hong Kong/554/2003	ACR83970	H1N2	Hong Kong	4/24/03
A/swine/Hong Kong/5609/1999	ADZ04829	H1N2	Hong Kong	12/21/99
A/swine/Hong Kong/562/2005	ADY72565	H1N2	Hong Kong	4/15/05
A/swine/Hong Kong/69/2006	ADY71440	H1N2	Hong Kong	1/10/06
A/swine/Hong Kong/713/2007	ADY72631	H1N2	Hong Kong	5/22/07
A/swine/Hong Kong/715/2008	ADY71592	H1N2	Hong Kong	5/29/08
A/swine/Hong Kong/7220/00	AAR12369	H3N2	Hong Kong	2000
A/swine/Hong Kong/729/2005	ADY71418	H1N2	Hong Kong	5/26/05
A/swine/Hong Kong/78/2003	ACR83969	H1N2	Hong Kong	1/23/03
A/swine/Hong Kong/7982/00	AAR12381	H3N2	Hong Kong	2000
A/swine/Hong Kong/823/2006	ADY72597	H1N2	Hong Kong	6/6/06
A/swine/Hong Kong/8944/2001	ADY71008	H1N2	Hong Kong	5/23/01
A/swine/Hong Kong/915/2004	ACR83964	H1N2	Hong Kong	10/14/04
A/swine/Hong Kong/9296/01	AAR12382	H3N2	Hong Kong	2001
A/swine/Hong Kong/9745/01	AAR12383	H3N2	Hong Kong	2001
A/swine/Hong Kong/NS13/2002	ADY71088	H1N2	Hong Kong	1/21/02
A/swine/Hong Kong/NS157/2004	ADY71277	H1N2	Hong Kong	2/23/04
A/swine/Hong Kong/NS1889/2009	ADG08475	H1N2	Hong Kong	12/3/09
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A/swine/Hong Kong/NS1892/2009	ADG08497	H1N2	Hong Kong	12/3/09

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A/swine/Hong Kong/NS252/2009	ADY71778	H1N2	Hong Kong	3/19/09
A/swine/Hong Kong/NS30/2004	ADY71267	H1N2	Hong Kong	1/6/04
A/swine/Hong Kong/NS605/2003	ADY71203	H1N2	Hong Kong	7/10/03
A/swine/Hong Kong/NS623/2002	ACR83976	H1N2	Hong Kong	7/9/02
A/swine/Hong Kong/NS728/2002	ADY71128	H1N2	Hong Kong	8/13/02
A/swine/Hong Kong/NS856/2005	ADY72569	H1N2	Hong Kong	9/27/05
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A/swine/Hong Kong/NS857/2001	ACR83974	H1N2	Hong Kong	4/9/01
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A/swine/Hong Kong/q066/99	AAR12377	H3N2	Hong Kong	1999
A/swine/Hubei/04/2009	AEH42776	H1N2	China	3/10/09
A/swine/Hubei/05/2009	AEH42787	H1N2	China	3/10/09
A/swine/Hungary/13509/2007	ACN72633	H3N2	Hungary	2007/08
A/swine/IL/07003243/2007	ACM17256	H1N2	USA	2007
A/swine/Illinois/00303/2004	AHB20883	H3N2	USA	5/18/04
A/swine/Illinois/01131/2006	AHB21150	H3N2	USA	5/5/06
A/swine/Illinois/02907/2009	AHA11539	H3N2	USA	10/21/09
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A/Swine/Illinois/100085A/01	AAL87887	H1N2	USA	2001
A/Swine/Illinois/21587/99	AAG10747	H3N2	USA	1999
A/swine/Illinois/53612-1/2009	ADU85702	H3N2	USA	8/20/09
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A/swine/Illinois/A01047089/2010	AFH53617	H1N2	USA	11/29/10
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A/swine/Illinois/A01134721/2011	AFI44414	H1N2	USA	3/10/11
A/swine/Illinois/A01134729/2011	AFI44415	H1N2	USA	3/10/11
A/swine/Illinois/A01134736/2011	AFI44416	H1N2	USA	3/10/11
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A/swine/Illinois/A01202978/2011	AFM47039	H3N2	USA	12/16/11
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A/swine/Illinois/A01240743/2012	AFU10084	H1N2	USA	1/9/12
A/swine/Illinois/A01240774/2012	AFU10209	H3N2	USA	1/9/12
A/swine/Illinois/A01240819/2011	AFU08895	H1N2	USA	12/30/11
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A/swine/Illinois/A01240835/2012	AFU08755	H3N2	USA	1/3/12
A/swine/Illinois/A01240877/2012	AFU08927	H1N2	USA	1/4/12
A/swine/Illinois/A01240908/2012	AFU10225	H3N2	USA	1/3/12
A/swine/Illinois/A01241173/2012	AFU08579	H1N2	USA	1/10/12
A/swine/Illinois/A01241627/2012	AFU08583	H1N2	USA	2/15/12
A/swine/Illinois/A01241765/2012	AFU08663	H1N2	USA	2/23/12
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A/swine/Illinois/A01301474/2012	AFU83153	H1N2	USA	8/24/12
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A/swine/Illinois/A01442470/2012	AGC96384	H1N2	USA	12/7/12
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A/swine/Indiana/A01202621/2011	AFM46724	H3N2	USA	9/28/11
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A/swine/Indiana/A01260093/2012	AGB08389	H3N2	USA	10/30/12
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A/swine/Iowa/00186/2003	AHB22570	H3N2	USA	10/2/03
A/swine/Iowa/01700/2007	AEO91613	H3N2	USA	7/31/07
A/swine/Iowa/02039/2008	ADM18074	H1N2	USA	2008
A/swine/Iowa/02204/2008	AHB23776	H3N2	USA	6/11/08
A/Swine/Iowa/533/99	AAG01768	H3N2	USA	1999
A/Swine/Iowa/569/99	AAG01777	H3N2	USA	1999
A/Swine/Iowa/8548-1/98	AAD51246	H3N2	USA	1998
A/Swine/Iowa/930/01	AAL87885	H1N2	USA	2001

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A/swine/lowa/A01049031/2010	AEC23302	H3N2	USA	11/16/10
A/swine/lowa/A01049112/2010	AEC23321	H3N2	USA	11/22/10
A/swine/lowa/A01049119/2010	AFM46542	H3N2	USA	11/19/10
A/swine/lowa/A01049227/2010	AFM46545	H1N2	USA	12/6/10
A/swine/lowa/A01049450/2011	AEI87775	H1N2	USA	1/19/11
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A/swine/lowa/A01049755/2011	AEP17036	H1N2	USA	3/28/11
A/swine/lowa/A01049765/2011	AEP17038	H1N2	USA	3/29/11
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A/swine/lowa/A01202086/2011	AFM46683	H1N2	USA	6/16/11
A/swine/lowa/A01202087/2011	AFM46684	H1N2	USA	6/16/11
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A/swine/lowa/A01203612/2012	AFP99691	H3N2	USA	6/30/12
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A/swine/lowa/A01244805/2013	AGT41687	H3N2	USA	2013/07
A/swine/lowa/A01271072/2012	AFZ15802	H1N2	USA	10/19/12
A/swine/lowa/A01277915/2012	AGC13515	H3N2	USA	11/26/12
A/swine/lowa/A01280389/2013	AGG12650	H1N2	USA	1/17/13
A/swine/lowa/A01290302/2013	AGV74404	H3N2	USA	2013/08

