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Establishing OIE H5 Reference Standard Sera

Group membership

- VLA Weybridge
- AAHL Geelong
- FLI Reims
- USDA Ames
- Hokkaido University, Japan
- IZSV, Padova
- NCFAD, Winnipeg

Aim:
to establish through a collaborative exercise amongst OFFLU partners a global reference standard serum for H5 influenza A virus

Proposed Approach

• Collect information from interested participants on their standard serum (sera) used in typing H5 influenza A virus and other serological applications

- •Strain Identity (using standard nomenclature)
- •Subtype
- •Host of origin for serum
- •HI titre with homologous antigen

• Participants to supply seven to ten ml of serum to VLA-Weybridge

• VLA will produce an anonymised panel of sera for distribution to all participants. This panel will include one reference standard antigen for comparability measurement between participants

• Each participant should test the full panel of sera against a selected range of H5 viruses held at their Institute representing contemporary viruses of wide diversity taking into account

- • Geography
- • Antigenicity
- • Genetic lineage
- • Host

• All testing done using the HI test as specified in the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals

Proposed Approach

- All results should be returned to VLA (aiwrl@vla.defra.gsi.gov.uk) to collate the data and supply to all participating laboratories
- Upon distribution of results, participants will have an opportunity to comment: a teleconference will be held to make a selection of the best sera that meets the following criteria:
    - high specificity to H5 virus
    - producing broad cross reactivity with a diverse panel of virus strains
    - preferably representative of all geographical regions
- It will be necessary to specify two reference standard sera with heterologous NA subtypes in order to accommodate the problem of cross interference from anti neuraminidase antibody
- Upon selection of a reference standard serum, a candidate laboratory will be identified to undertake supply and production
- OIE reference standard serum distributed to all OIE laboratories and standardisation data collected from each participant before it's available for general release

Timeline for establishing OIE H5 reference standard sera

Activity	Due Date
Indicate willingness to participate and provide information on data sheet for sera that will be supplied.	23/Dec/08
Submit sera to VLA Weybridge	31/Jan/09
Panel of reagents distributed to all participants	13/Mar/09
Test results returned from all participants	31/May/09
Data distributed to all participants	15/Sept/09
Final selection of standard serum (sera)	30/Sept/09
Reference serum distributed and re-assessed by participants	31/Dec/09
Reference standard available to global community	31/Mar/10

Data subject to normalisation and statistical analysis

	Subtype	Homologous Titre	H5N1 Tk/Tky/ 05	H5N1 Ck/Sco/ 59	H5N2 Ost/Den/ 96	H5N9 Tk/Ont/ 69	H5N8 Tk/Ire/ 83	H5N1 Tk/Eng/ 07	H5N3 Te/Eng/ 06	H5N7 Dk/Den/ 03	H5N1 Tk/Tky/ 05	H5N1 Tk/Eng/ /07
A	H5N1	4096	256	512	256	256	4096+	256	1024	1024	256	256
B	H5N1	1024	64	128	16	64	1024	64	256	64	64	64
C	H5N3	256	128	128	64	64	512	128	256	256	128	64
D	H5N2	1024	128	128	128	128	1024	128	256	512	256	64
E	H5N1	256	4	16	<2	8	16	4	16	16	8	4
F	H5N1	320-640	128	64	32	64	128	128	32	128	256	128
G	H5N2	512	128	256	128	128	2048	128	256	512	256	128
H	H5N1	1280	256	32	4	64	128	128	32	128	512	256
I	H5N1	640-1280	64	64	16	32	256	64	128	128	128	64
J	H5N1	128	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
K	H5N1	256	32	64	256	32	512	64	128	256	64	32
L	H5N1	256	64	256	64	64	512	64	256	256	128	64
M	H5N9	32	32	32	128	128	256	64	128	256	64	32
SPF Neg		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

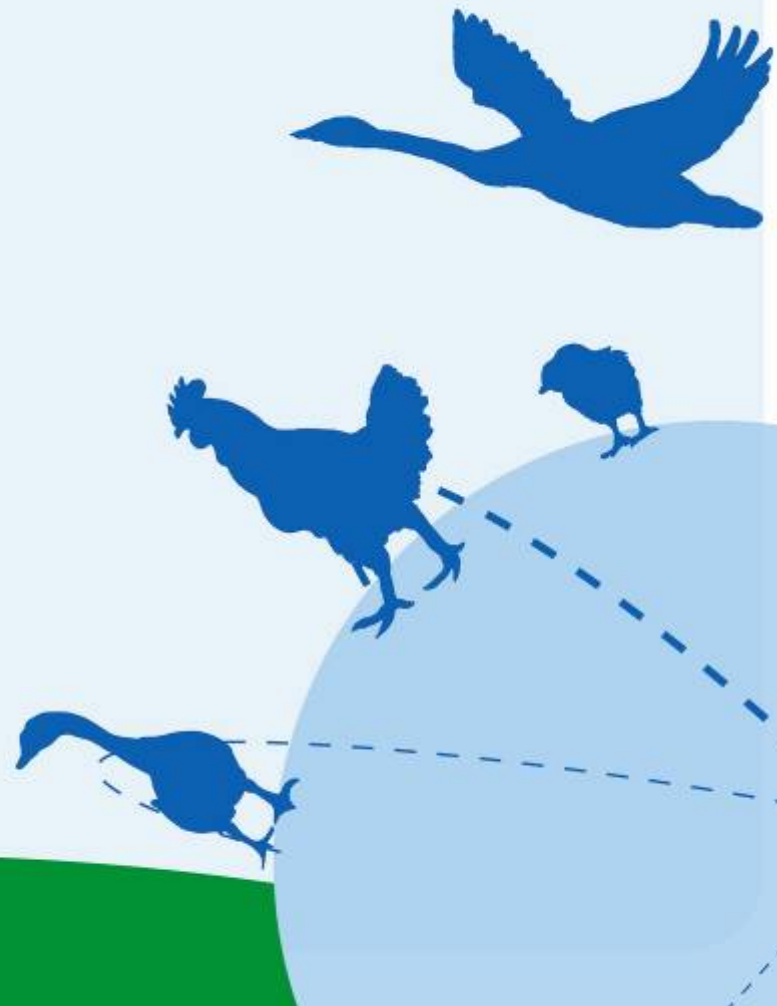
OFFLU serum panel

Evaluation after „normalization“:

	Lab A	Lab B...	∑	%	X/ref. Antigen	WEY H7N1	WEY H7N7
Serum A	0	3	**17**	22,37	8,7	7	<1
Serum B	1	1	9	11,8	6,4	<1	<1
Serum C	0	7	12	15,8	7,9	<1	<1
Serum D	0	2	12	15,8	8,6	<1	<1
Serum E	0	0	6	7,9	3,7	9	<1
Serum F	0	9	**24**	31,6	8,4	7	<1
Serum G	0	3	10	13,2	7,1	8	<1
Serum H	2	11	**49**	64,5	7,9	8	<1
Serum I	0	3	8	10,5	7,9	9	<1
Serum J					0,3		
Serum K	0	2	9	11,8	7,1	<1	<1
Serum L	0	3	10	13,2	7,7	10	<1
Serum M	1	2	9	11,8	6,4	<1	<1

C. Grund, FLI

Thank you for your attention



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