

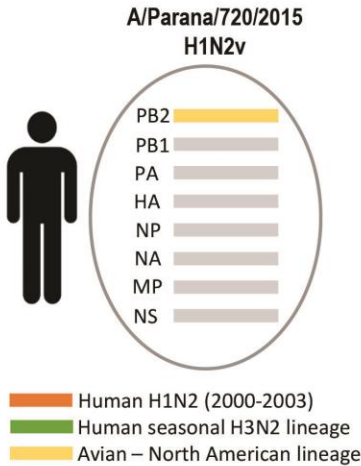
# Whole-Genome Characterization of a Novel Human Influenza A(H1N2) Virus Variant, Brazil

## Technical Appendix

**Technical Appendix Figure (following pages).** Maximum-likelihood (ML) trees of each gene segment (PB2, polymerase basic 2 gene; PB1, polymerase basic gene; PA, polymerase acid gene; HA, hemagglutinin gene; NP, nucleoprotein gene; NA, neuraminidase gene, M, matrix gene; NS, non-structural protein gene) were performed to reconstruct the phylogenetic profile of influenza A/Parana/720/2015 (H1N2)v (Figure, red). The dataset used includes H1N1 (orange) and H3N2 (blue) seasonal and H1N1pdm09 (pink) vaccine strains and all H1N2 whole genomes available in GenBank or the Global Initiative on Sharing All Influenza Data. The H1N2 subtype strains were classified as Brazilian swine H1N2 (green), worldwide swine and avian (black), human H1N2 and swine-origin H1N2v strains (purple). The Hasegawa-Kishino-Yano + gamma distribution among the sites was the best-fitting nucleotide substitution model and was used to reconstruct the trees. ML reliability of branches was evaluated using an approximate likelihood ratio test; the interior support branch cutoff value was  $\geq 0.9$ .