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A/swine/lowa/A01379090/2013	AGK62698	H1N2	USA	3/20/13
A/swine/lowa/A01432038/2012	AFY08179	H1N2	USA	2012/10
A/swine/lowa/A01432105/2012	AGB84988	H1N2	USA	2012/11
A/swine/lowa/A01432529/2013	AGJ73320	H3N2	USA	2013/03
A/swine/lowa/A01432535/2013	AGI63942	H1N2	USA	2013/03
A/swine/lowa/A01432604/2013	AGK62678	H1N2	USA	2013/04
A/swine/lowa/A01432784/2013	AGQ88481	H1N2	USA	2013/06
A/swine/lowa/A01432817/2013	AGS08970	H3N2	USA	2013/06
A/swine/lowa/A01445788/2013	AGI63922	H1N2	USA	2/25/13
A/swine/lowa/H02AS8/2002	ACY66999	H3N2	USA	2002/11
A/swine/lowa/H03BF5/2003	ACY67000	H3N2	USA	2003/08
A/swine/lowa/H03HB4/2003	ACY66996	H3N2	USA	2003/02
A/swine/lowa/H03HO7/2003	ACY66995	H3N2	USA	2003/06
A/swine/lowa/H03LDH5/2003	ACY66993	H3N2	USA	2003/08
A/swine/lowa/SG1290/2007	AHB51830	H1N2	USA	4/12/07
A/swine/lowa/SG1469/2004	AHB22786	H3N2	USA	10/14/04
A/swine/Italy/107798/2012	AGR45120	H1N2	Italy	2012
A/swine/Italy/114347-1/2006	ADR51654	H1N2	Italy	2006
A/swine/Italy/116114/2010	ADR01748	H1N2	Italy	6/1/10
A/swine/Italy/118616/2010	AEN68578	H1N2	Italy	2010/06
A/swine/Italy/134110/2011	AGR45112	H1N2	Italy	2011
A/swine/Italy/1461/96	CAC40054	H3N2	Italy	1996
A/swine/Italy/1475/96	CAC86332	H3N2	Italy	1996
A/swine/Italy/149992/2010	AEN68580	H1N2	Italy	2010/06
A/swine/Italy/1510/98	CAC86331	H3N2	Italy	1998
A/swine/Italy/1521/98	CAC86326	H1N2	Italy	1998
A/swine/Italy/15360-3/2001	AFR76680	H3N2	Italy	2001
A/swine/Italy/166015/2010	AGR45107	H1N2	Italy	2010
A/swine/Italy/16959/2011	AGR45111	H1N2	Italy	2011
A/swine/Italy/170177/2010	AGR45108	H1N2	Italy	2010
A/swine/Italy/18/2000	ADU85889	H1N2	Italy	2000/01
A/swine/Italy/1850/1977	ADT79142	H3N2	Italy	1977
A/swine/Italy/186822/2011	AGR45113	H1N2	Italy	2011
A/swine/Italy/191985/2009	ADR51655	H1N2	Italy	2009/08
A/swine/Italy/195399/2011	AGR45114	H1N2	Italy	2011
A/swine/Italy/195639/2010	AGR45109	H1N2	Italy	2010
A/swine/Italy/196875/2008	AGR45102	H1N2	Italy	2008
A/swine/Italy/198260/2008	ADR51656	H1N2	Italy	2008/09
A/swine/Italy/203047/2005	AGR45096	H1N2	Italy	2005
A/swine/Italy/20333/2006	AGR45098	H1N2	Italy	2006
A/swine/Italy/2064/99	CAC86318	H1N2	Italy	1999

A/swine/Italy/22530/2002	ADR51649	H1N2	Italy	2002/02
A/swine/Italy/226846/2006	AGR45099	H1N2	Italy	2006
A/swine/Italy/232134/2005	ADR51657	H1N2	Italy	2005/10
A/swine/Italy/233139/2005	ADR51658	H1N2	Italy	2005/10
A/swine/Italy/254261/2010	AGR45110	H1N2	Italy	2010
A/swine/Italy/259543/2003	AEG77149	H1N2	Italy	2003/10
A/swine/Italy/26654/2012	AGR45119	H1N2	Italy	2012
A/swine/Italy/267010/2005	AGR45097	H1N2	Italy	2005
A/swine/Italy/269578/2006	AGR45100	H1N2	Italy	2006
A/swine/Italy/272121-1/2002	AFR76719	H3N2	Italy	2002
A/swine/Italy/274298/2009	ADU85884	H1N2	Italy	2009/11
A/swine/Italy/274551/2011	AGR45115	H1N2	Italy	2011
A/swine/Italy/282964/2010	AEN68582	H1N2	Italy	2010/11
A/swine/Italy/289700/2009	ADU85885	H1N2	Italy	2009/11
A/swine/Italy/29141/2008	AGR45101	H1N2	Italy	2008
A/swine/Italy/308725/2011	AGR45116	H1N2	Italy	2011
A/swine/Italy/310411/2009	AGR45103	H1N2	Italy	2009
A/swine/Italy/315977/2011	AGR45117	H1N2	Italy	2011
A/swine/Italy/320546/2009	ADU85886	H1N2	Italy	2009/12
A/swine/Italy/321986/2009	ADU85887	H1N2	Italy	2009/12
A/swine/Italy/329017/2011	AGR45118	H1N2	Italy	2011
A/swine/Italy/3592/1999	ADR51648	H1N2	Italy	1999
A/swine/Italy/38272/2010	AEN68574	H1N2	Italy	2010/02
A/swine/Italy/4675/2003	ADK98467	H1N2	Italy	2003/01
A/swine/Italy/50568/2005	ADR51650	H1N2	Italy	2005
A/swine/Italy/526/1985	ADT79152	H3N2	Italy	1985
A/swine/Italy/53991/2005	AGR45095	H1N2	Italy	2005
A/swine/Italy/58769/2010	ADK48777	H1N2	Italy	2010
A/swine/Italy/59209/2009	ADR51646	H1N2	Italy	2009
A/swine/Italy/6/1981	ADT79163	H3N2	Italy	1981
A/swine/Italy/60823/2010	AEN68576	H1N2	Italy	2010/03
A/swine/Italy/62/1998	ADU85888	H1N2	Italy	1998/02
A/swine/Italy/626-2/2006	ADR51647	H1N2	Italy	2006
A/swine/Italy/63580/2010	AGR45104	H1N2	Italy	2010
A/swine/Italy/636/87	CAC40053	H3N2	Italy	1987
A/swine/Italy/70757/2009	ADR51651	H1N2	Italy	2009
A/swine/Italy/76687/2010	AGR45105	H1N2	Italy	2010
A/swine/Italy/81062/2009	ADR51652	H1N2	Italy	2009
A/swine/Italy/81226/2009	ADR51653	H1N2	Italy	2009
A/swine/Italy/85218/2010	AGR45106	H1N2	Italy	2010
A/swine/Jena/5/1996	ABQ97211	H3N2	Germany	1996
A/swine/Jilin/19/2007	ACZ53969	H3N2	China	11/9/07
A/swine/Jilin/37/2008	ACZ53980	H3N2	China	10/30/08

