

Table S2. Details of Avipoxvirus used in this study

Virus name	Strain	Origin	Length/bp	Accession no.
Fowlpox virus	282E4	China	308827	MG702259.1
	Usda standard challenge	USA	288539	NC_002188.1
	SD15-670.2	USA	295938	MH734528.1
	MN00.1	USA	291057	MH709125.1
	SD15-670.1	USA	288196	MH719203.1
	MN00.2	USA	298798	MH709124.1
	V_ja	Republic of Korea	288501	MW558081.1
	V_ds	Republic of Korea	278618	MW558079.1
	V_cmp	Republic of Korea	287251	MW558078.1
	V_blen	Republic of Korea	291194	MW558077.1
	V_kr	Republic of Korea	292650	MW558080.1
	19D064	Republic of Korea	297250	MW558072.1
	16069_trachea_170323	France	288539	MF766431.1
	16055_trachea_170512	France	288539	MF766430.1
	W775-18	Australia	298250	OK558609.1
	FWPV-S	Australia	293578	MW142017.1
	NX10	China	282402	KX196452.1
		USA	288539	AF198100.1
	V_poxine	Republic of Korea	295688	MW558076.1
	2755	Republic of Korea	297405	MW558073.1
15D039	Republic of Korea	297159	MW558068.1	
Canarypox virus	16117_scab_170512	France	288539	MF766432.1
		USA	359853	NC_005309.1
	ATCC VR-111	USA	359853	AY318871.1
Shearwaterpox virus	FMV15SnBuPox	Canada	359853	MG760432.1
	SWPV-1	Australia	326929	KX857216.1
Pigeonpox virus	SWPV-2	Australia	351108	KX857215.1
	FeP2	South Africa	282356	NC_024447.1
Penguinpox virus	PSan92	USA	306862	NC_024446.1
Flamingopox virus	YEP-NZ	Australia	349821	MW296038.1
	FGPVKD09	South Africa	293123	NC_036582.1
Magpiepox virus	62-11-06-2000-ANU	Australia	298392	MW485973.1
		Australia	293226	MK903864.1
Albatrosspox virus	TST/1997	Australia	286155	OK348853.1
	SAN97-0665NZ	Australia	351909	MW365933.1
Mudlarkpox virus	AU2019	Australia	342723	MT978051.1
Turkeypox virus	HU1124/2011	USA	188534	NC_028238.1
Crowpox virus	122740AU/2021	Australia	328768	ON408417.1
Cheloniid poxvirus	AUS	Australia	343132	MT799800.1

Table S3. Comparative analysis of representative avipoxviruses and ALPV2 based on complete genome nucleotide sequences.

Avipoxvirus (abbreviation)	Accession number	Genome length (kbp)	A+T content (%)	Number of ORFs
FPV-282E4	MG702259.1	309	72	313
FPV-US	NC_002188.1	289	69.1	260
CNPV	AY318871.1	360	69.6	328
ChePV-1	MT799800.1	343	71.6	329
SWPV-1	KX857216.1	327	72.4	310
SWPV-2	KX857215.1	351	69.8	312
FGPV	NC_036582.1	293	70.5	285
MPPV	MK903864.1	293	70.4	301
MLPV	MT978051.1	343	70.2	352
PEPV	NC_024446.1	307	70.5	285
FeP2	NC_024447.1	282	70.5	271
TKPV	NC_028238.1	189	70.2	171

Table S4. Number of ORFs in each of the 14 multigene families identified in the fully sequenced avian poxvirus genomes

	FPV-282E4	FPV-US	CNPV	ChePV-1	MLPV	SWPV-1	FeP2
G protein-coupled receptor gene family	4	3	4	4	4	4	2
Interleukin 18 (IL-18)-binding protein	1	1	3	0	3	3	1
Ankyrin repeat proteins	54	31	51	53	47	51	47
Ig-like domain protein	6	6	9	8	7	9	1
C-type Lectin	11	9	11	11	13	13	5
CC chemokine	5	4	3	5	5	6	4
C4L/C10L	1	3	3	3	3	2	2
HT Motif	5	5	5	5	5	5	5
N1R/p28	17	10	26	24	25	20	11
EFc family	2	3	2	3	1	2	1
$\beta$ -NGF	2	2	2	2	2	2	1
TGF- $\beta$	9	1	5	5	6	4	1
Serpin	5	4	5	5	5	5	4
B22R	5	6	6	9	7	6	4