# PB2

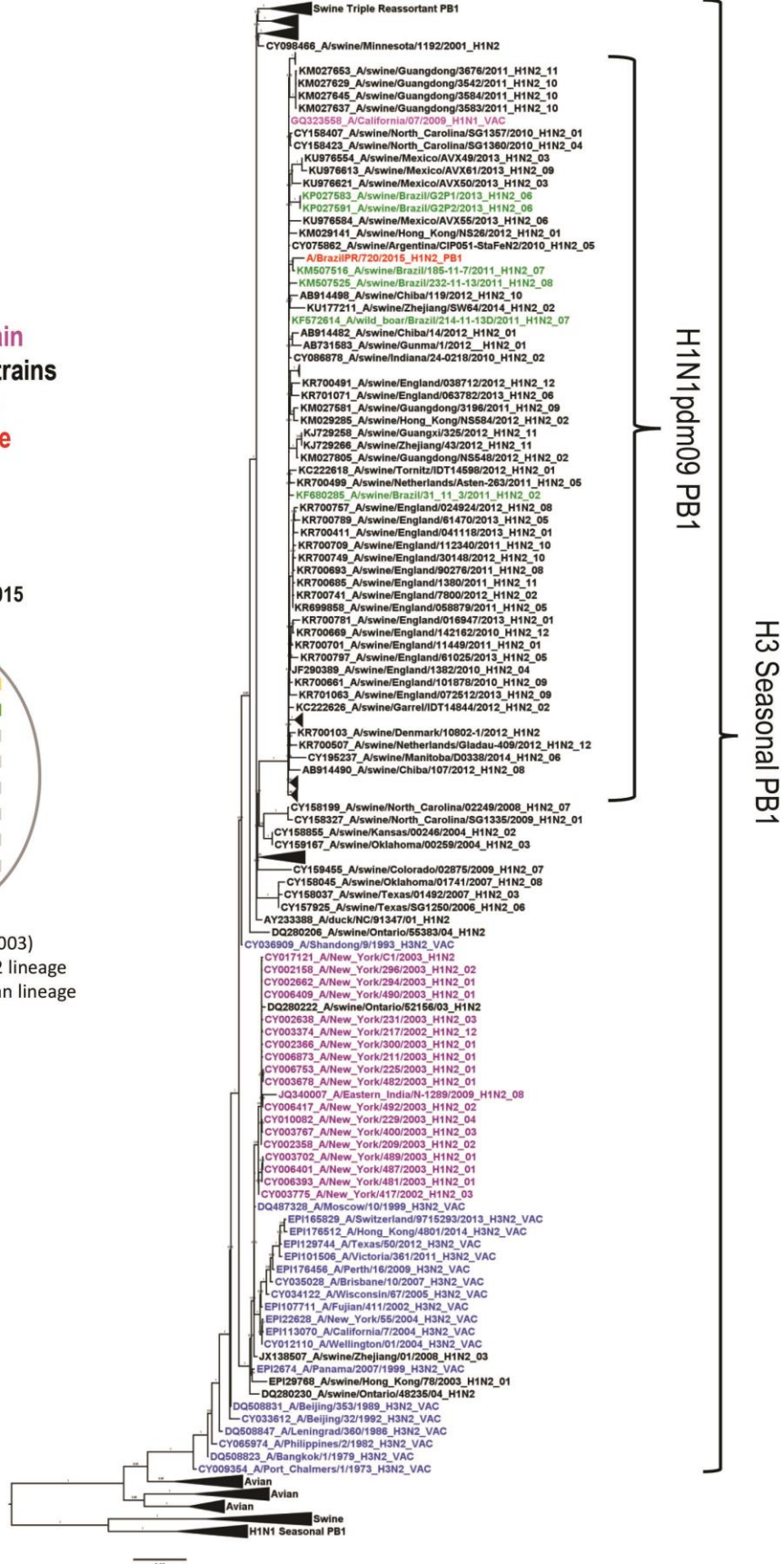
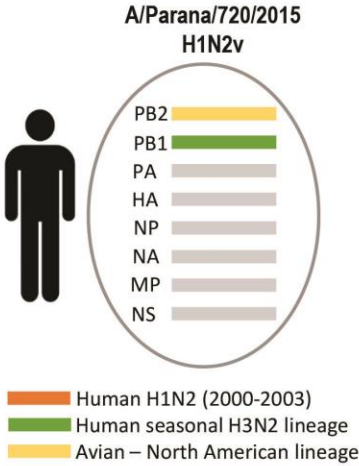
H1N1pdm09 vaccine strain  
 Swine and avian H1N2 strains  
 Brazil swine H1N2 cases  
 Brazil human H1N2v case



