

Table S2. GenBank accession numbers of HA and NA sequences used in phylogenetic analysis.

GenBank accession numbers and background information for sequences of influenza A virus used in the phylogenetic analysis.

	GenBank Accession	Country of Isolation	Year of Isolation	Isolate (subtype)
1	CY009326	Australia	1935	A/Melbourne/1935 (H1N1)
2	CY009324	Australia	1935	A/Melbourne/1935 (H1N1)
3	CY020461	USA	1943	A/Iowa/1943 (H1N1)
4	EU139834	USA	1945	A/swine/Iowa/1945 (H1N1)
5	EU139824	USA	1945	A/swine/Iowa/1945 (H1N1)
6	CY021053	Malaysia	1954	A/Malaya/302/1954 (H1N1)
7	CY008988	USA	1957	A/Denver/1957 (H1N1)
8	CY077742	Netherlands	1958	A/Netherlands/001M/1958 (H2N2)
9	AY209901	Brazil	1959	A/Sao Paulo/3/1959 (H2N2)
10	EU139825	USA	1968	A/swine/Wisconsin/1/1968 (H1N1)
11	CY031589	USA	1968	A/North Carolina/1/1968 (H2N2)
12	AY210132	UK	1972	A/England/42/1972 (H3N2)
13	K02252	Ireland	1973	A/parrot/Ulster/1973 (H7N1)
14	CY021957	USA	1976	A/New Jersey/1976 (H1N1)
15	D00838	Japan	1976	A/duck/Hong Kong/36/1976 (H1)
16	D21184	Japan	1976	A/duck/Hong Kong/24/1976 (H4N2)
17	CY022373	USA	1977	A/swine/Nebraska/123/1977 (H1N1)
18	CY025004	USA	1977	A/swine/Arizona/148/1977 (H1N1)
19	CY004458	USA	1977	A/mallard/Alberta/42/1977 (H1N6)
20	CY021717	USA	1978	A/California/10/1978 (H1N1)
21	CY020295	Brazil	1978	A/Brazil/11/1978 (H1N1)
22	CY014624	Australia	1979	A/gray teal/Australia/1/1979 (H6N1)
23	CY004492	USA	1979	A/mallard/Alberta/965/1979 (H1N1)
24	CY026413	Albany	1979	A/Albany/8/1979 (H1N1)
25	AB434384	Japan	1979	A/swine/Kyoto/3/1979 (H1N1)
26	CY004792	USA	1979	A/mallard duck/Alberta/106/1979 (H4N2)
27	AB292403	Japan	1980	A/duck/Hong Kong/836/1980 (H3N1)
28	CY008470	USA	1980	A/Memphis/3/1980 (H3N2)
29	CY026451	Canada	1981	A/swine/Ontario/6/1981 (H1N1)
30	CY021039	UK	1982	A/Christ's Hospital/157/1982 (H1N1)
31	CY004636	USA	1983	A/blue-winged teal/Alberta/452/1983 (H3N1)
32	AJ412690	Belgium	1983	A/swine/Belgium/1/1983 (H1N1)
33	GU066779	France	1983	A/mallard/Marquenterre/Z237/2007 (H1N1)
34	CY037967	Belgium	1983	A/swine/Belgium/WVL2/1983 (H1N1)
35	CY004196	USA	1985	A/blue-winged teal/Alberta/69/1985 (H6N2)
36	CY019103	USA	1986	A/Memphis/12/1986 (H1N1)
37	CY017275	USA	1987	A/mallard/Ohio/265/1987 (H1N9)
38	CY004517	Alberta	1987	A/coot/Alberta/134/1987 (H6N2)

