Influenza A virus in swine in Brazil

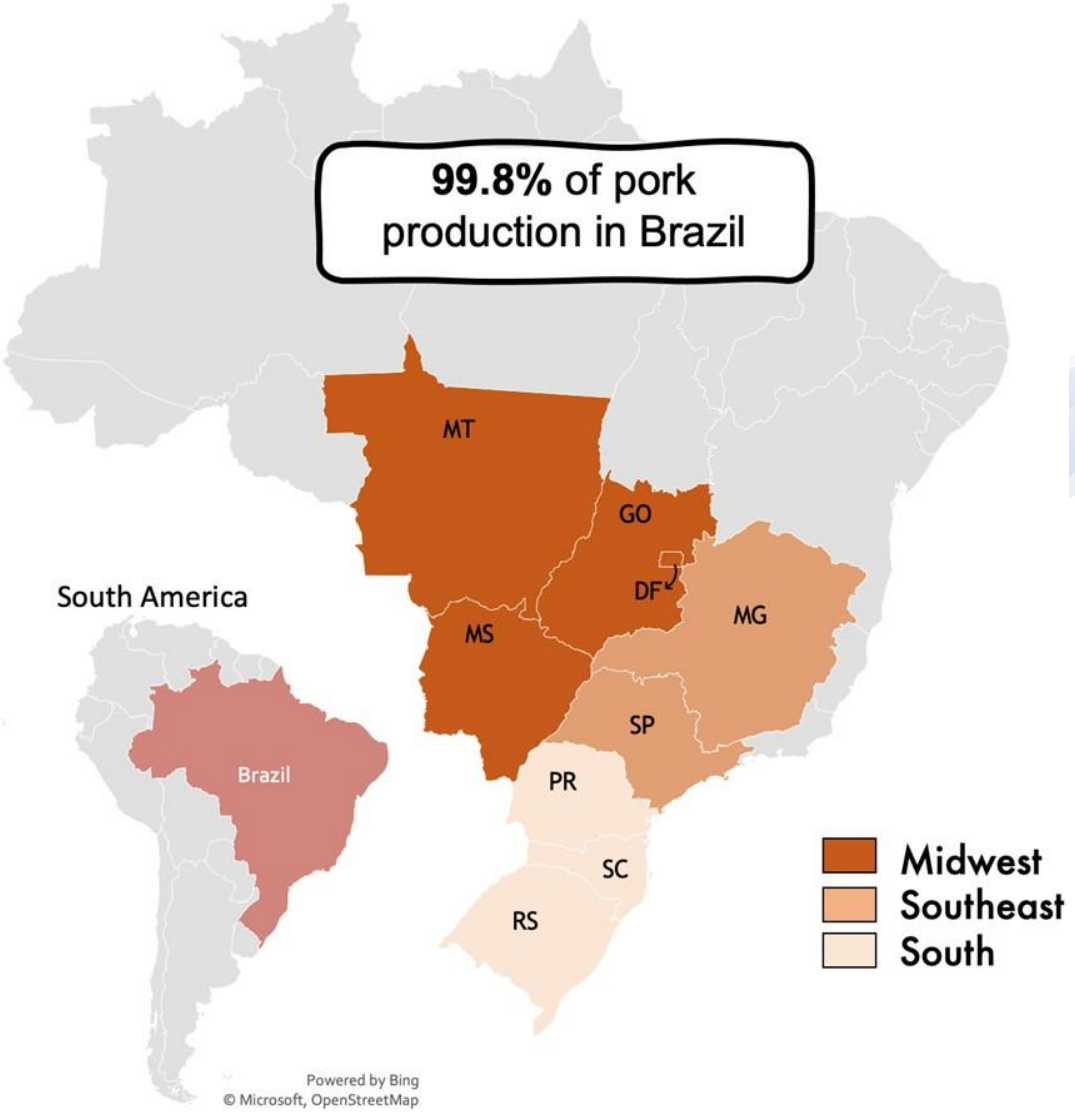
- Rejane Schaefer
- Researcher at Embrapa Swine and Poultry
- Brazil

