

SUPPLEMENTARY MATERIAL TO:

**A pan-influenza monoclonal antibody neutralizes H5 strains and
protects through intranasal administration**

Anna L. Beukenhorst^{1,2,3*}, Jacopo Frallicciardi², Keira L. Rice², Martin H. Koldijk², Joana C. Moreira de Mello², Jaco M. Klap², Christoforos Hadjichrysanthou⁴, Clarissa M. Koch², Kelly A.S. da Costa⁵, Nigel Temperton⁵, Babette A. de Jong², Helene Vietsch², Bertjan Ziere², Boris Julg², Wouter Koudstaal² & Jaap Goudsmit^{2,6}

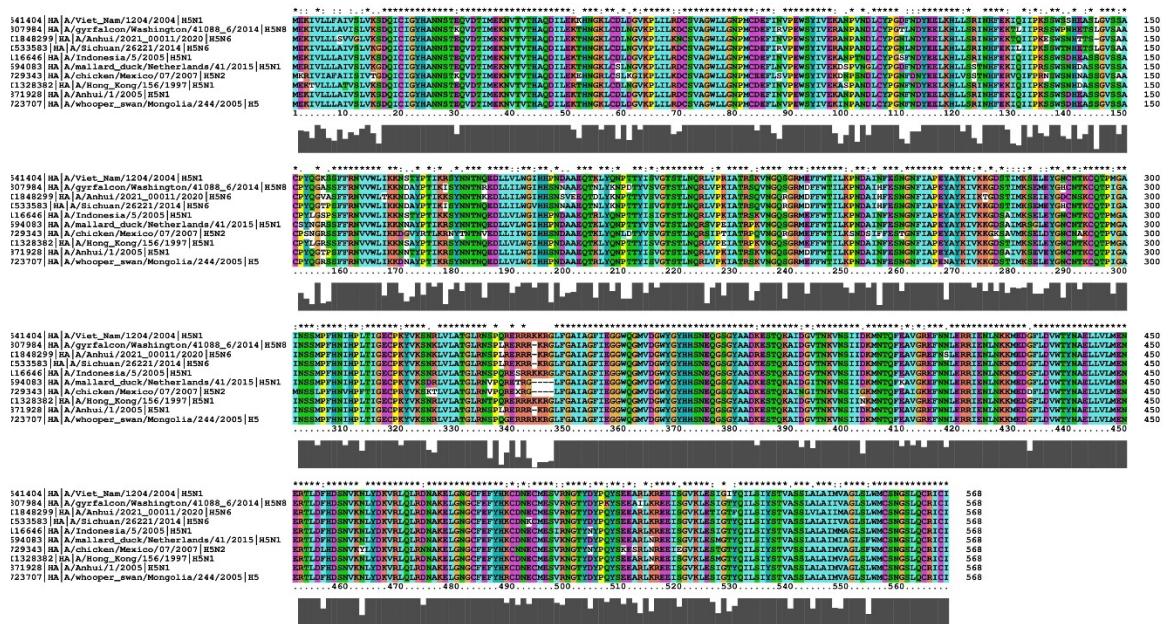
1. Department of Biostatistics, Harvard T.H. Chan School of Public Health, Boston, MA, USA
2. Leyden Laboratories BV, Leiden, The Netherlands.
3. Centre for Epidemiology, University of Manchester, Manchester Academic Health Science Centre, Manchester, UK
4. Department of Mathematics, University of Sussex, Brighton, UK
5. Viral Pseudotype Unit, Medway School of Pharmacy, University of Kent & University of Greenwich, Chatham, United Kingdom
6. Departments of Epidemiology, Immunology and Infectious Diseases, Harvard TH Chan School of Public Health, Boston, MA, USA.

Supplementary Table 1. Strains tested in the pseudotype virus neutralization assay (PNA).