A/swine/Jilin/5/2007	ACZ53958	H3N2	China	9/21/07
A/swine/Kanagawa/2/1978	BAA00619	H1N2	Japan	1978
A/swine/Kansas/00246/2004	ABV25652	H1N2	USA	2004
A/swine/Kansas/015252/2009	ACV42086	H3N2	USA	2009
A/swine/Kansas/11-101926/2011	AEL31697	H3N2	USA	1/19/11
A/swine/Kansas/11-104465/2011	AEL31698	H3N2	USA	2/16/11
A/swine/Kansas/13-105721a/2013	AGI02557	H3N2	USA	2/20/13
A/swine/Kansas/13-118657/2013	AGO51432	H1N2	USA	2013/05
A/swine/Kansas/A01076181/2009	AFI62166	H1N2	USA	12/13/09
A/swine/Karrenzien/2/87	ABQ97208	H3N2	Germany	1987
A/swine/Kentucky/02564/2009	AHB21607	H1N2	USA	1/30/09
A/swine/Kentucky/02573/2009	AHB21619	H1N2	USA	2/10/09
A/swine/Kentucky/12TOSU1054/2012	AGK62522	H1N2	USA	11/5/12
A/swine/Kitzen/IDT6142/2007	ACR39308	H1N2	Germany	5/11/07
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A/swine/Korea/1204/2009	AFR75855	H1N2	South Korea	2009/02
A/swine/Korea/A18/2011	AFR42710	H3N2	South Korea	2011/09
A/swine/Korea/Asan04/2006	ACE77993	H1N2	South Korea	2006
A/swine/Korea/CAN04/2005	ACE77999	H3N2	South Korea	2005
A/swine/Korea/CAS05/2004	ACE77998	H3N2	South Korea	2004
A/swine/Korea/CAS07/2005	ACE78000	H3N2	South Korea	2005
A/swine/Korea/CAS09/2006	ACE78001	H3N2	South Korea	2006
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A/swine/Korea/CY02-10/2012	AGE83910	H3N2	South Korea	2/20/12
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A/swine/Korea/CY03-16/2012	AGE83845	H3N2	South Korea	3/27/12
A/swine/Korea/CY03-17/2012	AGE83834	H3N2	South Korea	3/27/12
A/swine/Korea/CY03-18/2012	AGE83823	H3N2	South Korea	3/27/12
A/swine/Korea/CY03-19/2012	AGE83812	H3N2	South Korea	3/27/12
A/swine/Korea/CY04/2007	ACE78002	H3N2	South Korea	2007
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A/swine/Korea/CY0423-33/2013	AGN28814	H1N2	South Korea	4/23/13
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A/swine/Korea/CY07/2007	ACE78004	H3N2	South Korea	2007
A/swine/Korea/CY08/2007	ACE77997	H1N2	South Korea	2007
A/swine/Korea/CY09/2007	ACE78005	H3N2	South Korea	2007
A/swine/Korea/CY10/2007	ACE78006	H3N2	South Korea	2007
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A/swine/Korea/JL01/2005	ACE77990	H1N2	South Korea	2005
A/swine/Korea/JL02/2005	ACE77991	H1N2	South Korea	2005
A/swine/Korea/JL04/2005	ACE77992	H1N2	South Korea	2005
A/swine/Korea/JNS06/2004	ACA14275	H3N2	South Korea	2004
A/swine/Korea/KSB/2012	AFR42709	H3N2	South Korea	2012/03
A/swine/Korea/PL01/2012	AGS08999	H3N2	South Korea	4/23/12
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A/swine/Korea/PZ4/2006	ACE77994	H1N2	South Korea	2006
A/swine/Korea/PZ7/2006	ACE77995	H1N2	South Korea	2006
A/swine/Korea/S11/2005	ABG34255	H1N2	South Korea	2005
A/swine/Korea/S14/2006	ABG34262	H1N2	South Korea	2006
A/swine/Korea/S15/2006	ABG34264	H1N2	South Korea	2006
A/swine/Korea/S5/2005	ABG34248	H1N2	South Korea	2005
A/swine/Korea/VDS1/2010	AEI30054	H1N2	South Korea	2010/07
A/swine/Korea/VDS2/2009	AEI30053	H1N2	South Korea	2009/06
A/swine/Leipzig/145/92	ABQ97209	H3N2	Germany	1992
A/swine/Lohne/1/97	ABQ97212	H3N2	Germany	1997
A/swine/Manitoba/00446/2005	AHB22487	H3N2	Canada	1/25/05
A/swine/Manitoba/01179/2006	AHB22108	H3N2	Canada	6/29/06
A/swine/Manitoba/01642/2007	AHB22120	H3N2	Canada	6/20/07
A/swine/Manitoba/01643/2007	AHB22132	H3N2	Canada	6/20/07
A/swine/Manitoba/01782/2007	AHB22156	H3N2	Canada	10/3/07
A/swine/Manitoba/01799/2007	AHB51451	H3N2	Canada	10/16/07
A/swine/Manitoba/02182/2008	AHB22168	H3N2	Canada	5/30/08
A/swine/Manitoba/02862/2009	AHB22204	H3N2	Canada	7/1/09
A/swine/Manitoba/02946/2010	AHB51487	H3N2	Canada	1/20/10
A/swine/Manitoba/12707/2005	ABF17975	H3N2	Canada	2005
A/swine/Manitoba/SG1431/2008	AHB22180	H3N2	Canada	6/17/08
A/swine/Manitoba/SG1432/2008	AHB22192	H3N2	Canada	6/17/08
A/swine/Manitoba/SG1438/2011	AHB22228	H3N2	Canada	11/8/11
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A/swine/Mexico/SG1444/2011	AHB22558	H3N2	Mexico	10/21/11
A/swine/Mexico/SG1447/2011	AHB24768	H3N2	Mexico	10/21/11
A/swine/Mexico/SG1448/2011	AHB24779	H3N2	Mexico	10/21/11
A/swine/Mexico/SG1449/2011	AHB22274	H3N2	Mexico	10/21/11
A/swine/Michigan/A01202037/2011	AET09992	H1N2	USA	5/26/11
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A/swine/Minnesota/001444/2007	AEO91869	H3N2	USA	1/19/07
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A/swine/Minnesota/00709/2005	AEO91659	H3N2	USA	8/18/05
A/swine/Minnesota/01146/2006	AEO91624	H3N2	USA	5/25/06
A/swine/Minnesota/01604/2007	AHB21332	H1N2	USA	5/1/07
A/swine/Minnesota/01862/2007	AEO91727	H3N2	USA	11/20/07
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A/swine/Minnesota/02324/2008	AEO91858	H1N2	USA	9/10/08
A/swine/Minnesota/02782/2009	AEO91716	H3N2	USA	5/7/09
A/swine/Minnesota/02852/2009	AHB51427	H1N2	USA	6/5/09
A/swine/Minnesota/1145/2007	ACJ03980	H3N2	USA	2007
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A/swine/Minnesota/1300/2007	ACK43229	H3N2	USA	1/31/07
A/swine/Minnesota/18/2012	AFU83163	H3N2	USA	9/10/12
A/swine/Minnesota/239105/2009	ADY80100	H3N2	USA	11/24/09
A/swine/Minnesota/3236/2007	ACK43233	H1N2	USA	1/30/07
A/swine/Minnesota/3239/2007	ACK43234	H1N2	USA	2/7/07
A/swine/Minnesota/4/2012	AFM93983	H3N2	USA	6/6/12
A/swine/Minnesota/44837-3/2009	ADP05213	H1N2	USA	11/23/09
A/Swine/Minnesota/55551/2000	AAL87884	H1N2	USA	2000
A/swine/Minnesota/5763/2003	AEN94855	H1N2	USA	2003
A/swine/Minnesota/578/2007	ACK43227	H3N2	USA	1/24/07
A/Swine/Minnesota/593/99	AAG01786	H3N2	USA	1999
A/swine/Minnesota/5947/2007	ACK43230	H3N2	USA	2/20/07
A/swine/Minnesota/65767/2006	ACK43224	H3N2	USA	12/26/06
A/swine/Minnesota/66743/2006	ACK43232	H3N2	USA	12/26/06
A/swine/Minnesota/66853/2006	ACK43225	H3N2	USA	12/26/06
A/swine/Minnesota/66960/2006	ACK43226	H3N2	USA	12/26/06
A/swine/Minnesota/761/2007	ACK43228	H3N2	USA	2007
A/swine/Minnesota/7931/2007	ACK43231	H3N2	USA	2/28/07
A/Swine/Minnesota/9088-2/98	AAD51245	H3N2	USA	1998
A/swine/Minnesota/A00907734/2011	AFH53685	H3N2	USA	8/4/11
A/swine/Minnesota/A01047604/2010	ADZ96080	H1N2	USA	12/7/10
A/swine/Minnesota/A01047911/2010	AFI62167	H1N2	USA	11/18/10
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A/swine/Minnesota/A01049346/2010	AEI87769	H3N2	USA	12/29/10
A/swine/Minnesota/A01076183/2009	AFU10182	H1N2	USA	12/28/09
A/swine/Minnesota/A01076193/2010	AFM78660	H3N2	USA	2/14/10
A/swine/Minnesota/A01076197/2010	AFM78665	H1N2	USA	3/7/10
A/swine/Minnesota/A01076209/2010	AFI62170	H1N2	USA	5/2/10
A/swine/Minnesota/A01076210/2010	AFI62171	H1N2	USA	5/9/10
A/swine/Minnesota/A01076218/2010	AEZ02286	H3N2	USA	8/1/10
A/swine/Minnesota/A01076999/2010	AFH53716	H3N2	USA	9/22/10
A/swine/Minnesota/A01116195/2011	AFH53695	H3N2	USA	8/29/11