3 - 4 April 2024

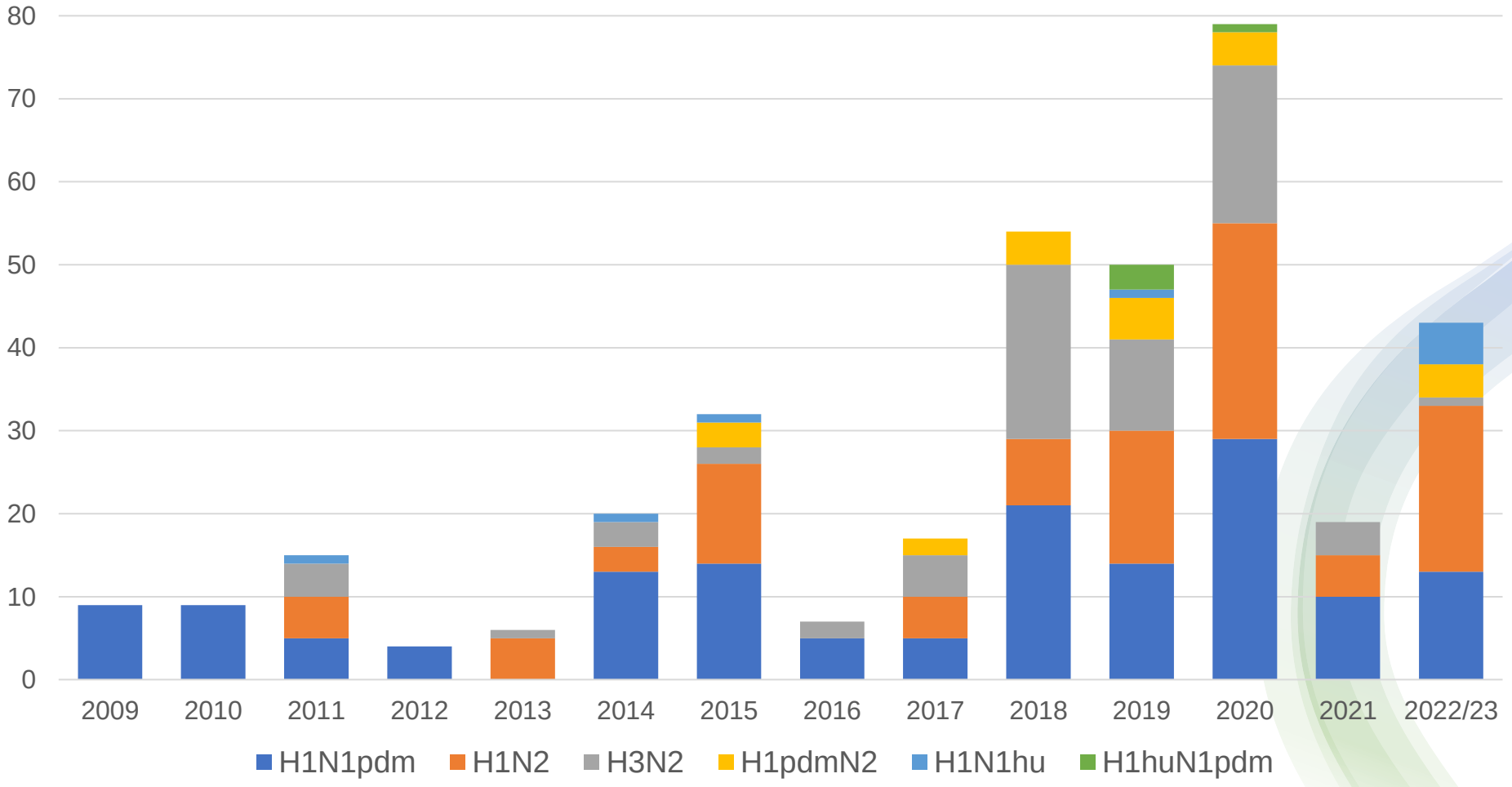
SIV - Brazil

Embrapa Suínos e Aves
Brazilian Agricultural Research Corporation

- Passive surveillance since late 2009
- Nine states in South, Southeast and Midwest Brazil.



