

## Supplementary Materials

**Table S1.** The information on FeKoV

Strain	Area	Year	Accession No.
FKV/18CC0503	China	2018	MK671314.1
FKV-21SH050451	China	2021	OP659035.1
AHAU-2	China	2021	ON008387.1
FKV/18LY0801	China	2018	MK671299.1
FKV/18JL0910	China	2018	MK671297.1
FKV/18JL0902	China	2018	MK671296.1
FKV/18HRB0101	China	2018	MK671295.1
FKV/18DD0501	China	2018	MK671294.1
FKV/18CC0910	China	2018	MK671293.1
FKV/18CC0503	China	2018	MK671291.1
FKV/18BC0502	China	2018	MK671290.1
FKV/17SY0501	China	2017	MK671289.1
FKV/17SP0801	China	2017	MK671288.1
FKV/17JLSY0902	China	2017	MK671287.1
FKV/17BC1103	China	2017	MK671285.1
FKV/16SY1104	China	2016	MK671284.1
FKV/16JL0802	China	2016	MK671282.1
17CC0811	China	2017	MH159813.1
17SY1202	China	2017	MH159812.1
17JL0312	China	2017	MH159811.1
17HRB0505	China	2017	MH159810.1
17CC0811	China	2017	MH159809.1
17CC0308	China	2017	MH159808.1
16CC0802	China	2016	MH159805.1

**Table S2.** The information on FeAstV

Strain	Area	Year	Accession No.	Genotype
D3	America	2013	KM017743.1	1
16CC1104	China	2016	MH253859.1	1
16SY0705	China	2016	MH253861.1	1
16SY0715	China	2016	MH253862.1	1
17CC0704	China	2017	MH253865.1	1
17CC0806	China	2017	MH253867.1	1
17CC1106	China	2017	MH253868.1	1
17HRB0511	China	2017	MH253870.1	1
17HRB0905	China	2017	MH253871.1	1
17JL0303	China	2017	MH253872.1	1
17SY1204	China	2017	MH253876.1	1
FAstV-TR-Erz4	Turkey	2017	KY563080.1	1
FAstV-TR-Erz5	Turkey	2017	KY563081.1	1
FAstV-TR-Erz6	Turkey	2017	KY563082.1	1
FAstV-TR-Erz9	Turkey	2017	KY563083.1	1
FAstV-K46	South Korea	2011	KF155291.1	1
FPV-8	Australia	2016	ON595830.1	1
FPV-10	Australia	2017	ON595831.1	1
FPV-11	Australia	2017	ON595832.1	1
HC-2	Australia	2018	ON595839.1	1
MAV2/16LY0702	China	2016	MK671261.1	1

MAV2/18CC0714	China	2018	MK671271.1	1
MAV2/17SP0801	China	2017	MK671309.1	1
AUS/AWL	Australia	2018	MW037841.1	1
FPV-1	Australia	2017	ON595824.1	1
FPV-6	Australia	2017	ON595829.1	1
1637F	Hong Kong	2012	KF499111.1	2
GU2-27TYT101	Japan	2023	LC778161.1	2
GU2-27TYT100	Japan	2023	LC778163.1	2
443/07A	Italy	2007	GU980970.1	2
FAstV-K6	South Korea	2011	KF155288.1	2
FAstV-K40	South Korea	2011	KF155290.1	2
G22-013	France	2016	ON807320.1	2
21SH0505-11	China	2021	OP681156.1	2
17CC0311	China	2017	MH253878.1	2
MAV2/18DD0102	China	2018	MK671273.1	2
MAV2/18SY0803	China	2018	MK671281.1	2
MAV2/18SY0803	China	2018	MK671313.1	2
AH-2-2020	China	2019	MN977119.1	2
BC SPCA	Canada	2020	MW164633.1	2

**Table S3.** The information on FeBuV

Strain	Area	Year	Accession No.
79/22/TUR	Turkey	2022	OQ378891.1
ITA/2017/BA291	Italy	2017	MK030123.1
ITA/2015/BA509	Italy	2015	MK030122.1
ITA/2012/TE109	Italy	2012	MK030121.1
GD175	China	2020	MW687624.1
GD4	China	2020	MW970061.1
GD160	China	2020	MW687623.1
GD179	China	2020	MW970076.1
GD167	China	2020	MW970074.1
GD123	China	2020	MW970072.1
GD87	China	2020	MW970070.1
GD64	China	2020	MW970069.1
GD126	China	2020	MW687622.1
70/22/TUR	Turkey	2022	OQ378890.1
19/22/TUR	Turkey	2022	OQ378888.1
42/22/TUR	Turkey	2022	OQ378889.1
GD131	China	2020	MW970073.1

**Table S4.** The information on FRV

Strain	Area	Year	Accession No.
FRV70	Japan	2000	AB048196.1
RVA/Cat-tc/JPN/FRV303/1993/G3P[3]	Japan	1993	LC328258.1
RVA/Cat-tc/JPN/FRV72/1990/G3P[3]	Japan	1990	LC328259.1
FRV384	Japan	2000	AB048203.1
FRV381	Japan	2000	AB048202.1
FRV348	Japan	2000	AB048201.1
FRV317	Japan	2000	AB048200.1
FRV303	Japan	2000	AB048199.1
FRV73	Japan	2000	AB048198.1

FRV72	Japan	2000	AB048197.1
FRV1	Japan	1996	D89874.1
FRV64	Japan	1996	D88833.1
Cat2	Australia	1984	EU708965.1
Cat97	Australia	1984	EU708954.1
RVA/Cat-tc/JPN/FRV384/1994/G3P[9]	Japan	1994	LC328263.1
RVA/Cat-tc/JPN/FRV317/1994/G3P[9]	Japan	1994	LC328262.1
RVA/Cat-tc/JPN/FRV348/1994/G3P[3]	Japan	1994	LC328261.1
RVA/Cat-tc/JPN/FRV73/1990/G3P[3]	Japan	1990	LC328260.1