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A/swine/Minnesota/A01134332/2010	AFJ19121	H1N2	USA	9/20/10
A/swine/Minnesota/A01134341/2010	AFJ19128	H1N2	USA	5/4/10
A/swine/Minnesota/A01201102/2011	AFI62188	H1N2	USA	4/4/11
A/swine/Minnesota/A01201296/2011	AFN08151	H1N2	USA	4/18/11
A/swine/Minnesota/A01202453/2011	AFM46701	H1N2	USA	7/14/11
A/swine/Minnesota/A01202454/2011	AFM46702	H1N2	USA	7/14/11
A/swine/Minnesota/A01244318/2012	AGB08504	H1N2	USA	2012/11
A/swine/Minnesota/A01267716/2012	AFX65239	H1N2	USA	10/10/12
A/swine/Minnesota/A01267989/2012	AFZ15936	H3N2	USA	10/29/12
A/swine/Minnesota/A01270872/2012	AFY08115	H3N2	USA	10/15/12
A/swine/Minnesota/A01279105/2012	AFZ77467	H1N2	USA	11/2/12
A/swine/Minnesota/A01279377/2012	AGB07688	H3N2	USA	11/21/12
A/swine/Minnesota/A01280462/2013	AGG12658	H3N2	USA	1/23/13
A/swine/Minnesota/A01300213/2012	AFU10028	H3N2	USA	6/15/12
A/swine/Minnesota/A01301665/2012	AFV68318	H3N2	USA	9/4/12
A/swine/Minnesota/A01327433/2012	AFU08899	H1N2	USA	4/6/12
A/swine/Minnesota/A01327667/2012	AFU10201	H1N2	USA	4/23/12
A/swine/Minnesota/A01327767/2012	AFU08603	H1N2	USA	4/23/12
A/swine/Minnesota/A01327768/2012	AFU08991	H3N2	USA	4/23/12
A/swine/Minnesota/A01350216/2013	AGN69818	H1N2	USA	4/29/13
A/swine/Minnesota/A01351603/2013	AGT18696	H3N2	USA	7/11/13
A/swine/Minnesota/A01364816/2013	AHA11422	H3N2	USA	9/13/13
A/swine/Minnesota/A01392534/2013	AHA11512	H3N2	USA	10/3/13
A/swine/Minnesota/A01397282/2013	AGS08786	H3N2	USA	6/24/13
A/swine/Minnesota/A01432544/2013	AGJ73300	H3N2	USA	2013/03
A/swine/Minnesota/A01432889/2013	AGT41804	H1N2	USA	2013/07
A/swine/Minnesota/A01442124/2012	AGC13543	H1N2	USA	12/4/12
A/swine/Minnesota/SG1133/2008	AEO91815	H1N2	USA	4/28/08
A/swine/Minnesota/SG1176/2003	AHB51235	H3N2	USA	6/17/03
A/swine/Minnesota/SG1183/2003	AHB52016	H1N2	USA	1/2/03
A/swine/Minnesota/SG1236/2005	AHB20970	H3N2	USA	4/22/05
A/swine/Minnesota/SG1238/2005	AHB20982	H3N2	USA	6/2/05
A/swine/Minnesota/SG1293/2007	AHB21344	H3N2	USA	4/6/07
A/swine/Minnesota/SG1294/2007	AHB21356	H3N2	USA	4/5/07
A/swine/Minnesota/SG1402/2011	AHB22012	H1N2	USA	10/6/11
A/swine/Minnesota/SG239/2007	ACS92960	H1N2	USA	2/23/07
A/swine/Mississippi/A01049443/2011	AEZ54178	H1N2	USA	1/19/11
A/swine/Missouri/00355/2004	AHB51319	H3N2	USA	7/30/04
A/swine/Missouri/A01241610/2012	AFU08643	H3N2	USA	2/14/12
A/swine/Missouri/A01241619/2012	AFU08715	H3N2	USA	2/14/12
A/swine/Missouri/A01270665/2012	AFX65294	H1N2	USA	10/2/12

A/swine/Missouri/A01444795/2013	AGG12609	H1N2	USA	1/22/13
A/swine/Missouri/SG1343/2009	AHB51439	H1N2	USA	9/16/09
A/swine/Miyagi/5/2003	BAF03574	H1N2	Japan	2003
A/swine/Miyazaki/1/2006	BAG49622	H1N2	Japan	2006
A/swine/Morbihan/0028/2007	CAO82685	H1N2	France	2/5/07
A/swine/Nagasaki/1/1989	BAA06131	H1N2	Japan	1989
A/swine/Nagasaki/1/1990	BAA06132	H1N2	Japan	1990
A/swine/Nakhon pathom/NIAH586-1/2005	ABY40401	H3N2	Thailand	2005
A/swine/Nakhon pathom/NIAH586-2/2005	ABY40402	H3N2	Thailand	2005
A/swine/Nebraska/00188/2003	AHB22618	H3N2	USA	10/3/03
A/swine/Nebraska/00386/2004	AHB23220	H3N2	USA	8/13/04
A/swine/Nebraska/01711/2007	AHB21320	H3N2	USA	7/31/07
A/swine/Nebraska/02866/2009	AHB52258	H1N2	USA	7/8/09
A/Swine/Nebraska/209/98	AAG01759	H3N2	USA	1998
A/swine/Nebraska/A01049648/2011	AEP17249	H1N2	USA	3/7/11
A/swine/Nebraska/A01116980/2011	AFH53697	H3N2	USA	11/2/11
A/swine/Nebraska/A01116984/2011	AFN08395	H3N2	USA	11/3/11
A/swine/Nebraska/A01240337/2011	AFU10096	H3N2	USA	11/21/11
A/swine/Nebraska/A01240867/2012	AFU10068	H3N2	USA	1/3/12
A/swine/Nebraska/A01300022/2012	AFU09936	H3N2	USA	6/25/12
A/swine/Nebraska/A01300032/2012	AFO82947	H3N2	USA	6/12/12
A/swine/Nebraska/A01300759/2012	AFU09956	H1N2	USA	7/20/12
A/swine/Nebraska/A01301501/2012	AFV33935	H1N2	USA	8/27/12
A/swine/Nebraska/A01327747/2012	AFU08987	H3N2	USA	4/26/12
A/swine/Nebraska/A01399268/2013	AGY14426	H3N2	USA	8/9/13
A/swine/Nebraska/A01399873/2013	AGZ62249	H1N2	USA	9/16/13
A/swine/Nebraska/A01442053/2012	AGC13527	H1N2	USA	12/2/12
A/swine/Nebraska/A01443969/2013	AGK62702	H1N2	USA	3/19/13
A/swine/Nebraska/SG1178/2003	AHB51247	H3N2	USA	8/6/03
A/swine/New Mexico/SG1158/2003	AHB51115	H3N2	USA	6/19/03
A/swine/Niigata/729/2004	BAK23285	H1N2	Japan	2004
A/swine/Nordkirchen/IDT1993/2003	ACF94711	H3N2	Germany	2003/04
A/swine/North Carolina/00116/2003	AHB51523	H3N2	USA	7/2/03
A/swine/North Carolina/00950/2006	AHB24813	H3N2	USA	9/27/06
A/swine/North Carolina/01052/2006	AHB22954	H3N2	USA	3/14/06
A/swine/North Carolina/01169/2006	AHB21078	H1N2	USA	6/22/06
A/swine/North Carolina/01216/2006	AHB22978	H3N2	USA	8/16/06
A/swine/North Carolina/01312/2006	AHB21090	H3N2	USA	11/16/06
A/swine/North Carolina/01469/2007	AHB23002	H3N2	USA	2/21/07
A/swine/North Carolina/01484/2006	AHB21102	H3N2	USA	11/3/06
A/swine/North Carolina/01506/2006	AHB22942	H3N2	USA	10/31/06
A/swine/North Carolina/01930/2007	AHB21284	H3N2	USA	7/27/07
A/swine/North Carolina/02249/2008	AHB21463	H1N2	USA	7/30/08