SIV - Brazil

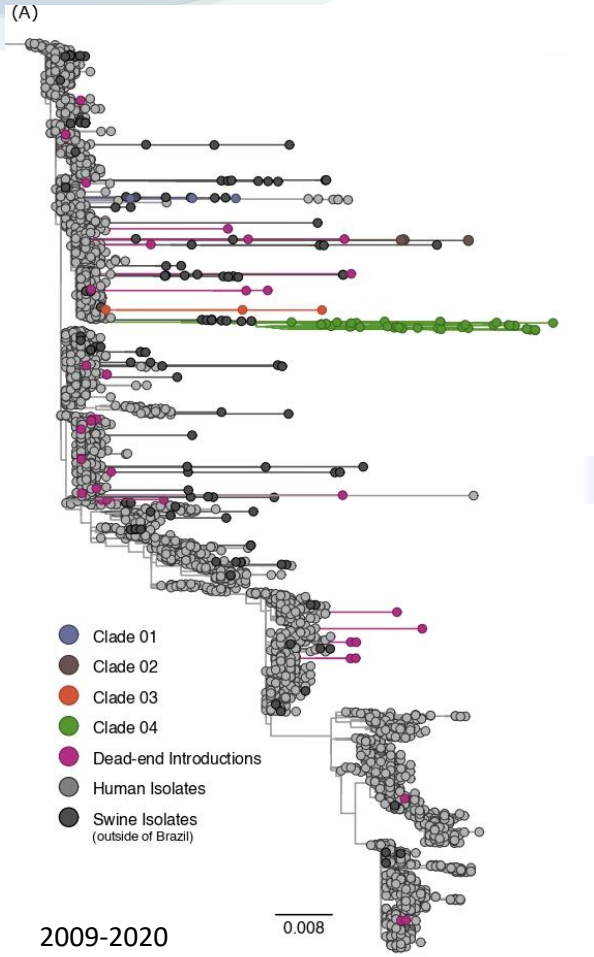


Tochetto et al., 2024. unpublished data

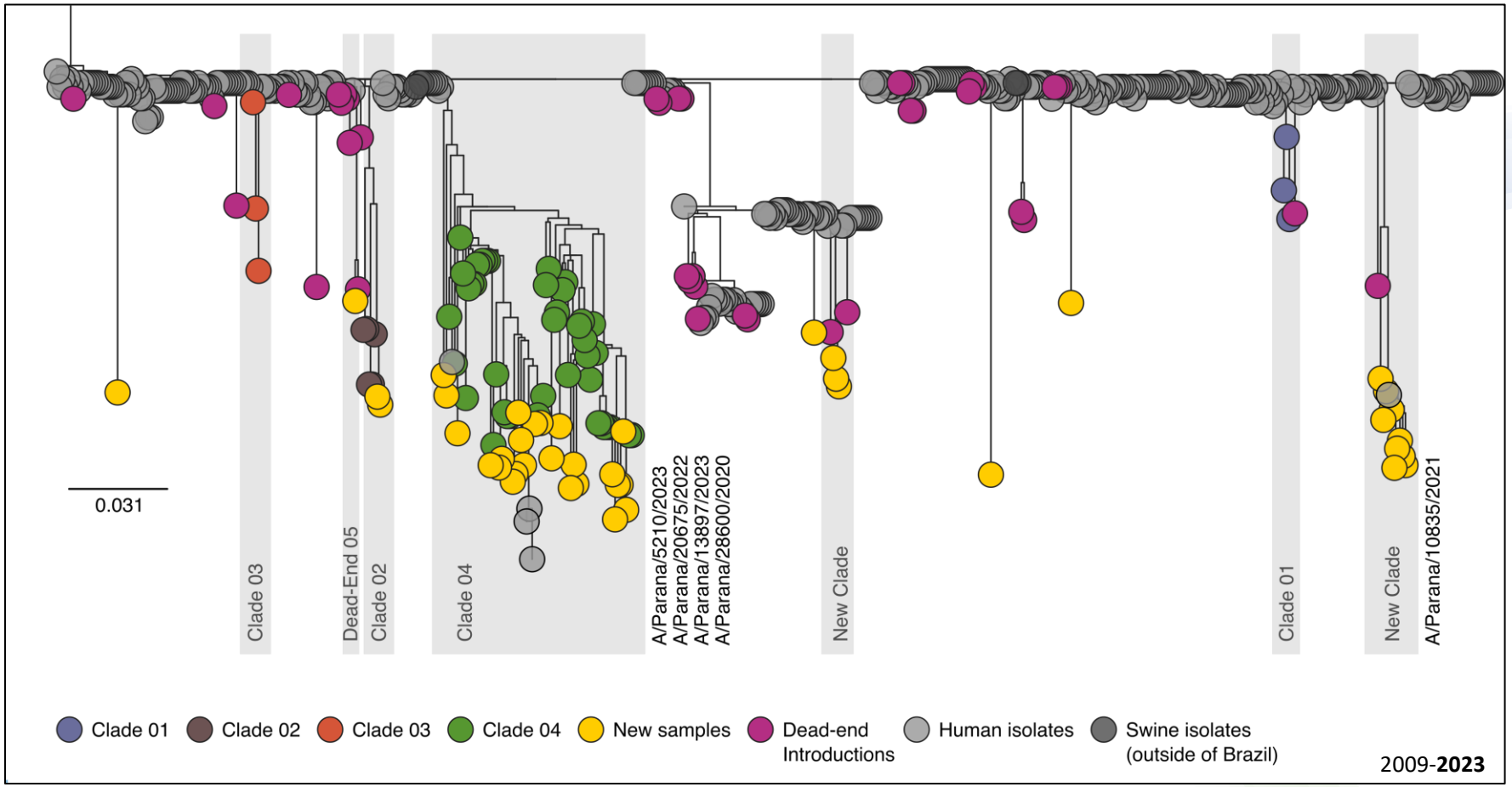
SIV - Brazil

H1 1A 1.3.3.2 (pdm09)

