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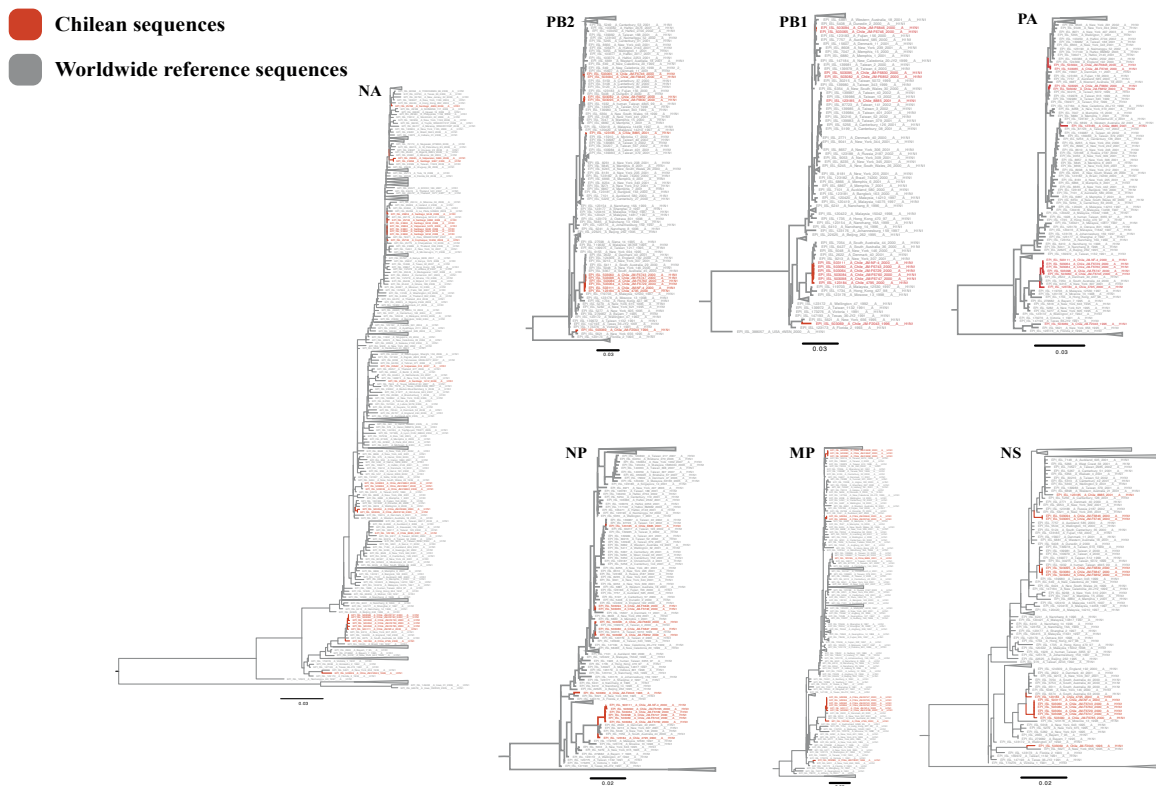
## Supplementary material

2 Circulation patterns of human seasonal Influenza A virus in Chile before H1N1pdm09

3 pandemic.