North American Avian PB2  
 H1N1pdm09 PB2

# PB1

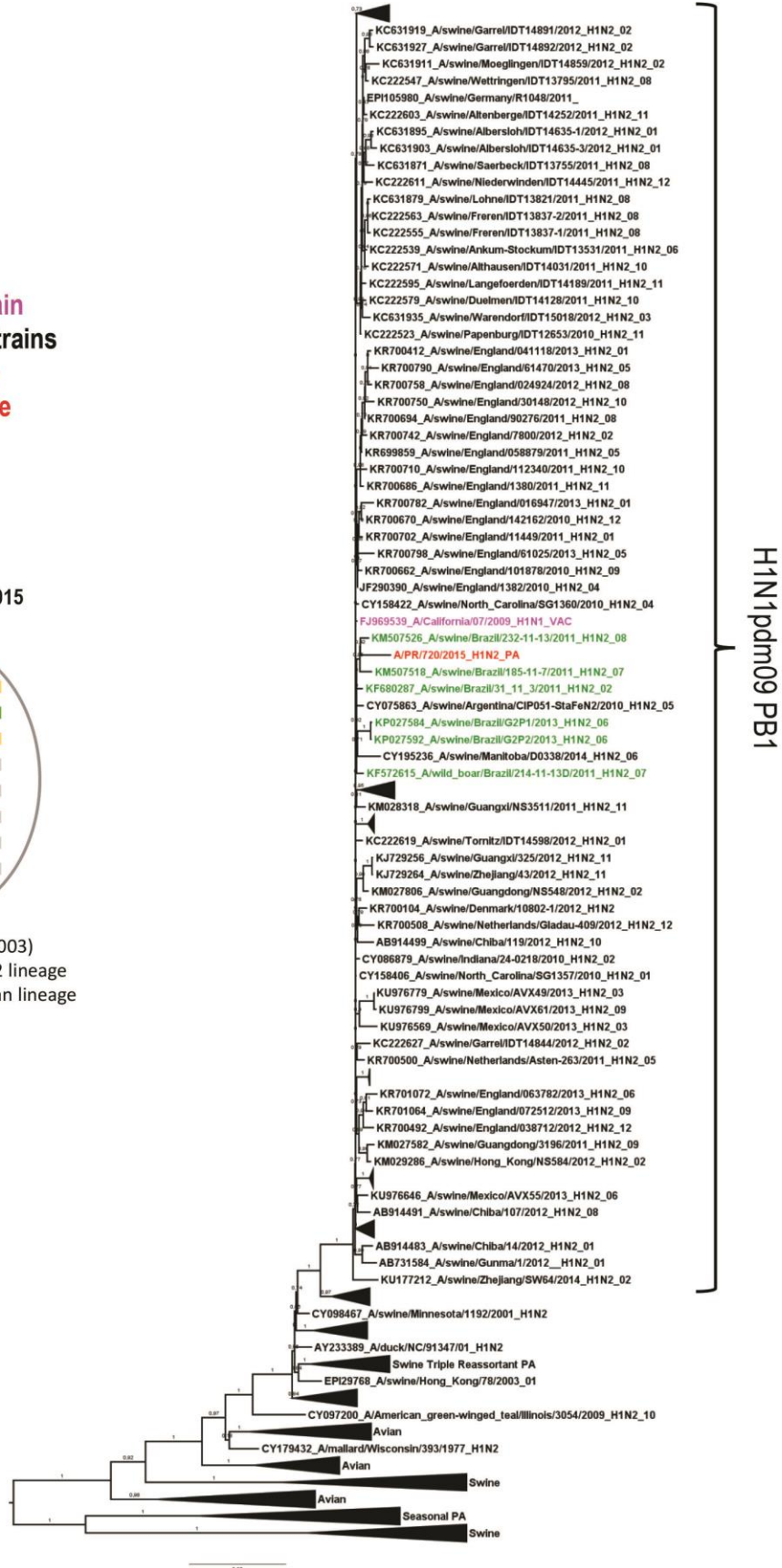
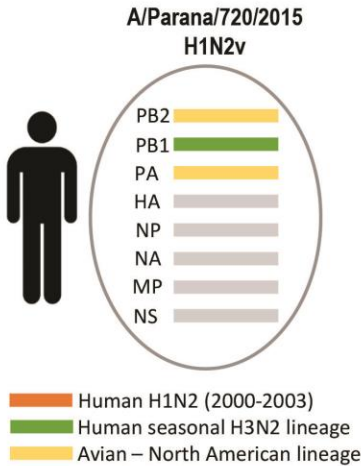
H3N2 vaccine strains  
H1N1pdm09 vaccine strain  
Swine and avian H1N2 strains  
Brazil swine H1N2 cases  
Brazil human H1N2v case  
Human H1N2 cases





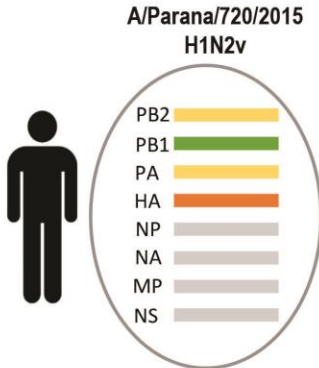
# PA

H1N1pdm09 vaccine strain  
 Swine and avian H1N2 strains  
 Brazil swine H1N2 cases  
 Brazil human H1N2v case