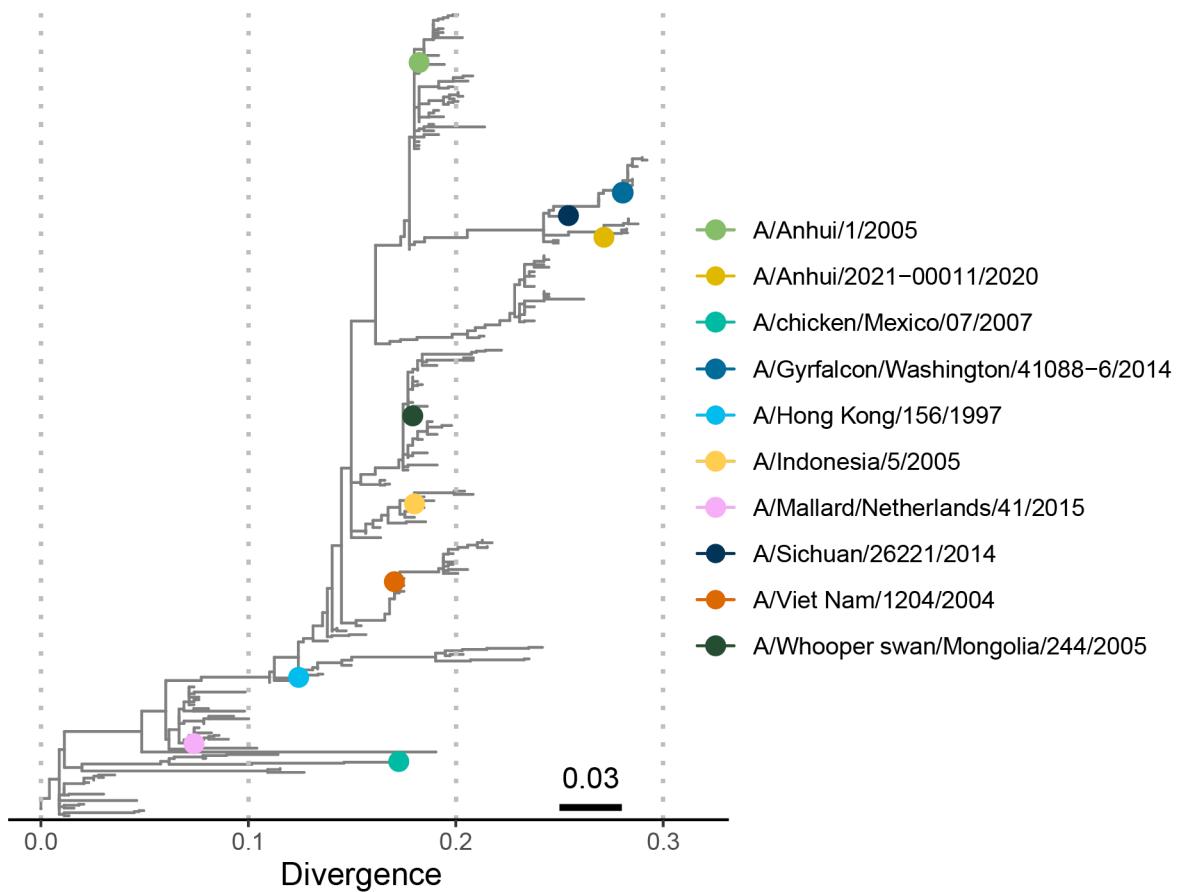
Isolate Name	Isolate ID	Date	Regio n	Country	Host	Subty pe	Clade
A/Anhui/1/2005	EPI_ISL_1005 8	2005 -11-8	Asia	China	Human	A/H5 N1	2.3.4
A/mallard duck/Netherlands/41/2015	EPI_ISL_3289 66	2015 -9-15	Europ e	Netherla nds	Mallard	A/H5 N1	EA_nonGs GD
A/Hong Kong/156/97	EPI_ISL_954 -XX- XX	1997	Asia	Hong Kong (SAR)	Human	A/H5 N1	0
A/Anhui/2021-00011/2020	EPI_ISL_1081 370	2020 -12- 22	Asia	China	Human	A/H5 N6	2.3.4.4h
A/Vietnam/1203/2004	EPI_ISL_1065 6749	2006 -6-14	Asia	Vietnam	Human	A/H5 N1	1
A/Indonesia/5/2005	EPI_ISL_1215 41	2005 -XX- XX	Asia	Indonesi a	Human	A/H5 N1	2.1.3.2
A/Sichuan/26221/2014	EPI_ISL_1634 93	2014 -4-21	Asia	China	Human	A/H5 N6	2.3.4.4b
A/gyrfalcon/Washington/41 088-6/2014	EPI_ISL_1738 78	2014 -12-8	North Ameri ca	United States	Gyrfalc on	A/H5 N8	2.3.4.4c
A/whooper_swan/Mongolia/ 244/2005	EPI_ISL_6495 6	2005 -XX- XX	Asia	Mongoli a	Whoop er swan	A/H5 N1	2.2
A/chicken/Mexico/07/2007	EPI_ISL_2445 40	2007 -XX- XX	North Ameri ca	Mexico	Chicke n	A/H5 N2	Am_nonGs GD

Supplementary Table 2. Geometric mean HI titers in pooled sera one day before challenge (27 days after immunization). Lower limit of detection = 5

Mice	H1N1 (A/Victoria)	H3N2 (A/Cambodia)	B/Washington (Victoria lineage)	B/Phuket (Yamagata lineage)
Vaccinated	196	320	28	40
Unimmunized	≤ 5	≤ 5	≤ 5	≤ 5



Supplementary Fig. 1. Alignment of the HA protein sequences for the A/H5 strains tested in the PNA.



Supplementary Fig. 2. Complete phylogenetic tree based on the identity of the hemagglutinin protein sequence from 632 isolates. A/chicken/Scotland/1959 was used as a root for building the tree.