Resende et al., 2024. unpublished data



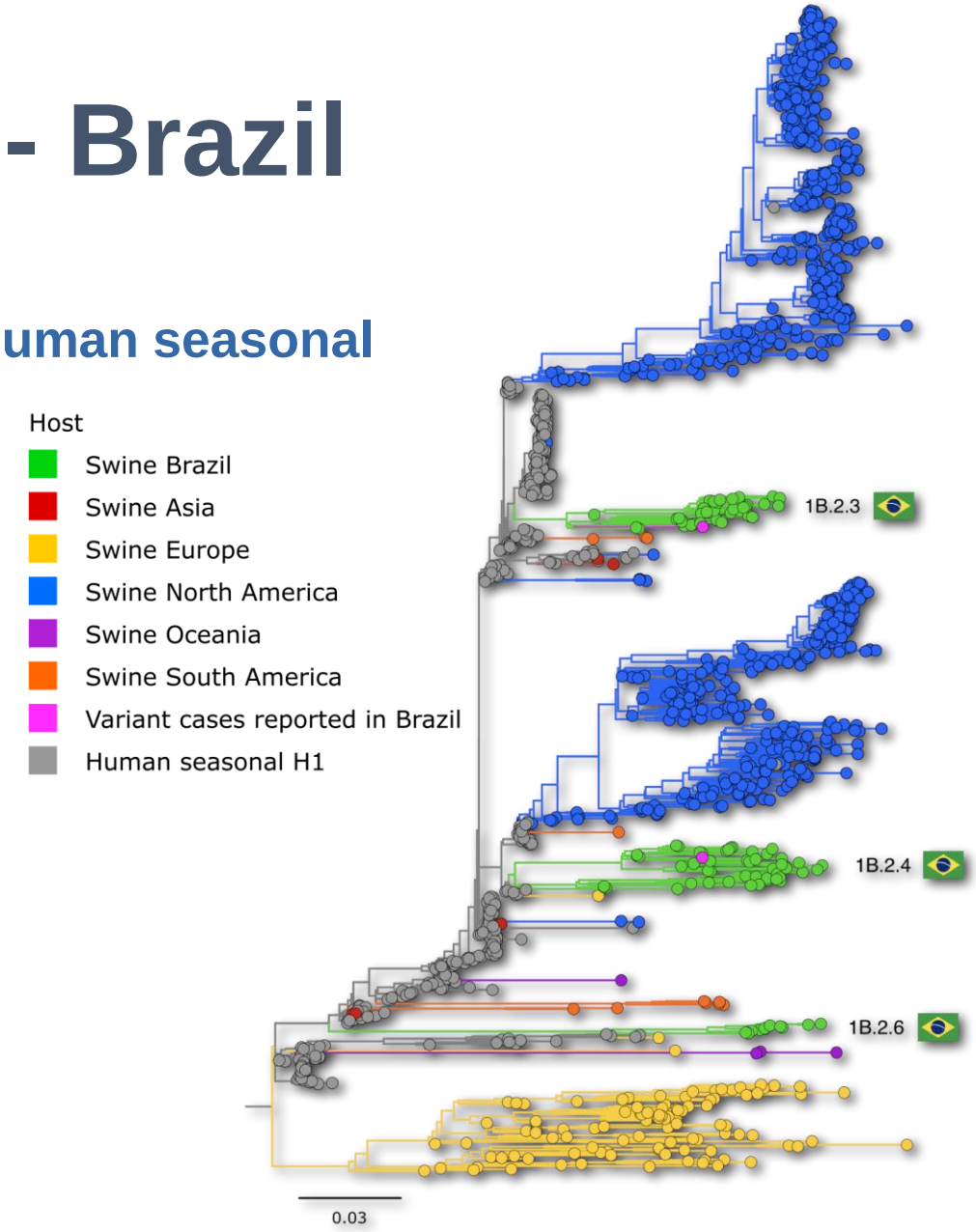
2009-2020



2009-**2023**

SIV - Brazil

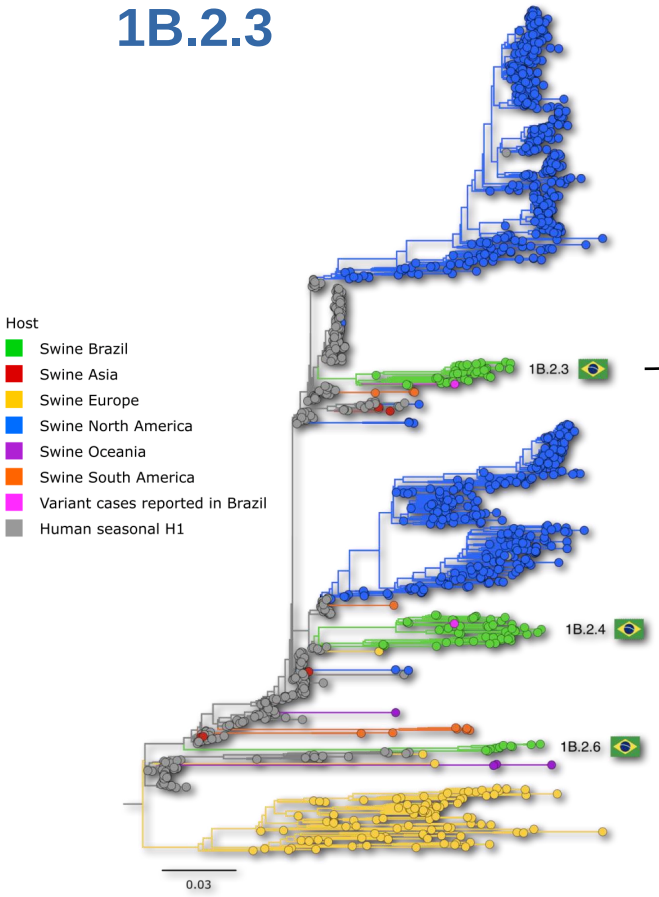
H1 1B human seasonal

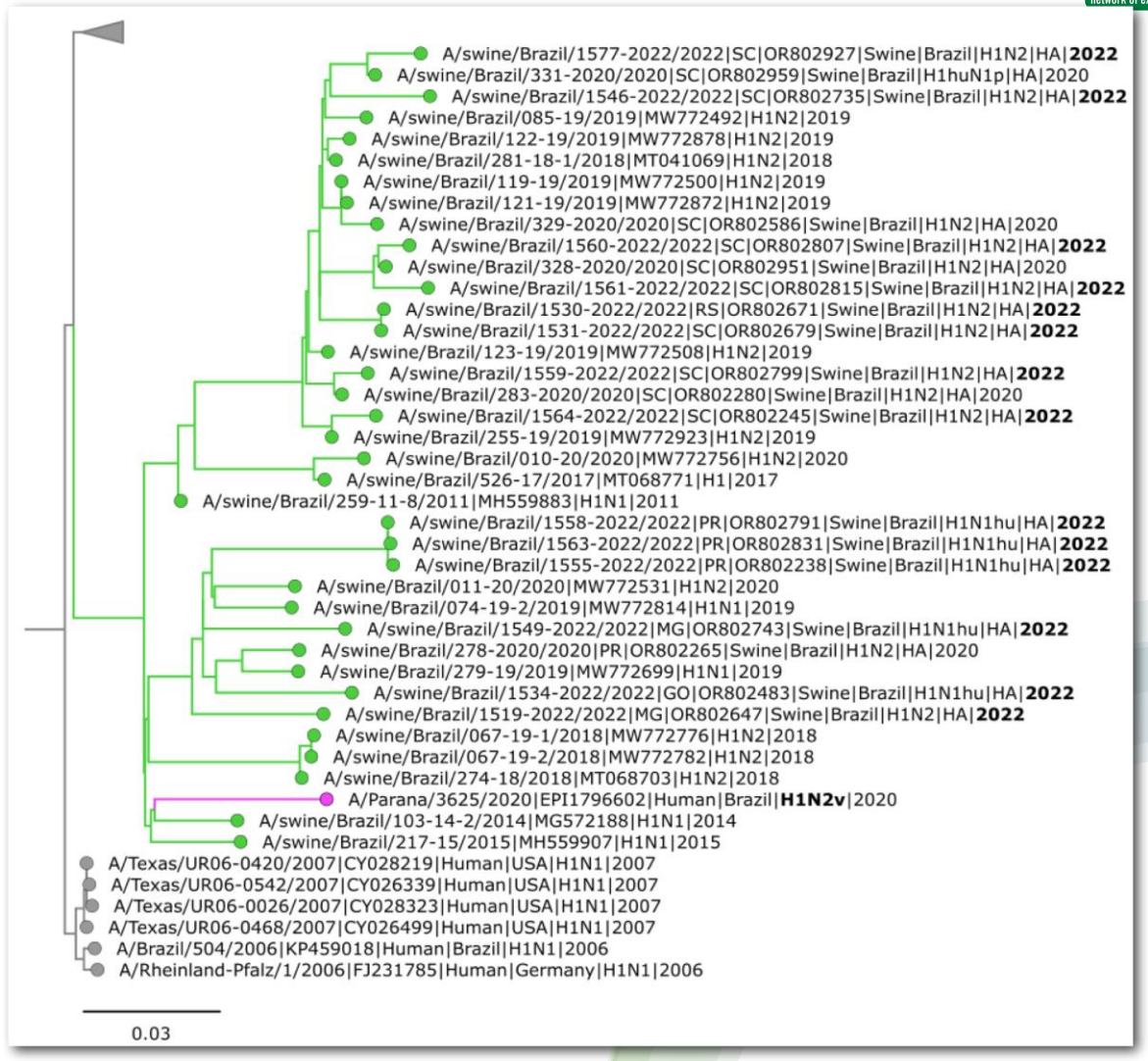


Resende et al., 2024. unpublished data

SIV - Brazil

H1 1B human seasonal 1B.2.3



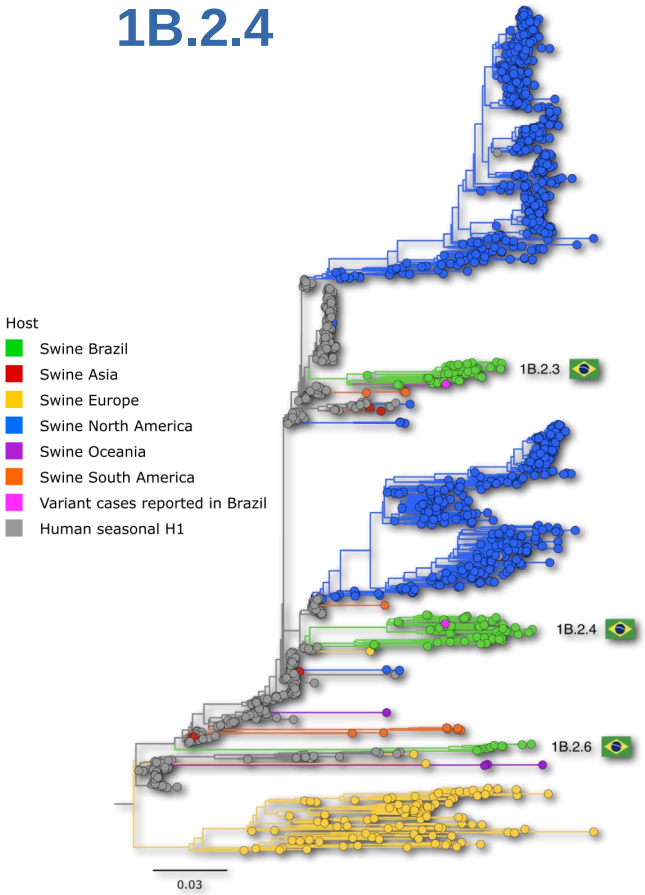


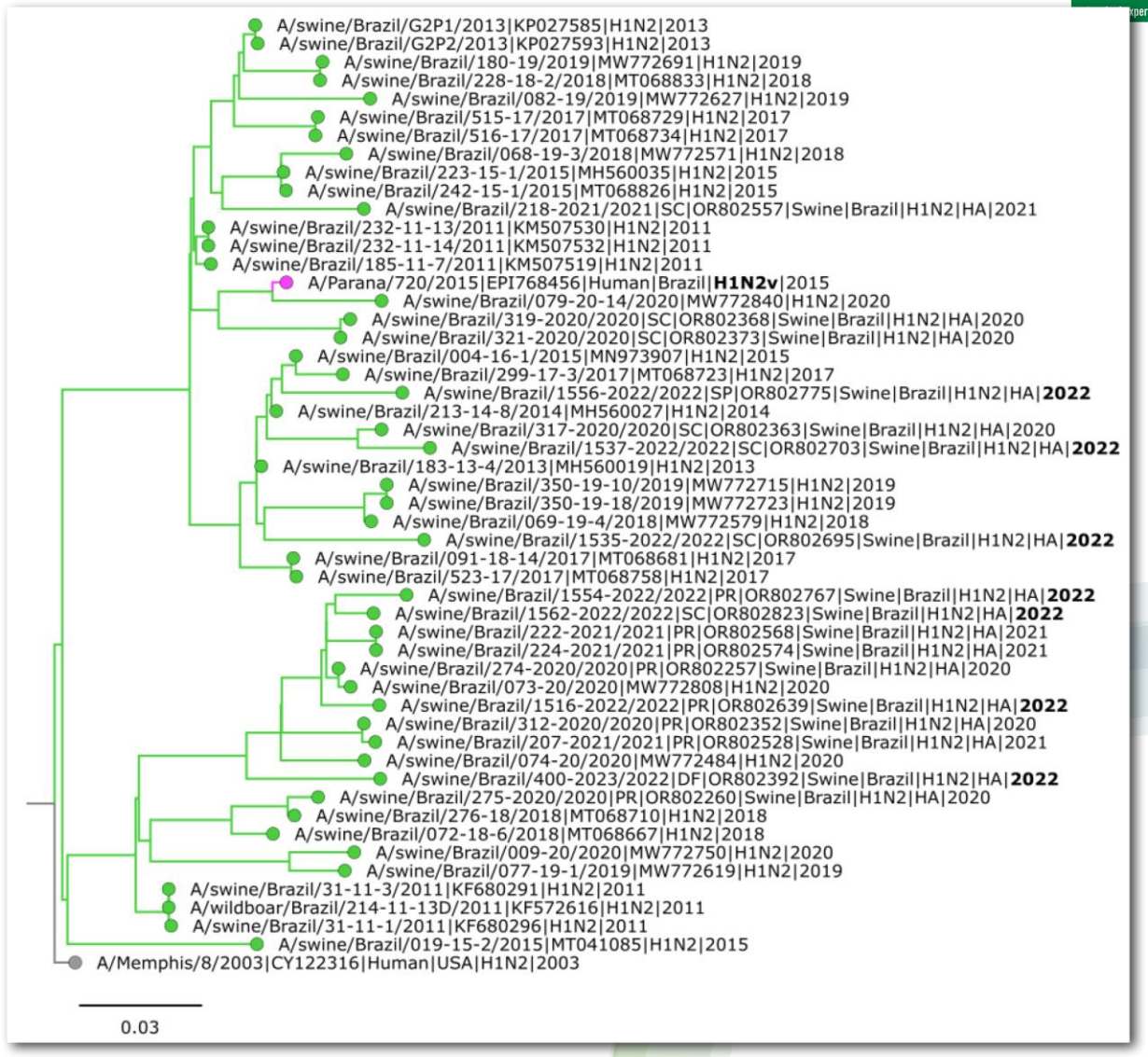
Resende et al., 2024. unpublished data

SIV - Brazil