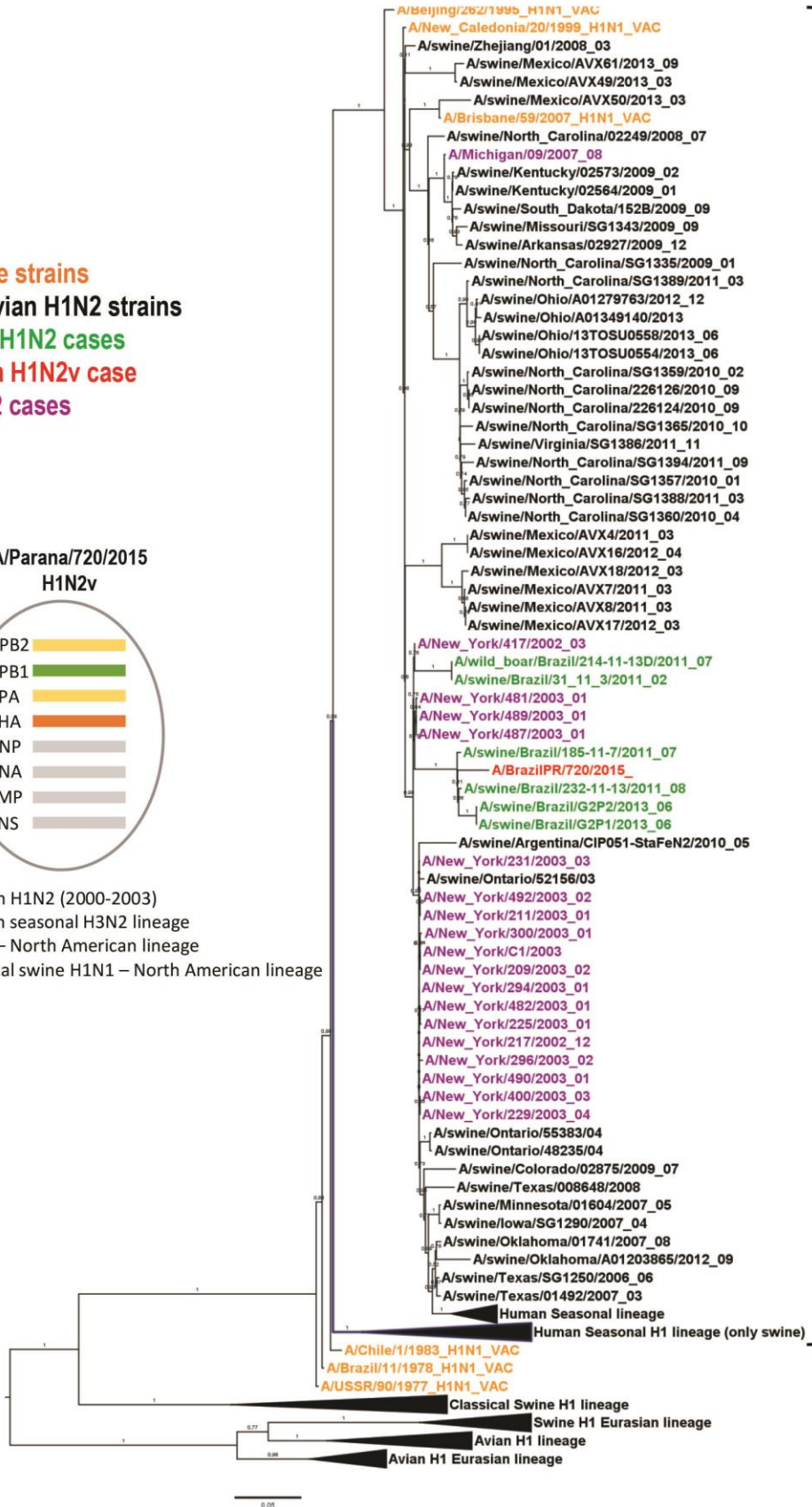


# HA

H1N1 vaccine strains  
 Swine and avian H1N2 strains  
 Brazil swine H1N2 cases  
 Brazil human H1N2v case  
 Human H1N2 cases



