

Supplementary Table S1. IBV strains included in this phylogenetic analysis.

Strain	Accession no.	Country	Strain	Accession no.	Country
Vic	DQ490221	Australia	2296/95	DQ646404	Taiwan
Armidale	DQ490205	Australia	2575/98	DQ646405	Taiwan
Sczy3	JF732903	China	2992/02	EU822340	Taiwan
YN	JF893452	China	3071/03	EU822340	Taiwan
LX4	AY338732	China	3263/04	EU822338	Taiwan
BJ	AY319651	China	3374/05	EU822338	Taiwan
YX10	JX840411	China	3382/06	GQ229232	Taiwan
DY07	HM245923	China	3468/07	EU822338	Taiwan
Sczy3	JF732903	China	TC3/13	MF673729	Taiwan
SAIBK	DQ288927	China	S78/14	KX668222	Taiwan
CK/CH/LDL/97I	JX195177	China	H120	EU822341	Netherlands
CK/CH/LDL/98I	EF602446	China	Gray	GU393334	USA
Q1	AF286302	China	Holte	GU393336	USA
J2	AF286303	China	M41	DQ834384	USA
T3	AF227438	China	Beaudette	AJ311317	USA
QXIBV	AF193423 (S1) AF288146 (S2) AF199412 (N)	China	CU-T2	U49858	USA
CK/CH/2010/JT-1	KU361187	China	JP/Toyama/2000	MF462335	Japan
CK/CH/LGX/111119	KX640829	China	JP/Akita/92	MF462334	Japan
CK/CH/LDL/140520	KP790143	China	JP9758	AY296746 (S1) AY363968 (N)	Japan
CK/CH/LHB/100801	JF330898	China	JP8127	AY296744	Japan
SC021202	AY237817	China	JP8147	AY363966	Japan
4/91	AF093793	United Kingdom	-	-	-

Supplementary Table S2. Neutralization test of IBVs. Homologous titers are indicated in bold.

	IBV strain	Virus					
		2575/98 (TW-I)	2296/95 (TW-II)	H120 (Mass)	S78/14 (TW-JP)	2992/02 (TW-CN)	3382/06 (TW-Mass)
Serum	2575/98 (TW-I)	1475	108	16	4	37	861
	2296/95 (TW-II)	101	512	203	22	91	102
	H120 (Mass)	32	22	531	6	102	45
	S78/14 (TW-JP)	45	<4	31	1626	27	39
	2992/02 (TW-CN)	<4	7	9	<4	670	28
	3382/06 (TW-Mass)	2435	10	16	<4	30	3025

Supplementary Table S3. Summary of IBV recombinant variants

Variant	Genotype	Serotype	Pathotype	Viral tropism			
				Trachea	Proventriculus	Kidney	Oviduct
S78/14	TW-JP (GI-18)	Novel	Lethal	Yes	Yes	Yes	Yes
2992/02	TW-CN (GI-16)	Novel	Lethal	Yes	Yes	Yes	Yes
3382/06	TW-Mass (GI-7)	TW-I-like	Non-lethal	Yes	Yes	Yes	No