A/swine/North Carolina/2003	ABQ41900	H3N2	USA	2003
A/Swine/North Carolina/35922/98	AAD51243	H3N2	USA	1998
A/swine/North Carolina/44837-2/2009	ADP05209	H1N2	USA	11/15/09
A/swine/North Carolina/44837-4/2009	ADP05217	H1N2	USA	12/21/09
A/Swine/North Carolina/93523/01	AAL87883	H1N2	USA	2001
A/Swine/North Carolina/98225/01	AAL87882	H1N2	USA	2001
A/swine/North Carolina/A01049085/2010	AEC23316	H1N2	USA	11/16/10
A/swine/North Carolina/A01076178/2009	AEZ02124	H3N2	USA	12/6/09
A/swine/North Carolina/A01076199/2010	AEZ02181	H3N2	USA	3/14/10
A/swine/North Carolina/A01076204/2010	AEZ02265	H3N2	USA	4/18/10
A/swine/North Carolina/A01202766/2011	AEZ54181	H3N2	USA	10/20/11
A/swine/North Carolina/A01203801/2012	AFW16012	H3N2	USA	2012/09
A/swine/North Carolina/A01270393/2011	AFV68690	H1N2	USA	12/8/11
A/swine/North Carolina/A01290462/2013	AGZ62320	H1N2	USA	2013/09
A/swine/North Carolina/A01290473/2013	AGZ62352	H1N2	USA	2013/09
A/swine/North Carolina/A01432533/2013	AGI63946	H1N2	USA	2013/03
A/swine/North Carolina/A01432766/2013	AGQ88461	H1N2	USA	2013/06
A/swine/North Carolina/A01432948/2013	AGU69958	H1N2	USA	2013/08
A/swine/North Carolina/R08-001877-D08-013371/2008	ACS92897	H3N2	USA	2008
A/swine/North Carolina/SG1171/2003	AHB51913	N2	USA	9/12/03
A/swine/North Carolina/SG1197/2004	AHB20847	H3N2	USA	12/30/04
A/swine/North Carolina/SG1199/2004	AHB23209	H3N2	USA	12/2/04
A/swine/North Carolina/SG1230/2005	AHB20958	H3N2	USA	3/16/05
A/swine/North Carolina/SG1232/2005	AHB51368	H1N2	USA	1/27/05
A/swine/North Carolina/SG1306/2008	AHB21439	H3N2	USA	7/3/08
A/swine/North Carolina/SG1335/2009	AHB22393	H1N2	USA	1/20/09
A/swine/North Carolina/SG1335/2009	AHB21643	H1N2	USA	1/20/09
A/swine/North Carolina/SG1338/2009	AHB21655	H3N2	USA	2/6/09
A/swine/North Carolina/SG1357/2010	AHB21739	H1N2	USA	1/13/10
A/swine/North Carolina/SG1359/2010	AHB24456	H1N2	USA	2/19/10
A/swine/North Carolina/SG1364/2010	AHB24493	H3N2	USA	11/24/10
A/swine/North Carolina/SG1391/2011	AHB21964	H1N2	USA	3/30/11
A/swine/North Carolina/SG1462/2004	AHB22702	H3N2	USA	3/3/04
A/swine/North Carolina/SG1464/2004	AHB22726	H3N2	USA	3/10/04
A/Swine/North Carolina/16497/99	AAG10751	H3N2	USA	1999
A/swine/Obihiro/10/1985	BAH98104	H3N2	Japan	1985
A/swine/Oedenrode/7c/1996	ADT79173	H3N2	Netherlands	1996
A/swine/Ohio/09SW1477/2009	AGB98494	H1N2	USA	7/5/09
A/swine/Ohio/09SW1484E/2009	AGB98450	H1N2	USA	7/5/09
A/swine/Ohio/09SW77M/2009	AGB98747	H3N2	USA	8/8/09
A/swine/Ohio/09SW79E/2009	AGB98659	H3N2	USA	8/8/09
A/swine/Ohio/09SW84/2009	AGB98835	H3N2	USA	8/13/09

A/swine/Ohio/09SW91/2009	AGB98901	H3N2	USA	8/13/09
A/swine/Ohio/1/2012	AFM76628	H3N2	USA	2012/06
A/swine/Ohio/11SW146/2011	AGB99704	H1N2	USA	8/7/11
A/swine/Ohio/11SW193/2011	AGN69700	H1N2	USA	8/31/11
A/swine/Ohio/11SW214/2011	AGN69784	H3N2	USA	8/31/11
A/swine/Ohio/11SW224/2011	AGC00217	H1N2	USA	8/18/11
A/swine/Ohio/12TOSU138/2012	AGK24539	H3N2	USA	7/12/12
A/swine/Ohio/12TOSU268/2012	AFR61064	H3N2	USA	7/28/12
A/swine/Ohio/12TOSU307/2012	AFR78032	H3N2	USA	8/3/12
A/swine/Ohio/12TOSU308/2012	AGK24527	H3N2	USA	8/3/12
A/swine/Ohio/12TOSU325/2012	AGK24479	H3N2	USA	8/3/12
A/swine/Ohio/12TOSU338/2012	AGK62618	H3N2	USA	8/3/12
A/swine/Ohio/12TOSU363/2012	AGG12616	H3N2	USA	2012/08
A/swine/Ohio/12TOSU371/2012	AGG53719	H3N2	USA	8/3/12
A/swine/Ohio/12TOSU420/2012	AFR78021	H3N2	USA	8/6/12
A/swine/Ohio/12TOSU421/2012	AGK62570	H3N2	USA	8/6/12
A/swine/Ohio/12TOSU439/2012	AGK62546	H3N2	USA	8/6/12
A/swine/Ohio/12TOSU447/2012	AFR78043	H3N2	USA	8/9/12
A/swine/Ohio/12TOSU450/2012	AFR78054	H3N2	USA	8/9/12
A/swine/Ohio/12TOSU467/2012	AFR78076	H3N2	USA	8/9/12
A/swine/Ohio/12TOSU483/2012	AFX68986	H3N2	USA	8/10/12
A/swine/Ohio/12TOSU484/2012	AFX68975	H3N2	USA	8/10/12
A/swine/Ohio/12TOSU50/2012	AGK62462	H3N2	USA	6/22/12
A/swine/Ohio/12TOSU52/2012	AGK62474	H3N2	USA	6/22/12
A/swine/Ohio/7/2012	AFN22008	H3N2	USA	2012/06
A/Swine/Ohio/891/01	AAL87881	H1N2	USA	2001
A/swine/Ohio/A00138552/2012	AFX69015	H3N2	USA	9/2/12
A/swine/Ohio/A01133466/2012	AFV71441	H3N2	USA	8/6/12
A/swine/Ohio/A01203624/2012	AFP99692	H3N2	USA	7/12/12
A/swine/Ohio/A01279522/2012	AGC13604	H1N2	USA	12/4/12
A/swine/Ohio/A01280112/2013	AGF69078	H1N2	USA	1/4/13
A/swine/Ohio/A01349305/2013	AGJ73393	H3N2	USA	3/12/13
A/swine/Ohio/A01349495/2013	AGJ73409	H3N2	USA	3/22/13
A/swine/Ohio/A01349615/2013	AGK72338	H3N2	USA	3/29/13
A/swine/Ohio/A01351710/2013	AGT41964	H3N2	USA	7/18/13
A/swine/Ohio/FAH10-1/2010	ADU85902	H1N2	USA	10/1/10
A/swine/Ohio/FAH11-1/2010	AEO09140	H1N2	USA	11/1/10
A/swine/Oklahoma/001142/2009	ACV42075	H3N2	USA	2009
A/swine/Oklahoma/00141/2003	AHB51187	H3N2	USA	8/28/03
A/swine/Oklahoma/00142/2003	AHB51127	H3N2	USA	8/28/03
A/swine/Oklahoma/00153/2003	AHB51151	H3N2	USA	9/18/03
A/swine/Oklahoma/00259/2004	AHB22666	H1N2	USA	3/3/04
A/swine/Oklahoma/00518/2005	AHB22297	H3N2	USA	3/1/05