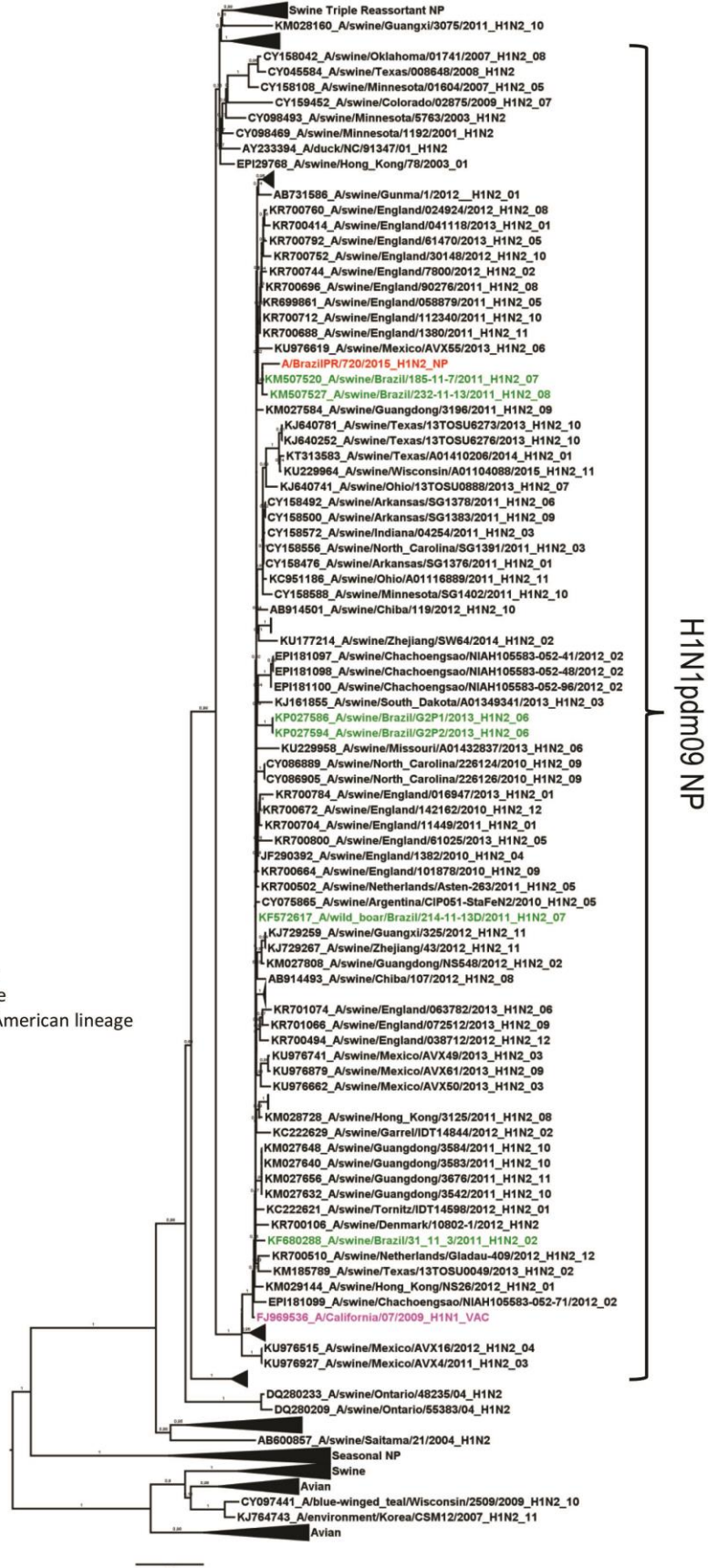
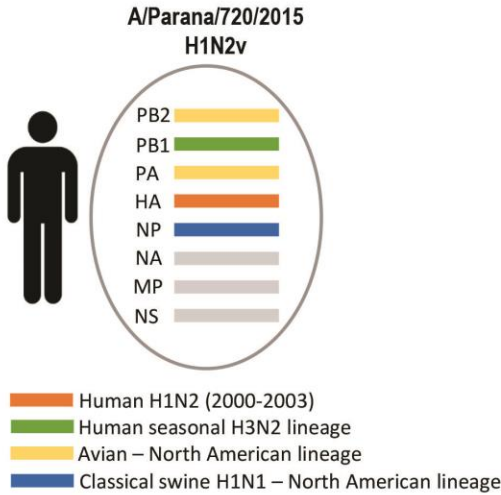
Human H1N2 (2000-2003)  
 Human seasonal H3N2 lineage  
 Avian – North American lineage  
 Classical swine H1N1 – North American lineage