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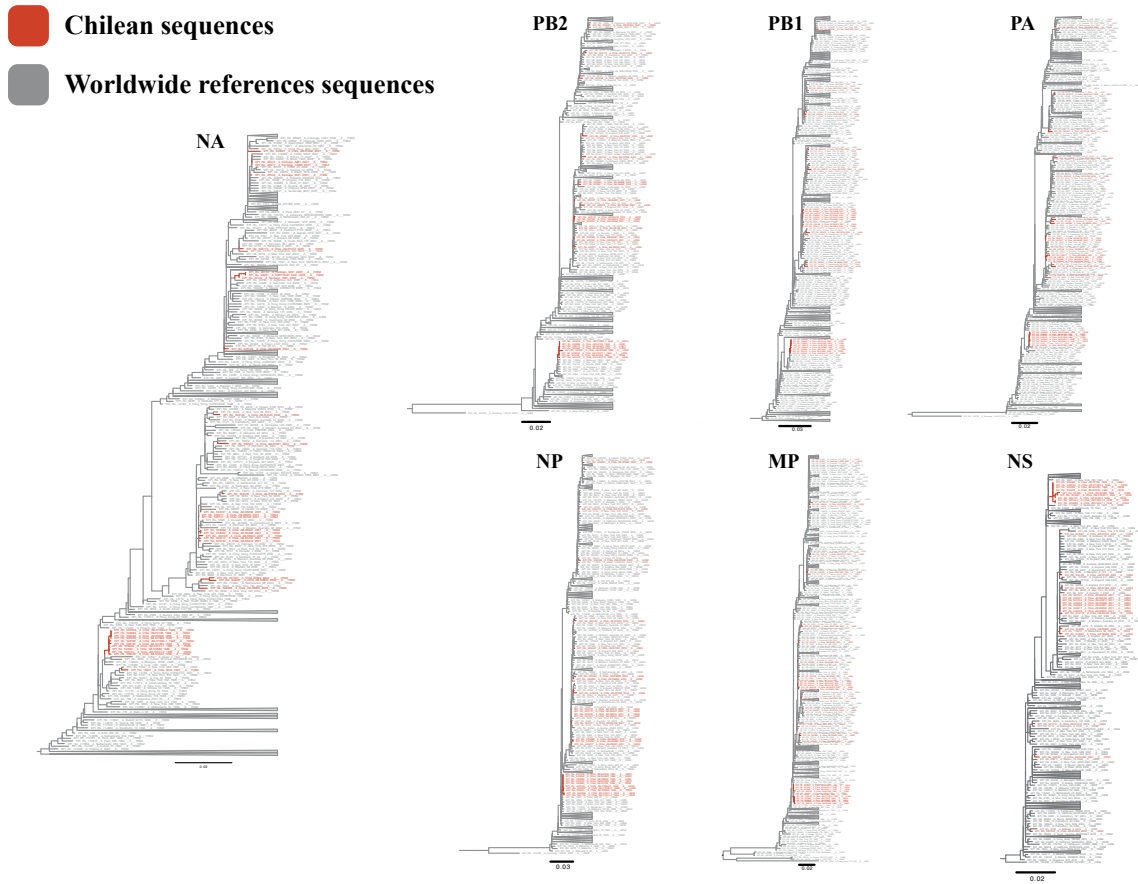
7 **Supplementary figure 1.** Phylogenetic analysis of the PB2, PB1, PA, NP, NA, M and NS

8 genes of IAVs subtype H1. The phylogenetic trees were inferred using the maximum

9 likelihood method in IQTREE based on GTR+F+I+G4 (PB2, PB1, PA, NA and M) and

10 TVM+F+I+G4 (NP, NS) nucleotide substitution model with 1000 bootstrap replicates.

11 Chilean and references sequences are represented in different colors.



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13 **Supplementary figure 2.** Phylogenetic analysis of the PB2, PB1, PA, NP, NA, MP and NS

14 genes of IAVs subtype H3. The phylogenetic trees were inferred using the maximum

15 likelihood method in IQTREE based on GTR+F+I+G4 (PB2, PB1, PA and NA) and

16 TVM+F+I+G4 (NP, M and NS) nucleotide substitution model with 1000 bootstrap

17 replicates. Chilean and references sequences are represented in different colors.

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19 **Supplementary Table 1.** Clades, isolation year, time to the most recent common ancestor  
 20 (TMRCA) and related sequences (continent of origin) of Chilean HA sequences reported  
 21 between 1994 and 2008.