A/swine/Oklahoma/00606/2005	AHB23233	H3N2	USA	5/4/05
A/swine/Oklahoma/008722/2007	ACV42097	H3N2	USA	2007
A/swine/Oklahoma/01117/2006	AHB22309	H1N2	USA	5/2/06
A/swine/Oklahoma/011506/2007	ACV42108	H3N2	USA	2007
A/swine/Oklahoma/011521-4/2008	ACV42218	H1N2	USA	2008
A/swine/Oklahoma/01382/2006	AHB22930	H1N2	USA	12/6/06
A/swine/Oklahoma/01452/2007	AHB52210	H1N2	USA	1/26/07
A/swine/Oklahoma/01741/2007	AHB21234	H1N2	USA	8/23/07
A/swine/Oklahoma/02056/2008	AHB21416	H1N2	USA	2/29/08
A/swine/Oklahoma/02083/2008	AHB52246	H1N2	USA	3/6/08
A/swine/Oklahoma/02107/2008	AHB21404	H1N2	USA	4/2/08
A/swine/Oklahoma/02530/2009	AHB23813	H3N2	USA	1/9/09
A/swine/Oklahoma/02722/2009	AHB23050	H1N2	USA	4/10/09
A/swine/Oklahoma/032726/2008	ACV42031	H1N2	USA	2008
A/swine/Oklahoma/042169/2008	ACV42295	H1N2	USA	2008
A/swine/Oklahoma/053259/2008	ACV42064	H1N2	USA	2008
A/Swine/Oklahoma/18089/99	AAG10752	H3N2	USA	1999
A/Swine/Oklahoma/18717/99	AAG10748	H3N2	USA	1999
A/swine/Oklahoma/A01049500/2011	AEP17236	H1N2	USA	2/3/11
A/swine/Oklahoma/A01202498/2011	AFM46707	H1N2	USA	8/8/11
A/swine/Oklahoma/A01203507/2012	AFN66867	H1N2	USA	4/10/12
A/swine/Oklahoma/A01203865/2012	AFW16000	H1N2	USA	2012/09
A/swine/Oklahoma/A01327676/2012	AFU08787	H3N2	USA	4/19/12
A/swine/Oklahoma/A01432577/2013	AGK24182	H1N2	USA	2013/03
A/swine/Oklahoma/SG1216/2005	AHB20934	H3N2	USA	3/3/05
A/swine/Oklahoma/SG1473/2005	AHB22834	H3N2	USA	9/23/05
A/swine/Ontario/00130/97	AAG01750	H3N2	Canada	1997
A/swine/Ontario/33853/2005	ABF17976	H3N2	Canada	2005
A/swine/Ontario/48235/04	ABB86928	H1N2	Canada	2004
A/swine/Ontario/52156/03	ABB86916	H1N2	Canada	2003
A/swine/Ontario/55383/04	ABB86898	H1N2	Canada	2004
A/swine/Pennsylvania/62170-2/2010	ADZ96093	H3N2	USA	10/25/10
A/swine/Pennsylvania/62170-4/2010	ADZ96095	H3N2	USA	10/25/10
A/swine/Pennsylvania/A01076501/2010	AFN22073	H3N2	USA	2010/09
A/swine/Pennsylvania/a01076502/2010	AFH41315	H3N2	USA	9/20/10
A/swine/Pennsylvania/a01076503/2010	AFH41305	H3N2	USA	9/20/10
A/swine/Pennsylvania/A01104049/2012	AFX68926	H3N2	USA	8/9/12
A/swine/Pennsylvania/A01104050/2012	AGB84918	H3N2	USA	8/9/12
A/swine/Pingtung/7-12/1999	ACN90996	H1N2	Taiwan	1/6/99
A/swine/Pingtung/92-2/2003	AAT12708	H1N2	Taiwan	6/25/03
A/swine/Ploufragan/0214/2006	AFR76769	H1N2	France	9/2/06
A/swine/Potsdam/35/82	ABQ97207	H3N2	Germany	1982
A/swine/QC/1685-1/2009	ADV58857	H3N2	Canada	5/15/09

A/swine/QC/1685-5/2009	ADV58858	H3N2	Canada	5/15/09
A/swine/QC/1698-1/2009	ADV58859	H3N2	Canada	5/15/09
A/swine/QC/1698-2/2009	ADV58860	H3N2	Canada	5/15/09
A/swine/QC/1698-4/2009	ADV58861	H3N2	Canada	5/15/09
A/swine/QC/1698-5/2009	ADV58862	H3N2	Canada	5/15/09
A/swine/QC/1840-2/2009	ADV58863	H3N2	Canada	5/28/09
A/swine/QC/2108-2/2009	ADV58864	H3N2	Canada	4/3/09
A/swine/QC/382/2009	ADV58855	H3N2	Canada	5/8/09
A/swine/QC/414/2009	ADV58854	H3N2	Canada	5/22/09
A/swine/QC/440-A/2009	ADV58856	H3N2	Canada	5/29/09
A/swine/Quebec/00686/2005	AHB24661	H3N2	Canada	9/14/05
A/swine/Quebec/01000/2006	AHB24686	H3N2	Canada	2/23/06
A/swine/Quebec/01001/2006	AHB22084	H3N2	Canada	2/23/06
A/swine/Quebec/01002/2006	AHB24699	H3N2	Canada	2/23/06
A/swine/Quebec/01003/2006	AHB24711	H3N2	Canada	2/23/06
A/swine/Quebec/1257774/2010	AEN68516	H3N2	Canada	11/9/10
A/swine/Quebec/1257777/2010	AEN68526	H3N2	Canada	11/8/10
A/swine/Quebec/1262080/2010	AEN68506	H3N2	Canada	12/1/10
A/swine/Quebec/1265553/2010	ADZ96195	H3N2	Canada	12/22/10
A/swine/Quebec/1267566/2011	AEN68535	H3N2	Canada	1/6/11
A/swine/Quebec/1267568/2010	AEM91954	H3N2	Canada	12/30/10
A/swine/Quebec/4001/2005	ACF04393	H3N2	Canada	7/12/05
A/swine/Ratchaburi/NIAH59/2004	BAH02132	H3N2	Thailand	2004
A/swine/Ratchaburi/NIAH874/2005	ABY40403	H3N2	Thailand	2005
A/swine/Ratchaburi/NIAH9426/2005	ABY40404	H3N2	Thailand	2005
A/swine/Re220/92hp	ABV60700	H3N2	Germany	1992
A/swine/Saitama/1/2000	BAK23286	H1N2	Japan	2000
A/swine/Saitama/1996	BAH02182	H1N2	Japan	1996
A/swine/Saitama/21/2004	BAK23287	H1N2	Japan	2004
A/swine/Saraburi/NIAH107725-28/2008	BAL70446	H3N2	Thailand	2008/06
A/swine/Saraburi/NIAH109713-36/2009	BAL70456	H3N2	Thailand	2009/07
A/swine/Saraburi/NIAH13021/2005	ABY40398	H1N2	Thailand	2005
A/swine/Saskatchewan/01114/2006	AHB22096	H3N2	Canada	5/1/06
A/swine/Saskatchewan/01834/2007	AHB51463	H3N2	Canada	10/29/07
A/swine/Saskatchewan/02903/2009	AHB22216	H3N2	Canada	9/24/09
A/swine/Saskatchewan/SD0001/2011	AHB22535	H3N2	Canada	12/1/11
A/swine/Scotland/410440/94	CAC86322	H1N2	UK	1994
A/swine/SD/31813/2009	ADB82973	H1N2	USA	11/20/09
A/swine/Shandong/3/2005	ABV55862	H3N2	China	2005
A/swine/Shanghai/1/2007	ACI48764	H1N2	China	3/24/07
A/swine/Shizuoka/120/97	AAO15353	H3N2	Japan	1997
A/swine/South Dakota/152B/2009	ADU85825	H1N2	USA	9/4/09
A/swine/South Dakota/3/2010	ADU04727	H1N2	USA	11/23/10

