

Table S3. Hemagglutinin (HA) amino acid sequence alignment of the H3.2010.1 and H3.2010.2 swine lineages used for antigenic analysis. Identity to the consensus sequences is represented by a dot (.). Antigenic motif is highlighted with red boxes.

Consensus	1	10	20	30	40	50	60	70	80
1. KJ941380   A/swine/Missouri/A01410819/2014	Q	K	L	P	G	N	D	N	N
2. KX981496   A/swine/Ohio/16TOSU4788/2016	Q	K	L	P	G	N	D	N	N
3. MF801569.1   A/swine/Ohio/A01354299/2017	Q	K	L	P	G	N	D	N	N
4. MN931825   A/swine/Oklahoma/A02218157/2017	Q	K	L	P	G	N	D	N	N
5. MN931846.1   A/swine/Indiana/A02430356/2019	Q	K	L	P	G	N	D	N	N
Consensus	90	100	110	120	130	140	150	160	
1. KJ941380   A/swine/Missouri/A01410819/2014	N	K	K	W	D	L	F	V	E
2. KX981496   A/swine/Ohio/16TOSU4788/2016	N	K	K	W	D	L	F	V	E
3. MF801569.1   A/swine/Ohio/A01354299/2017	N	K	K	W	D	L	F	V	E
4. MN931825   A/swine/Oklahoma/A02218157/2017	N	K	K	W	D	L	F	V	E
5. MN931846.1   A/swine/Indiana/A02430356/2019	N	K	K	W	D	L	F	V	E
Consensus	170	180	190	200	210	220	230	240	
1. KJ941380   A/swine/Missouri/A01410819/2014	Y	P	A	L	E	V	T	M	P
2. KX981496   A/swine/Ohio/16TOSU4788/2016	Y	P	A	L	E	V	T	M	P
3. MF801569.1   A/swine/Ohio/A01354299/2017	Y	P	A	L	E	V	T	M	P
4. MN931825   A/swine/Oklahoma/A02218157/2017	Y	P	A	L	E	V	T	M	P
5. MN931846.1   A/swine/Indiana/A02430356/2019	Y	P	A	L	E	V	T	M	P
Consensus	250	260	270	280	290	300	310	320	
1. KJ941380   A/swine/Missouri/A01410819/2014	D	I	L	L	I	N	S	T	G
2. KX981496   A/swine/Ohio/16TOSU4788/2016	D	I	L	L	I	N	S	T	G
3. MF801569.1   A/swine/Ohio/A01354299/2017	D	I	L	L	I	N	S	T	G
4. MN931825   A/swine/Oklahoma/A02218157/2017	D	I	L	L	I	N	S	T	G
5. MN931846.1   A/swine/Indiana/A02430356/2019	D	I	L	L	I	N	S	T	G
Consensus	330	340	350	360	370	380	390	400	
1. KJ941380   A/swine/Missouri/A01410819/2014	R	N	I	P	E	K	Q	T	R
2. KX981496   A/swine/Ohio/16TOSU4788/2016	R	N	I	P	E	K	Q	T	R
3. MF801569.1   A/swine/Ohio/A01354299/2017	R	N	I	P	E	K	Q	T	R
4. MN931825   A/swine/Oklahoma/A02218157/2017	R	N	I	P	E	K	Q	T	R
5. MN931846.1   A/swine/Indiana/A02430356/2019	R	N	I	P	E	K	Q	T	R
Consensus	410	420	430	440	450	460	470	480	
1. KJ941380   A/swine/Missouri/A01410819/2014	E	V	E	G	R	I	Q	D	L
2. KX981496   A/swine/Ohio/16TOSU4788/2016	E	V	E	G	R	I	Q	D	L
3. MF801569.1   A/swine/Ohio/A01354299/2017	E	V	E	G	R	I	Q	D	L
4. MN931825   A/swine/Oklahoma/A02218157/2017	E	V	E	G	R	I	Q	D	L
5. MN931846.1   A/swine/Indiana/A02430356/2019	E	V	E	G	R	I	Q	D	L
Consensus	490	500	510	520	530	540	550		
1. KJ941380   A/swine/Missouri/A01410819/2014	I	R	N	G	T	Y	D	H	V
2. KX981496   A/swine/Ohio/16TOSU4788/2016	I	R	N	G	T	Y	D	H	V
3. MF801569.1   A/swine/Ohio/A01354299/2017	I	R	N	G	T	Y	D	H	V
4. MN931825   A/swine/Oklahoma/A02218157/2017	I	R	N	G	T	Y	D	H	V
5. MN931846.1   A/swine/Indiana/A02430356/2019	I	R	N	G	T	Y	D	H	V