39	CY024925	USA	1988	A/Ohio/3559/1988 (H1N1)
40	L19019	France	1988	A/France/15/1988 (H1N1)
41	U96766	Germany	1990	A/turkey/Germany/2482/1190 (H1N1)
42	CY012802	USA	1990	A/mallard/Ohio/171/1990 (H1N1)
43	U85986	UK	1992	A/swine/England/191973/1992 (H1N7)
44	CY015137	USA	1993	A/ruddy turnstone/Delaware/81 1993 (H2N1)
45	CY018885	USA	1993	A/mallard/Ohio/118/1993 (H1N1)
46	EF409255	Germany	1993	A/swine/Bakum/909/1993 (H3N2)
47	CY033616	China	1995	A/Beijing/262/1995 (H1N1)
48	CY021007	USA	1996	A/Memphis/15/1996 (H1N1)
49	EF584357	Brazil	1996	A/Brazil/207/1996 (H3N2)
50	CY020231	Italy	1997	A/poultry/Italy/373/1997 (H5N2)
51	AB274304	Japan	1998	A/pintail/Shimane/324/1998 (H1N7)
52	AJ344016	Italy	1998	A/swine/Italy/1511/1998 (H1N1)
53	AJ457892	France	1998	A/Paris/1857/1998 (H1N1)
54	AF153238	USA	1998	A/Swine/Minnesota/9088-2/1998 (H3N2)
55	EF584359	Japan	1998	A/Japan/1268/1998 (H3N2)
56	EF584374	Argentina	1998	A/Argentina/89/1998 (H3N2)
57	AJ412701	Italy	1998	A/swine/Italy/1521/1998 (H1N2)
58	CY060206	Netherlands	1999	A/mallard/Netherlands/10/1999 (H1N8)
59	AF268139	USA	1999	A/Swine/North Carolina/16497/1999 (H3N2)
60	CY016158	USA	1999	A/gadwall/Ohio/37/1999 (H6N2)
61	DQ487337	Panama	1999	A/Panama/2007/1999 (H3N2)
62	EU053148	Germany	2000	A/swine/Bakum/1832/2000 (H1N2)
63	AJ518093	Slovakia	2000	A/Bratislava/47/2000 (H1N1)
64	EU097942	Denmark	2000	A/Denmark/40/2000 (H1N1)
65	AY300933	USA	2000	A/Duck/New York/44018-1/2000 (H5N2)
66	CY008782	UK	2000	A/Canterbury/80/2000 (H3N2)
67	EU139828	USA	2001	A/swine/Minnesota/1192/2001 (H1N2)
68	EU429707	China	2001	A/duck/Eastern China/48/2001 (H9N2)
69	DQ249253	Taiwan	2001	A/Taiwan/2332/2001 (H3N2)
70	AJ489847	UK	2001	A/England/691/2001 (H1N2)
71	AM157359	France	2002	A/sentinel duck/France/1043/2002 (H9N2)
72	CY000443	USA	2002	A/New York/134/2002 (H3N2)
73	CY020503	Spain	2002	A/swine/Spain/42386/2002 (H3N2)
74	EU429754	China	2003	A/duck/Eastern China/253/2003 (H3N1)
75	EU100577	Mexico	2003	A/New Mexico/19/2003 (N2)
76	DQ091199	Russia	2003	A/Moscow/343/2003 (H3N2)
77	EU045388	Italy	2004	A/swine/Italy/53949/2004 (H1N1)
78	DQ139320	China	2004	A/swine/Zhejiang/1/2004 (H1N2)
79	EU097943	Denmark	2004	A/Denmark/17/2004 (H1N1)
80	CY010580	Spain	2004	A/swine/Spain/53207/2004 (H1N1)
81	EU429745	China	2004	A/duck/Eastern China/6/2004 (H3N2)
82	CY015950	Australia	2004	A/Western Australia/60/2004 (H3N2)
83	FJ231817	Germany	2005	A/Hessen/4/2005 (H1N1)
84	DQ666933	Korea	2005	A/swine/Korea/S11/2005 (H1N2)