H1 1B human seasonal

1B.2.4

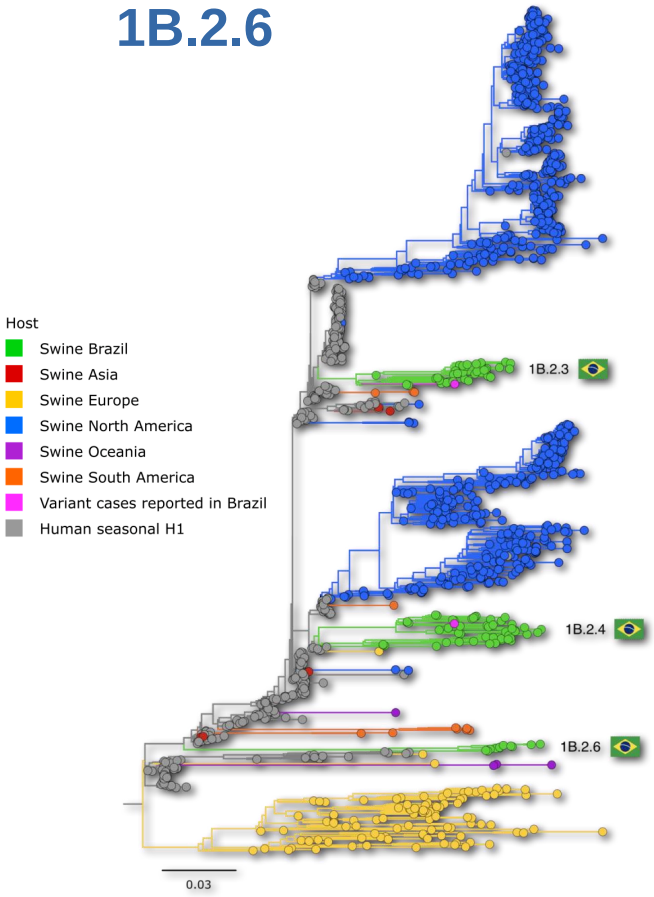


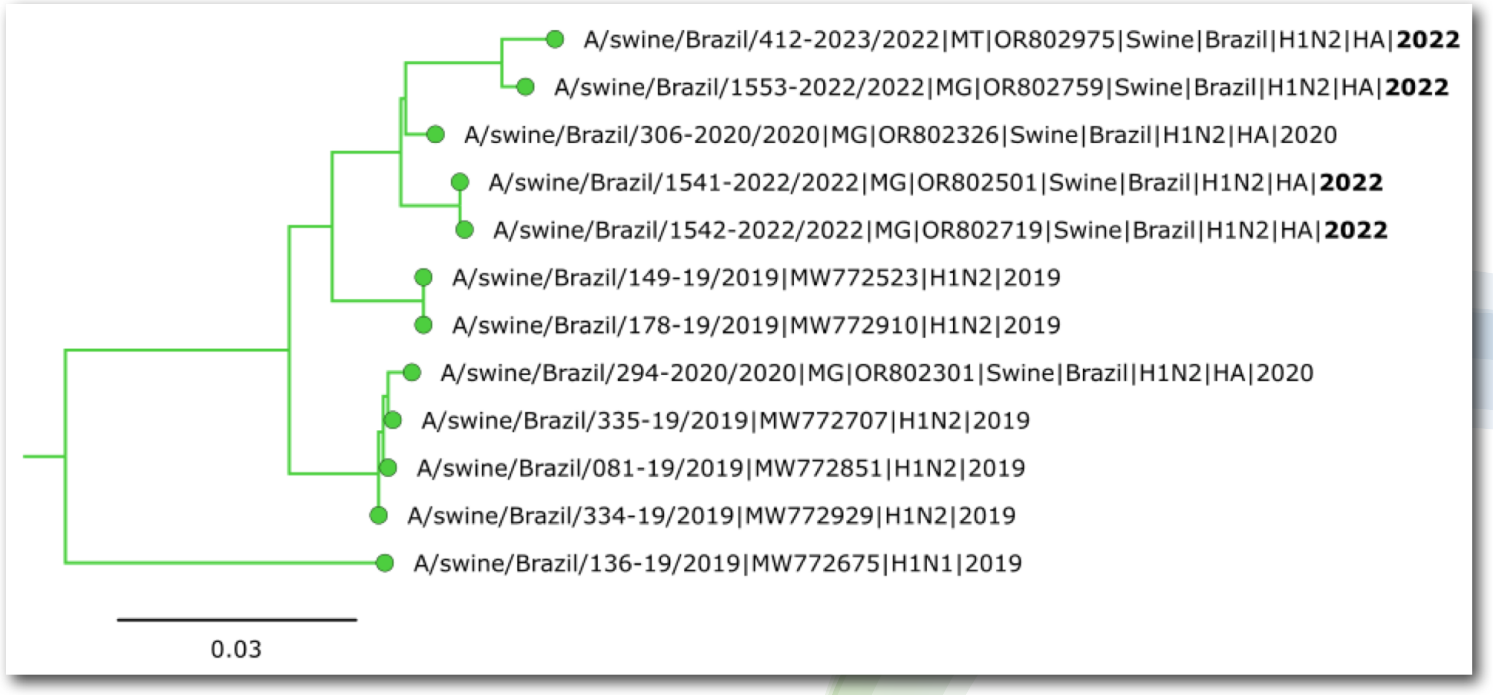


Resende et al., 2024. unpublished data

SIV - Brazil

H1 1B human seasonal 1B.2.6

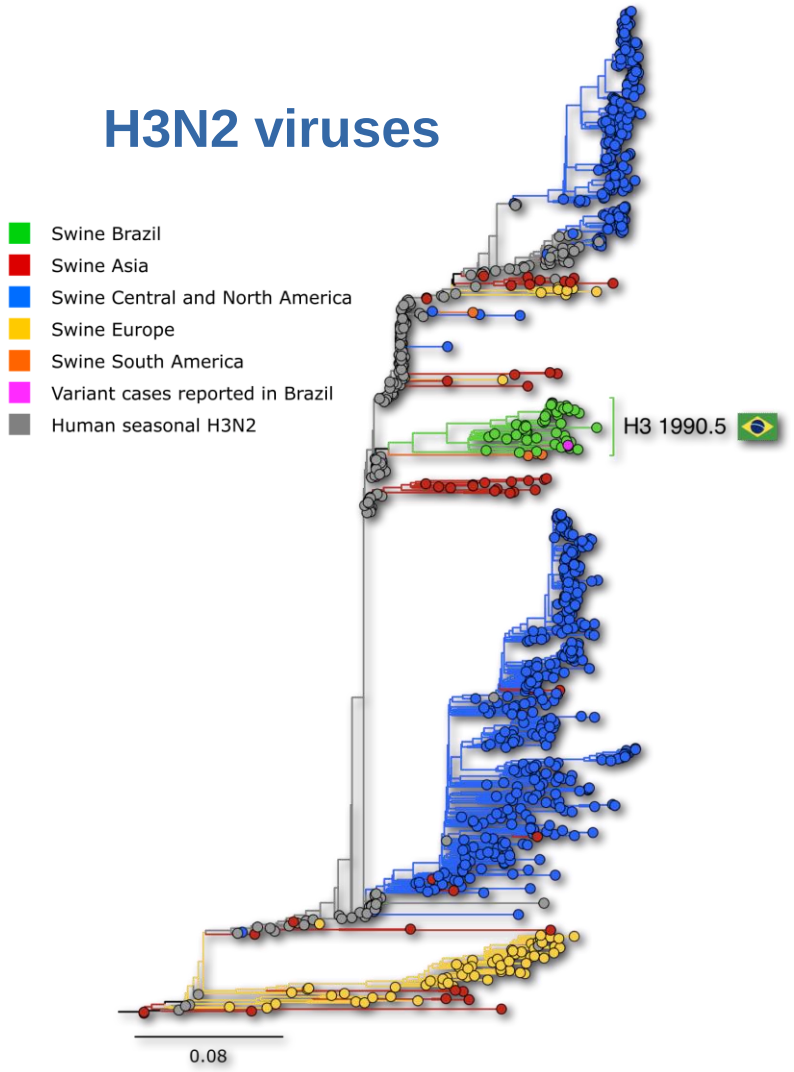


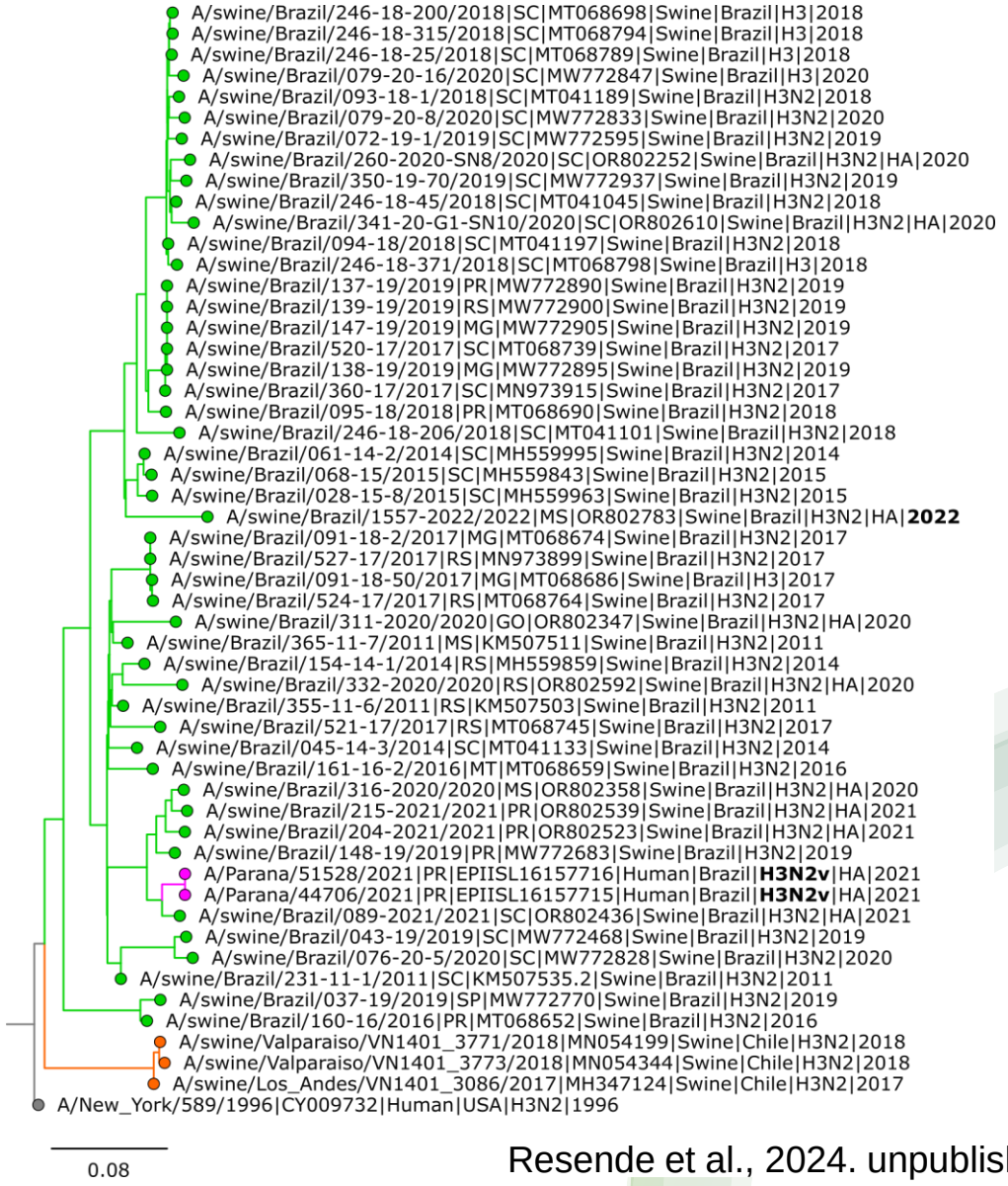


Resende et al., 2024. unpublished data

SIV - Brazil

H3N2 viruses



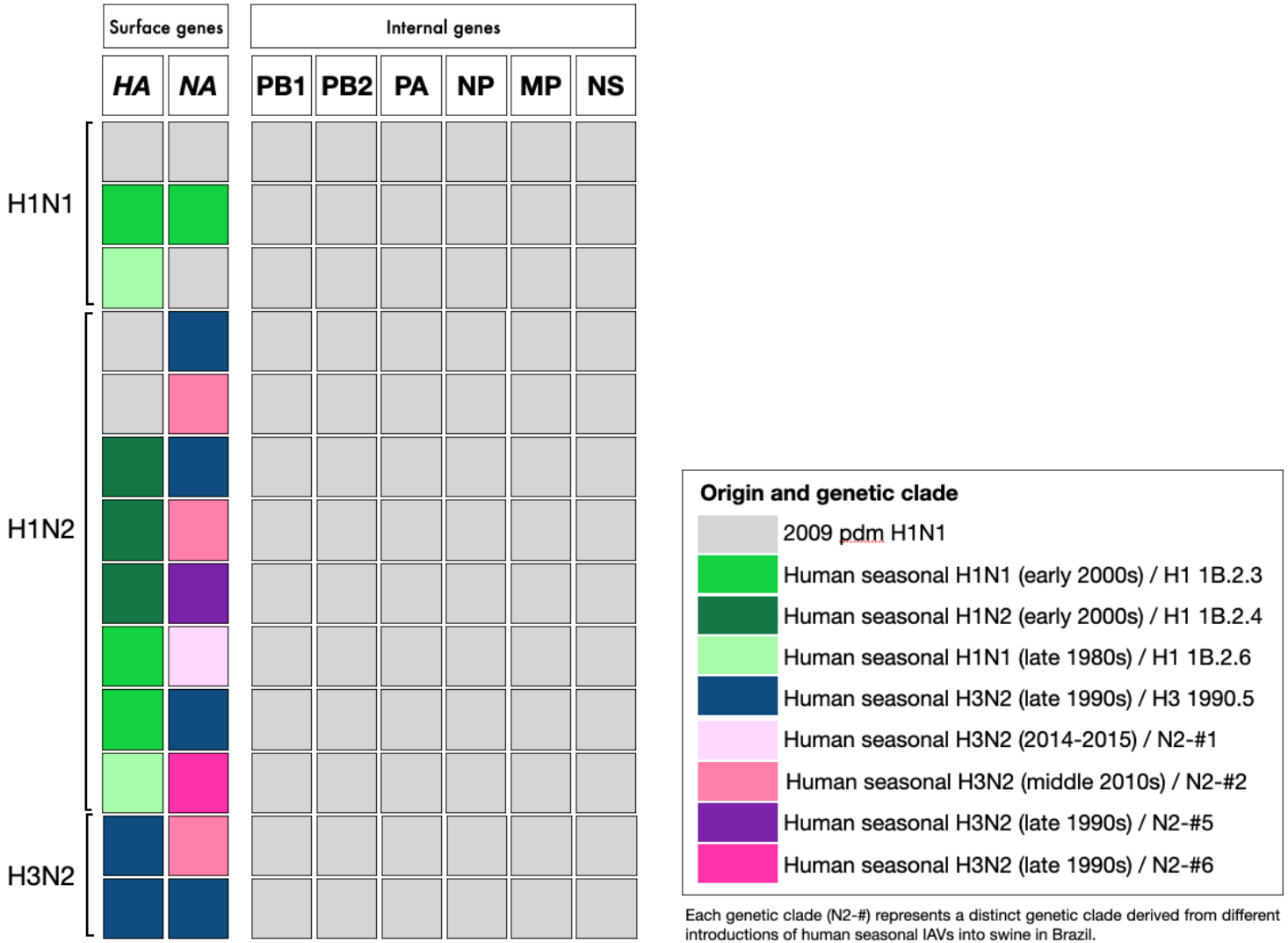


Resende et al., 2024. unpublished data