Clade	H1 subtype			Clade	H3 subtype		
	Year	Clade tMRCA	Continent		Year	Clade tMRCA	Continent
A	1996	1994 (1992-1994)	North America	A	1994	1993 (1992-1993)	Asia Europe
	2000	1998 (1998-1999)	South America Europe		B	1996	1995 (1994-1995)
C	2000	1999 (1998-1999)	South America North America	C		1996	1995 (1995-1995)
	2000	1998 (1998-1998)	South America Asia		D	2000	1999 (1999-2000)
E	2001	1999 (1999-2000)	Asia	E		2000	1999 (1998-1999)
	2002						

							North America South America Europe Africa Asia Oceania
<b>F</b>	20 03	2001 (2001- 2002)	Asia North America	<b>F</b>	200 1	2000 (1999- 2000)	America

							North America South America
<b>G</b>	20 06	2005 (2004- 2005)	North America	<b>G</b>	200 3	2001 (2001- 2001)	America

			South America North America				Asia
<b>H</b>	20 06	2005 (2004- 2005)	America	<b>H</b>	200 3	2001 (2001- 2001)	America

			South America North America				South America Asia
<b>I</b>	20 06	2004 (2004- 2005)	America	<b>I</b>	200 3	2002 (2002- 2002)	America

			South America				Asia
<b>J</b>	20 07	2004 (2003- 2005)	America	<b>J</b>	200 3	2002 (2001- 2002)	America

					200		
					4		
<b>K</b>	2008	2006 (2005-2006)	North America	<b>K</b>	2003	2002 (2002-2002)	Europa Asia
<b>L</b>	2008	2005 (2005-2006)	South America	<b>L</b>	2004	2003 (2003-2003)	Europa Asia
<b>M</b>	2008	2006 (2006-2006)	North America Asia	<b>M</b>	2004	2003 (2002-2003)	Europa North America
<b>N</b>	2008	2006 (2005-2007)	Asia Europe South America Africa	<b>N</b>	2004	2002 (2002-2002)	Europa
<b>O</b>	2008	2006 (2005-2006)	South America Africa	<b>O</b>	2004	2003 (2002-2003)	North America
				<b>P</b>	2005	2004 (2003-2004)	Europa Asia
				<b>Q</b>	2005	2004 (2003-2004)	North America

				Europa
				North
	<b>R</b>	2006	2005 (2004-2005)	America
				South
				America
				Asia
				North
	<b>S</b>	2006	2005 (2005-2005)	America
				South
				America
	<b>T</b>	2006	2005 (2004-2005)	South
				America
	<b>U</b>	2007	2006 (2006-2006)	North
				America
	<b>V</b>	2007	2006 (2006-2006)	Africa
				South
				America
				North
				America
				Asia

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25 **Supplementary table 2.** Circulation period of each H1 IAV genetic cluster (based on HA1  
 26 amino acid sequences) by geographic region.

Continent	Years range of H1 IAV circulation			
	H1-cluster	H1-cluster	H1-cluster	H1-cluster
	1	2	3	4
<b>Asia</b>	1990-2000	1994-2008	2004-2008	2007-2008
<b>Oceania</b>	1990-2000	1999-2007	2004-2008	2007-2008
<b>Europe</b>	1990-2001	1999-2008	2006-2008	2004-2008
<b>North America</b>	1990-2001	2000-2008	2004-2008	2006-2008
<b>Africa</b>	1995-1998	1997-2007	2005-2007	2006-2008
<b>South America</b>	1997-2001	1999-2008	2006-2007	2007-2008
<b>Chile</b>	1996-2000	2000-2008	2006	2008
<b>Global</b>	<b>1990-2001</b>	<b>1994-2008</b>	<b>2004-2008</b>	<b>2004-2008</b>

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34 **Supplementary table 3** Circulation period of each H3 IAV genetic cluster (based on HA1  
 35 amino acid sequences) by geographic region.

<b>Continent</b>	<b>Years range of H3 IAV circulation</b>		
	H3-cluster 1	H3-cluster 2	H3-cluster 3
<b>Asia</b>	1990-2002	1996-2005	2002-2008
<b>Oceania</b>	1990-1997	1997-2003	2002-2008
<b>Europe</b>	1990-1998	1997-2004	2002-2008
<b>North America</b>	1990-1998	1997-2003	2002-2008
<b>Africa</b>	1994-1998	1998-2003	2002-2008
<b>South America</b>	1991-1997	1998-2005	2003-2008
<b>Chile</b>	1994-1996	2000-2003	2003-2007
<b>Global</b>	<b>1990-2002</b>	<b>1996-2005</b>	<b>2002-2008</b>

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