A/swine/South Dakota/3/2012	AFM93979	H3N2	USA	2012/06
A/swine/South Dakota/4/2010	ADW93973	H1N2	USA	12/28/10
A/swine/South Dakota/A01279746/2012	AGC13636	H1N2	USA	12/7/12
A/swine/South Dakota/A01280095/2013	AGF69074	H3N2	USA	1/3/13
A/swine/South Dakota/A01349341/2013	AGJ73401	H1N2	USA	3/13/13
A/swine/South Dakota/A01350210/2013	AGN69822	H1N2	USA	4/29/13
A/swine/South Dakota/A01350220/2013	AGN69826	H1N2	USA	4/29/13
A/swine/South Dakota/A01350758/2013	AGO59901	H1N2	USA	5/28/13
A/swine/South Dakota/A01350778/2013	AGO59905	H1N2	USA	5/29/13
A/swine/South Dakota/SG1453/2003	AHB22594	H3N2	USA	4/10/03
A/swine/Spain/08/2011	AFV33873	H1N2	Spain	7/1/11
A/swine/Spain/09/2010	AFV33906	H1N2	Spain	4/1/10
A/swine/Spain/10/2011	AFV33829	H1N2	Spain	2/1/11
A/swine/Spain/12/2010	AFV33785	H3N2	Spain	3/1/10
A/swine/Spain/33601/2001	ABD62836	H3N2	Spain	2001
A/swine/Spain/39139/2002	ABD62797	H3N2	Spain	2002
A/swine/Spain/40564/2002	AFR76785	H1N2	Spain	2002
A/swine/Spain/42386/2002	ABO44038	H3N2	Spain	2002
A/swine/Spain/54008/2004	ABE27167	H3N2	Spain	2004
A/swine/Spain/80598LP1/2007	CCQ71960	H3N2	Spain	2007
A/swine/Spain/80598LP4/2007	CCQ71984	H1N2	Spain	2007
A/swine/Spain/82108/2007	AFR76796	H3N2	Spain	2007
A/swine/Spain/SF12091/2007	CCQ71972	H1N2	Spain	2007
A/swine/Spain/SF32071/2007	CCG47912	H3N2	Spain	2007
A/swine/Sweden/1021/2009	ACU82397	H1N2	Sweden	2/26/09
A/swine/Sweden/9706/2010	ADJ80236	H1N2	Sweden	1/26/10
A/swine/Tainan/46-4/2005	ACO07053	H1N2	Taiwan	4/14/05
A/swine/Taiwan/7310/70	CAC36997	H3N2	Taiwan	1970
A/swine/Taiwan/CO935/2004	ABD85120	H1N2	Taiwan	2004
A/swine/Texas/00226/2003	AHB51139	H3N2	USA	12/4/03
A/swine/Texas/00376/2004	AHB23185	H3N2	USA	7/22/04
A/swine/Texas/00816/2005	AHB22858	H3N2	USA	10/12/05
A/swine/Texas/008648/2008	ACV42119	H1N2	USA	2008
A/swine/Texas/01308/2006	AHB21042	H1N2	USA	11/2/06
A/swine/Texas/01492/2007	AHB21222	H1N2	USA	3/8/07
A/swine/Texas/01976/2008	ADM18064	H1N2	USA	2008
A/swine/Texas/03042/2010	AHB21727	H3N2	USA	7/2/10
A/swine/Texas/050593/2008	ACV42042	H1N2	USA	2008
A/swine/Texas/050625/2008	ACV42053	H1N2	USA	2008
A/swine/Texas/4199-2/1998	AAD51244	H3N2	USA	1998
A/swine/Texas/A01049556/2011	AEP17241	H3N2	USA	2/14/11
A/swine/Texas/A01049915/2011	AEP17053	H3N2	USA	4/28/11
A/swine/Texas/SG1186/2004	AHB20825	H3N2	USA	10/22/04

A/swine/Texas/SG1250/2006	AHB21054	H1N2	USA	6/21/06
A/swine/Texas/SG1270/2007	AHB23736	H3N2	USA	3/1/07
A/swine/Texas/SG1501/2010	AHB23146	H3N2	USA	4/20/10
A/swine/Thailand/CM480/2009	AGK24399	H3N2	Thailand	11/17/09
A/swine/Thailand/CM481/2009	AGK24289	H3N2	Thailand	11/17/09
A/swine/Thailand/CU-BN53/2012	AGG53179	H3N2	Thailand	3/15/12
A/swine/Thailand/CU-BN54/2012	AGG53170	H3N2	Thailand	3/15/12
A/swine/Thailand/CU-CG43/2011	AFO82779	H3N2	Thailand	2011/03
A/swine/Thailand/CU-CG45/2011	AFO82778	H3N2	Thailand	2011/03
A/swine/Thailand/CU-CG48/2011	AFO82780	H3N2	Thailand	2011/03
A/swine/Thailand/CU-CG51/2011	AGG53160	H3N2	Thailand	11/14/11
A/swine/Thailand/CU-CG55/2011	AGG53154	H3N2	Thailand	11/14/11
A/swine/Thailand/CU-CT63/2011	AGG53138	H1N2	Thailand	12/18/11
A/swine/Thailand/CU-CT83/2011	AGG53129	H1N2	Thailand	12/18/11
A/swine/Thailand/CU-P43/2012	AGG53120	H3N2	Thailand	1/9/12
A/swine/Thailand/CU-P53/2012	AGG53110	H3N2	Thailand	1/9/12
A/swine/Thailand/CU-PN4-1/2009	ADY80143	H3N2	Thailand	2009/03
A/swine/Thailand/CU-PN4-2/2009	ADY80144	H3N2	Thailand	2009/03
A/swine/Thailand/KU5.1/2004	ACL11954	H3N2	Thailand	9/19/04
A/swine/Thailand/PB482/2009	AGK24409	H3N2	Thailand	11/17/09
A/swine/Thailand/PB483/2009	AGJ73473	H3N2	Thailand	11/17/09
A/swine/Thailand/PB484/2009	AGK24419	H3N2	Thailand	11/17/09
A/swine/Thailand/PB485/2009	AGJ73463	H3N2	Thailand	11/17/09
A/swine/Thailand/PB486/2009	AGK24299	H3N2	Thailand	11/17/09
A/swine/Thailand/S1/2005	ACM80373	H3N2	Thailand	2005/08
A/swine/Tianjin/1/2004	ACT97069	H1N2	China	2004
A/swine/Tianjin/1/2007	ADU02108	H1N2	China	2007/12
A/swine/Tochigi/1/2008	BAJ11923	H1N2	Japan	2008
A/swine/Tochigi/2/2011	BAM78378	H1N2	Japan	2/21/11
A/swine/Udon Thani/NIAH464/2004	BAH02112	H3N2	Thailand	2004
A/swine/UK/119404/91	CAC86325	H3N2	UK	1991
A/swine/Virginia/A01203437/2012	AFM46446	H3N2	USA	4/16/12
A/swine/Virginia/A01432419/2013	AGG86714	H1N2	USA	2013/02
A/swine/Virginia/SG1386/2011	AHB21916	H1N2	USA	11/4/11
A/swine/Vladimir/VL/2009	AFV31494	H3N2	Russia	8/7/09
A/Swine/Wisconsin/14094/99	AAG10749	H3N2	USA	1999
A/swine/Wisconsin/194/1980	ABD61252	H3N2	USA	1980
A/swine/Wisconsin/H02AS8/2002	AFR76807	H3N2	USA	2002
A/swine/Wyoming/A01397400/2013	AGS08798	H3N2	USA	6/25/13
A/swine/Yokohama/aq114/2011	BAM78394	H3N2	Japan	3/8/11
A/swine/Yokohama/aq138/2011	BAM78402	H3N2	Japan	3/8/11
A/swine/Zhejiang/1/2004	AAZ79393	H1N2	China	2004