85	EU301289	Korea	2005	A/duck/Korea/LPM22/2005 (H3N2)
86	AB286007	Vietnam	2006	A/Hanoi/BM344/2006 (H1N1)
87	CY035128	Russia	2006	A/St. Petersburg/8/2006 (H1N1)
88	GQ355843	Austria	2006	A/duck/Wels/2025/2006 (H5N1)
89	AB441170	Japan	2006	A/swine/Miyazaki/1/2006 (H1N2)
90	CY032714	USA	2007	A/northern shoveler/California/2007 (H6N1)
91	CY026717	USA	2007	A/Texas/UR06-0582/2007 (H1N1)
92	FN386463	Spain	2007	A/Anas platyrhynchos/Spain/ 1365/2007 (H1N1)
93	CY025853	USA	2007	A/Texas/UR06-0418/2007 (H3N2)
94	FN773069	Norway	2007	A/Teal/ A/Teal/Norway/10 1360/2007 (H4N2)
95	EU779649	USA	2008	A/Indiana/04/2008 (H1N1)
96	GQ166189	Spain	2009	A/Catalonia/88/2009 (H1N1)
97	HQ244432	Czech Republic	2009	A/mallard/Czech Republic/15902-17K/2009 (H6N2)
98	JF960169	Spain	2009	A/swine/Spain/1/2009 (H1N1)
99	JF960172	Spain	2009	A/swine/Spain/1/2009 (H1N1)
100	JF960173	Spain	2009	A/swine/Spain/2/2009 (H1N1)
101	JQ301920	Spain	2009	A/swine/Spain/2/2009 (H1N1)
102	JF960174	Spain	2009	A/swine/Spain/3/2009 (H1N1)
103	JQ301921	Spain	2009	A/swine/Spain/3/2009 (H1N1)
104	JF960175	Spain	2009	A/swine/Spain/4/2009 (H1N1)
105	JQ301945	Spain	2009	A/swine/Spain/4/2009 (H1N1)
106	JF960176	Spain	2009	A/swine/Spain/5/2009 (H1N1)
107	JQ301922	Spain	2009	A/swine/Spain/5/2009 (H1N1)
108	JF960177	Spain	2009	A/swine/Spain/6/2009 (H1N1)
109	JQ301923	Spain	2009	A/swine/Spain/6/2009 (H1N1)
110	JF960178	Spain	2009	A/swine/Spain/7/2009 (H1N1)
111	JQ301946	Spain	2009	A/swine/Spain/7/2009 (H1N1)
112	JF960179	Spain	2009	A/swine/Spain/8/2009 (H1N1)
113	JQ301947	Spain	2009	A/swine/Spain/8/2009 (H1N1)
114	JF960180	Spain	2009	A/swine/Spain/9/2009 (H1N1)
115	JQ301924	Spain	2009	A/swine/Spain/9/2009 (H1N1)
116	JF960181	Spain	2009	A/swine/Spain/10/2009 (H1N1)
117	JQ301925	Spain	2009	A/swine/Spain/10/2009 (H1N1)
118	JF960182	Spain	2009	A/swine/Spain/11/2009 (H1N1)
119	JQ301926	Spain	2009	A/swine/Spain/11/2009 (H1N1)
120	JF960183	Spain	2009	A/swine/Spain/12/2009 (H1N1)
121	JQ301927	Spain	2009	A/swine/Spain/12/2009 (H1N1)
123	JF960184	Spain	2009	A/swine/Spain/13/2009 (H1N1)
124	JQ301928	Spain	2009	A/swine/Spain/13/2009 (H1N1)
125	JQ301959	Spain	2009	A/swine/Spain/13/2009 (H1N1)
128	JQ301963	Spain	2009	A/swine/Spain/13/2009 (H1N1)
129	JQ301966	Spain	2009	A/swine/Spain/13/2009 (H1N1)
130	JQ301966	Spain	2009	A/swine/Spain/13/2009 (H1N1)
131	JQ301972	Spain	2009	A/swine/Spain/13/2009 (H1N1)