Human seasonal H1 lineage

# NP

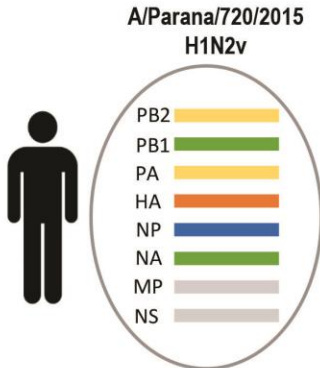
H1N1pdm09 vaccine strain  
 Swine and avian H1N2 strains  
 Brazil swine H1N2 cases  
 Brazil human H1N2v case



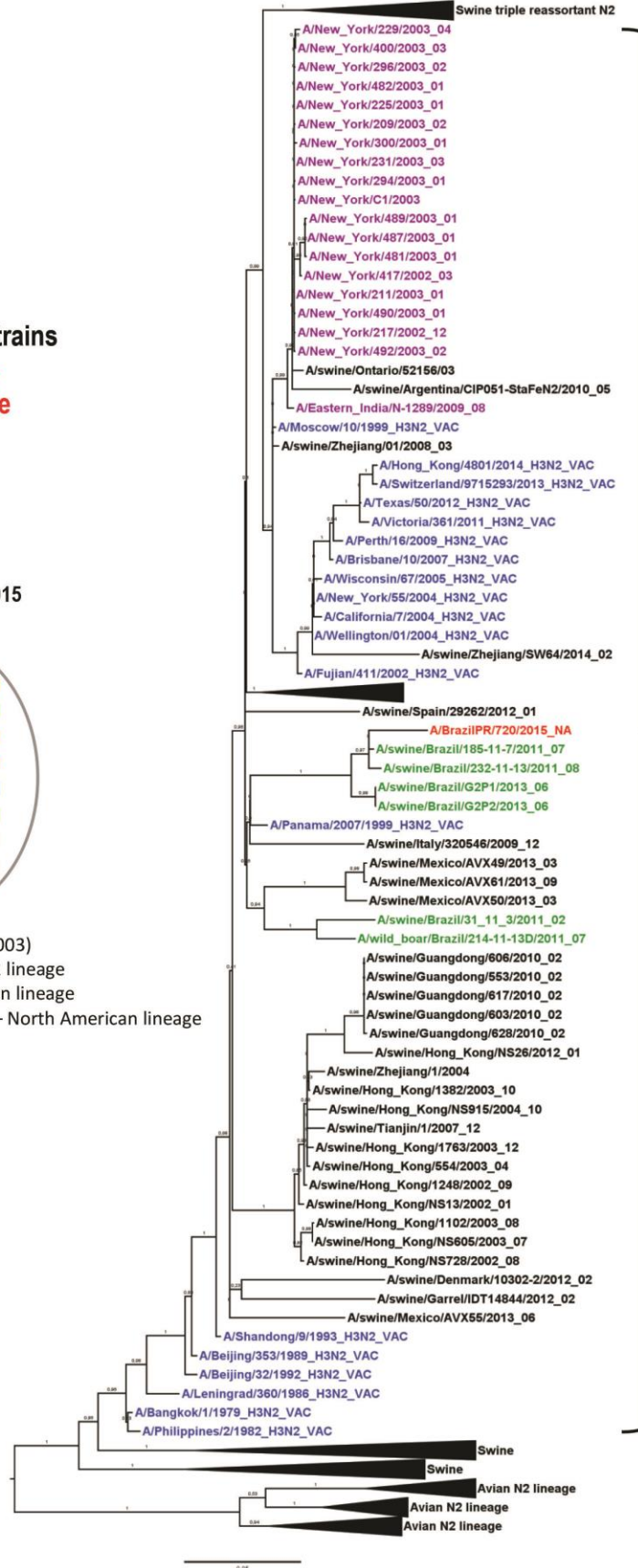


# NA

H3N2 vaccine strains  
 Swine and avian H1N2 strains  
 Brazil swine H1N2 cases  
 Brazil human H1N2v case  
 Human H1N2 cases