SIV - Brazil

Genotypes

H1N1, H1N2 and H3N2



Tochetto et al., 2024. unpublished data

SIV - Brazil

Antigenic analysis

bioRxiv
THE PREPRINT SERVER FOR BIOLOGY

Antigenic and genetic diversity of H1 and H3 influenza A viruses in swine in Brazil

Sara Lopes, Tavis K. Anderson, Rejane Schaefer, Caroline Tochetto, Danielle Gava, Mauricio E. Cantao, Janice R. Ciacci-Zanella, Amy L. Vincent Baker, Nicola S. Lewis

doi: https://doi.org/10.1101/2023.12.01.569635

- Antigenic characterization of IAVs circulation in Brazilian swine between 2010-2018 was performed.
- Limited cross-reactivity between circulating swine lineages, and significant antigenic variation within lineage.
- No human vaccine strains were antigenically similar enough to provide significant protection against potential zoonotic infections by Brazilian H1 or H3 swine IAV.

Final remarks and ongoing projects

- The genetic diversity of swIAV in Brazil is increasing in the last years;
- Since 2015, nine variant IAVs were detected in humans in Southern Brazil;
- Continue to monitor influenza in pigs through sequencing and antigenic analyses;
- New research partnerships;
- Scientific divulgation (Publications).

Acknowledgements

Brazilian Agricultural Research Corporation

Federal University of Santa Maria

Osvaldo Cruz Fundation

Thank you

rejane.schaefer@embrapa.br