132	JQ301975	Spain	2009	A/swine/Spain/13/2009 (H1N1)
133	JQ301948	Spain	2009	A/swine/Spain/14/2009 (H1)
134	JQ301949	Spain	2009	A/swine/Spain/15/2009 (H1)
135	JF960187	Spain	2009	A/swine/Spain/16/2009 (H1N1)
136	JQ301929	Spain	2009	A/swine/Spain/16/2009 (H1N1)
137	JF960188	Spain	2009	A/swine/Spain/17/2009 (H1N1)
138	JQ301950	Spain	2009	A/swine/Spain/17/2009 (H1N1)
139	JF960189	Spain	2009	A/swine/Spain/18/2009 (H1N1)
140	JQ301930	Spain	2009	A/swine/Spain/18/2009 (H1N1)
141	JF960190	Spain	2009	A/swine/Spain/19/2009 (H1N1)
143	JQ301931	Spain	2009	A/swine/Spain/19/2009 (H1N1)
144	JF960191	Spain	2009	A/swine/Spain/20/2009 (H1N1)
145	JQ301951	Spain	2009	A/swine/Spain/20/2009 (H1N1)
147	JF960192	Spain	2009	A/swine/Spain/21/2009 (H1N1)
148	JQ301932	Spain	2009	A/swine/Spain/21/2009 (H1N1)
149	JF960193	Spain	2009	A/swine/Spain/22/2009 (H1N1)
150	JQ301933	Spain	2009	A/swine/Spain/22/2009 (H1N1)
151	JQ301952	Spain	2009	A/swine/Spain/23/2009 (H1)
152	JF960195	Spain	2009	A/swine/Spain/24/2009 (H1N1)
153	JQ301953	Spain	2009	A/swine/Spain/24/2009 (H1N1)
154	JQ301954	Spain	2009	A/swine/Spain/25/2009 (H1)
155	JF960197	Spain	2009	A/swine/Spain/26/2009 (H1N1)
156	JQ301934	Spain	2009	A/swine/Spain/26/2009 (H1N1)
157	JF960198	Spain	2009	A/swine/Spain/27/2009 (H1N1)
158	JQ301955	Spain	2009	A/swine/Spain/27/2009 (H1N1)
159	JF960199	Spain	2009	A/swine/Spain/28/2009 (H1N1)
160	JQ301935	Spain	2009	A/swine/Spain/28/2009 (H1N1)
161	JF960200	Spain	2009	A/swine/Spain/29/2009 (H1N1)
162	JQ301936	Spain	2009	A/swine/Spain/29/2009 (H1N1)
163	JF960201	Spain	2009	A/swine/Spain/30/2009 (H1N1)
164	JQ301956	Spain	2009	A/swine/Spain/30/2009 (H1N1)
165	JF960202	Spain	2009	A/swine/Spain/31/2009 (H1N1)
166	JQ301937	Spain	2009	A/swine/Spain/31/2009 (H1N1)
167	JQ301960	Spain	2009	A/swine/Spain/31/2009 (H1N1)
168	JQ301964	Spain	2009	A/swine/Spain/31/2009 (H1N1)
169	JQ301967	Spain	2009	A/swine/Spain/31/2009 (H1N1)
170	JQ301970	Spain	2009	A/swine/Spain/31/2009 (H1N1)
171	JQ301973	Spain	2009	A/swine/Spain/31/2009 (H1N1)
172	JQ301976	Spain	2009	A/swine/Spain/31/2009 (H1N1)
173	JF960203	Spain	2009	A/swine/Spain/32/2009 (H1N1)
174	JQ301938	Spain	2009	A/swine/Spain/32/2009 (H1N1)
175	JF960204	Spain	2009	A/swine/Spain/33/2009 (H1N1)
176	JQ301939	Spain	2009	A/swine/Spain/33/2009 (H1N1)
177	JF960205	Spain	2009	A/swine/Spain/34/2009 (H1N1)
178	JQ301940	Spain	2009	A/swine/Spain/34/2009 (H1N1)
179	JQ301961	Spain	2009	A/swine/Spain/34/2009 (H1N1)

180	JQ301965	Spain	2009	A/swine/Spain/34/2009 (H1N1)
181	JQ301968	Spain	2009	A/swine/Spain/34/2009 (H1N1)
182	JQ301971	Spain	2009	A/swine/Spain/34/2009 (H1N1)
183	JQ301974	Spain	2009	A/swine/Spain/34/2009 (H1N1)
184	JQ301977	Spain	2009	A/swine/Spain/34/2009 (H1N1)
185	JF960206	Spain	2009	A/swine/Spain/35/2009 (H1N1)
186	JQ301941	Spain	2009	A/swine/Spain/35/2009 (H1N1)
187	JF960207	Spain	2009	A/swine/Spain/36/2009 (H1N1)
188	JQ301942	Spain	2009	A/swine/Spain/36/2009 (H1N1)
189	JF960208	Spain	2009	A/swine/Spain/37/2009 (H1N1)
190	JQ301943	Spain	2009	A/swine/Spain/37/2009 (H1N1)
191	JQ301958	Spain	2009	A/swine/Spain/38/2009 (H1N1)
192	JQ301962	Spain	2009	A/swine/Spain/38/2009 (H1N1)
193	JQ301944	Spain	2009	A/swine/Spain/39/2009 (H1)
194	JQ301957	Spain	2009	A/swine/Spain/40/2009 (H1)
195	CY067662	Italy	2010	A/swine/Italy/116114/2010 (H1N2)
196	JF960170	Spain	2010	A/swine/Spain/1/2010 (H1N2)
197	JF960171	Spain	2010	A/swine/Spain/1/2010 (H1N2)