Table S5. Introductions with < 1 year of onward transmission in swine. The 19 additional introductions of human seasonal influenza viruses in swine that were detected using all available sequence data, including additional HA and NA sequences, for which evidence of onward transmission in swine for more than one year was lacking.

	Virus name	Segments
1	<i>A/sw/Hong Kong/4/1976/H3N2</i>	NA
2	<i>A/sw/Colorado/1/1977/H3N2</i>	HA and NA
3	<i>A/sw/Obihiro/10/1985/H3N2</i>	HA and NA
4	<i>A/sw/Obihiro/5/1992/H1N1</i>	NA
5	<i>A/sw/Shizuoka/120/97/H3N2</i>	NA
6	<i>A/sw/Ontario/00130/97/H3N2</i>	HA and NA
7	<i>A/sw/Finistere/129/99/H3N2</i>	NA
8	<i>A/sw/Hong Kong/q066/99/H3N2</i>	NA
9	<i>A/sw/Hong Kong/NS140/2000/H1N1</i>	NA
10	<i>A/sw/Hong Kong/312/00/H3N2</i>	HA
11	<i>A/sw/Hong Kong/9285/01/H3N2</i>	HA and NA
	<i>A/sw/Hong Kong/1311/01/H3N2</i>	
12	<i>A/sw/Hong Kong/1212/02/H3N2,</i> <i>A/sw/Hong Kong/411/02/H3N2,</i> <i>A/sw/Hong Kong/74/02/H3N2</i>	HA and NA
13	<i>A/sw/Ehime/1/2002/H3N2 and</i> <i>A/sw/Ehime/2/2002/H3N2</i>	HA
14	<i>A/sw/Ontario/52156/2003/H1N2</i>	whole genome
15	<i>A/sw/Colombo/48/2004/H3N2</i>	HA and NA

16	A/sw/Ontario/55383/2004/H1N2	HA
	A/sw/Ontario/48235/2005/H1N2	
17	A/sw/SK/11-35/2009/H1N1	HA
	A/sw/SK/11-16/2009/H1N1	
18	A/sw/Illinois/02757/2009/H1N1	HA and NA
19	A/sw/Illinois/A01201763/2011/H3N2	HA

Table S6. Introductions identified in HA/NA analysis. The 21 additional introductions of human seasonal influenza viruses in swine (labeled a - u) that were detected using all available HA and NA sequence data (see Figs. S9-S11).

Introduction	Viruses	
China-a	A/swine/Hong Kong/81/1978/H3N2	A/swine/Guangdong/L21/2011/H3N2
	A/swine/Hong Kong/126/1982/H3N2	
Europe-b	A/swine/Italy/1850/1977/H3N2	A/swine/Italy/6/1981/H3N2
Europe-c	A/swine/Potsdam/35/82/H3N2	
Europe-d	A/swine/Leipzig/145/92/H3N2	
USA-e	A/swine/Wisconsin/194/1980/H3N2	
China-f	A/swine/Tainan/103-11/2003/H3N1	A/swine/Taiwan/0408/2004/H3N1
Europe-g	A/swine/Karrenzien/2/87/H3N2	
Indonesia-h	A/swine/Indonesia/P6-09-04/2004/H3N1	
Korea-i	A/swine/Korea/CN22/2006/H3N1	A/swine/Korea/PZ72-1/2006/H3N1
China-j	A/swine/Jilin/19/2007/H3N2	A/swine/Jilin/37/2008/H3N2
Japan-k	A/swine/Ehime/2/2002/H3N2	A/swine/Ehime/1/2002/H3N2
Japan-l	A/swine/Kanagawa/2/1978/H1N2	
Japan-m	A/sw/Obihiro/1/1994/H3N2	
Thailand-n	A/swine/Thailand/CU-CT83/2011/H1N2	
	A/swine/Thailand/CU-CT63/2011/H1N2	
USA-o	A/swine/North Carolina/35922/98/H3N2	
Europe-p	A/swine/Denmark/10302-2/2012-H1N2	
Europe-q	A/swine/Spain/09/2010-H1N2	
Europe-r	A/swine/Italy/81062/2009-H1N2	A/swine/Italy/186822/2011-H1N2
	A/swine/Italy/70757/2009-H1N2	A/swine/Italy/289700/2009-H1N2
	A/swine/Italy/274298/2009-H1N2	A/swine/Italy/320546/2009-H1N2
	A/swine/Italy/59209/2009-H1N2	A/swine/Italy/50568/2005-H1N2
	A/swine/Italy/107798/2012-H1N2	A/swine/Italy/269578/2006-H1N2
	A/swine/Italy/315977/2011-H1N2	A/swine/Italy/226846/2006-H1N2
	A/swine/Italy/170177/2010-H1N2	A/swine/Italy/20333/2006-H1N2
	A/swine/Italy/16959/2011-H1N2	A/swine/Italy/267010/2005-H1N2
	A/swine/Italy/81226/2009-H1N2	A/swine/Italy/233139/2005-H1N2
	A/swine/Italy/166015/2010-H1N2	A/swine/Italy/232134/2005-H1N2
	A/swine/Italy/76687/2010-H1N2	A/swine/Italy/29141/2008-H1N2
	A/swine/Italy/26654/2012-H1N2	A/swine/Italy/114347-1/2006-H1N2
	A/swine/Italy/321986/2009-H1N2	A/swine/Italy/53991/2005-H1N2
	A/swine/Italy/310411/2009-H1N2	A/swine/Italy/203047/2005-H1N2
	A/swine/Italy/85218/2010-H1N2	A/swine/Italy/626-2/2006-H1N2
	A/swine/Italy/254261/2010-H1N2	A/swine/Italy/191985/2009-H1N2
	A/swine/Italy/282964/2010-H1N2	A/swine/Italy/198260/2008-H1N2
A/swine/Italy/134110/2011-H1N2	A/swine/Italy/308725/2011-H1N2	

China-s
China-t
China-u

A/swine/Italy/149992/2010-H1N2
A/swine/Italy/63580/2010-H1N2
A/swine/Italy/118616/2010-H1N2
A/swine/Hong Kong/4361/99-H3N2
A/swine/Fujian/0325/2008/H1N1
A/swine/Hong-Kong/1435/2006/H1N1

A/swine/Italy/4675/2003-H1N2
A/swine/Italy/38272/2010-H1N2
A/swine/Italy/195399/2011-H1N2
A/swine/Hong Kong/7220/00-H3N2