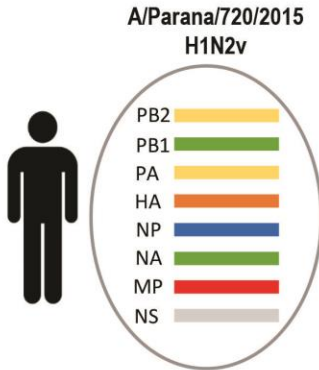
Human H1N2 (2000-2003)  
 Human seasonal H3N2 lineage  
 Avian – North American lineage  
 Classical swine H1N1 – North American lineage



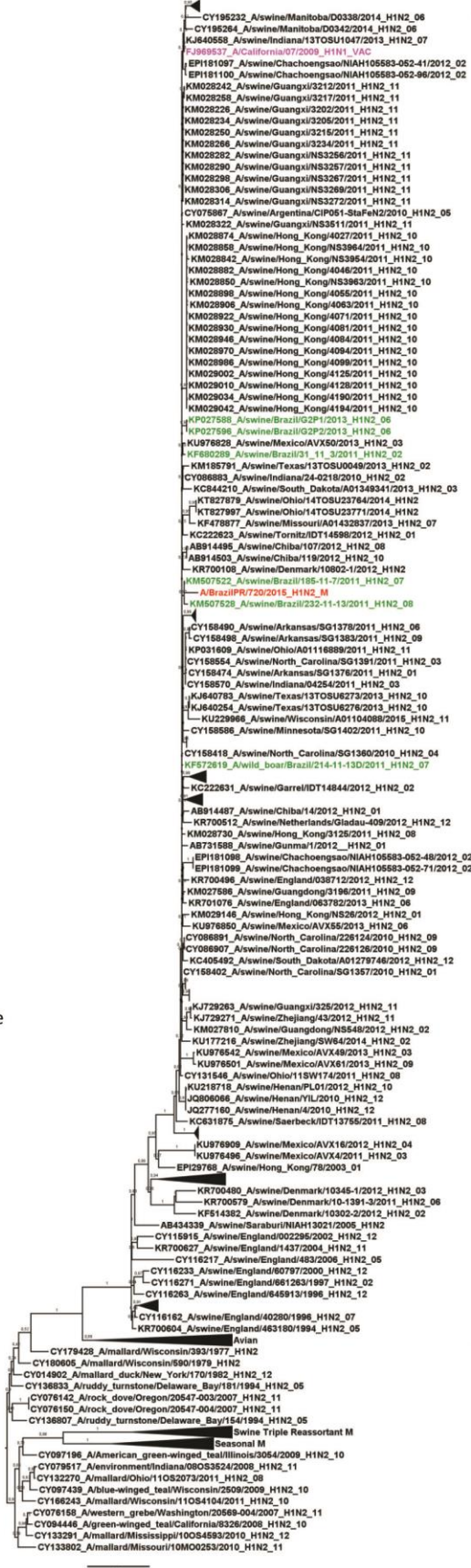
Human seasonal N2 lineage

# MP

H1N1pdm09 vaccine strain  
 Swine and avian H1N2 strains  
 Brazil swine H1N2 cases  
 Brazil human H1N2v case



- Human H1N2 (2000-2003)
- Human seasonal H3N2 lineage
- Avian – North American lineage
- Classical swine H1N1 – North American lineage
- Eurasian swine lineage



H1N1pdm09 M



# NS

H1N1pdm09 vaccine strain  
 Swine and avian H1N2 strains  
 Brazil swine H1N2 cases  
 Brazil human H1N2v case

