

Table S1. ORFs of avipoxvirus 282E4

ORF	Position (length, aa) ¹	Best matching ²			Predicated structure			FWPV ⁷			CNPV ⁸		
		AN ³	BlastP score ⁴	Species	% ID ⁵	aa ¹	and/or function ⁶	AN ³	ORF	% ID ⁵	AN ³	ORF	% ID ⁵
001	351:500 (49)												
002	621:1121 (166)	NP_955025.1	109	CNPV	43	171	Uncharacterized protein				Q6VZ20	CNPV002	44
003	1265:1810 (181)	NP_955025.1	128	CNPV	47	208	C-type lectin-like protein	Q9ICH6	V001	25	Q6VZ21	CNPV003	47
004	1953:2621 (222)	QRI42722.1	417	ChePV	94	222	Uncharacterized protein	Q9ICF9	V002	85	Q6VZ23	CNPV324	92
005	2791:3123 (110)	QGM48631.1	87	MPPV	77	118	ankyrin repeat protein	Q9J569	V162	38	Q6VZ24	CNPV323	76
006	3225:3599 (124)	QGM48969.1	238	MPPV	90	124	EFc-like protein	Q9ICF5	V256	65	Q6VZ26	CNPV321	80
007	4059:4526 (155)	ARE67233.1	230	SWPV	68	190	C-type lectin				Q6VZX9	CNPV018	76
008	4868:5260 (130)	ARF02624.1	242	SWPV	83	138	C-type lectin protein	Q9ICC1	V003	43	Q6VZW 2	CNPV035	35
009	5432:5953 (173)	ARF02623.1	356	SWPV	91	174	C-type lectin-like protein				Q6VZY9	CNPV008	49
010	6220:7683 (487)	YP_00904625 3.1	513	PIPV	60	518	ankyrin repeat protein	Q9J4Z4	V246	30	Q6VZX6	CNPV021	30
011	8197:9009 (270)	ARF02625.1	328	SWPV	65	487	ankyrin repeat protein	Q9J4Z4	V246	31	Q6VZ29	CNPV318	60
012	9123:9485 (120)						ankyrin repeat protein						
013	9697:10422 (241)	ARF02856.1	315	SWPV	69	240	Ig-like domain protein				Q6VZY3	CNPV014	57

014	10428:1114 7 (239)	ARF02855.1	219	SWPV	50	230	Ig-like domain protein	Q9J5I4	V017	26	Q6VZY3	CNPV014	50
015	11238:1225 1 (337)	ARE67555.1	393	SWPV	69	315	G protein-coupled receptor-like protein	Q9J5I0	V021	39	Q6VZ32	CNPV315	69
016	12340:1386 3 (507)	ARF02853.1	567	SWPV	63	513	ankyrin repeat protein	Q9J4Z4	V246	37	Q6VZY6	CNPV011	34
017	13950:1570 1 (583)	UOX38538.1	827	FIPV	69	629	ankyrin repeat protein	Q9J4Z8	V242	57	Q6VZ33	CNPV314	69
018	15746:1632 7 (193)	ARF02851.1	269	SWPV	73	213	Ig-like domain protein	Q9J5I4	V017	42	Q6VZ34	CNPV313	66
019	16950:1712 0 (56)	ARE67549.1	67.8	SWPV	67	124	EFc-like protein				Q6VZ36	CNPV311	60
020	17136:1880 6 (556)	QRI43027.1	599	ChePV	62	537	ankyrin repeat protein	Q9J4Z4	V246	32	Q6VZ37	CNPV310	57
021	18867:1945 4 (195)	UOX38559.1	323	FIPV	79	196	ankyrin repeat protein	O90760	V031	35	Q6VZ38	CNPV309	78
022	19570:2064 6 (358)	QRI43025.1	631	ChePV	88	358	ankyrin repeat protein	P14360	V240	37	Q6VZ39	CNPV308	64
023	20814:2130 8 (164)	ARF02845.1	194	SWPV	65	165	C-type lectin-like protein	P14371	V239	49	Q6VZ40	CNPV307	60
024	21298:2155 5 (85)	ARF02844.1	50.1	SWPV	35	67	ankyrin repeat protein						
025	21638:2246 2 (274)	QRI43022.1	358	ChePV	73	262	N1R/p28-like protein	P14365	V236	39	Q6VZ42	CNPV305	61
026	22491:2392 1 (476)	QRI43021.1	761	ChePV	80	466	ankyrin repeat protein	Q9J503	V232	43	Q6VZ43	CNPV304	66
027	24194:2569 6 (500)	QRI43020.1	880	ChePV	88	500	ankyrin repeat protein	Q9J504	V231	43	Q6VZ44	CNPV303	72
028	25790:2633 8 (182)	QRI43019.1	231	ChePV	66	193	domain-containing protein	A0A7G0 WYC2	V229	38	Q6VZ45	CNPV302	53

029	26342:2787 1 (509)	QRI43018.1	791	ChePV	78	527	ankyrin repeat protein	Q9J502	V233	30	Q6VZ46	CNPV301	66
030	27921:2921 6 (431)	ARF02838.1	504	SWPV	63	432	ankyrin repeat protein	Q9J507	V228	32	Q6VZV5	CNPV042	35
031	29333:3005 8 (241)	QRI43017.1	440	ChePV	90	244	ankyrin repeat protein	Q9J508	V227	80	Q6VZ47	CNPV300	80
032	30152:3105 1 (299)	QRI43016.1	478	ChePV	81	873	serine/threonine protein kinase	Q9J509	V226	56	Q6VZ48	CNPV299	70
033	31055:3134 8 (97)	QRI43016.1	169	ChePV	86	873	ankyrin repeat protein	Q9J513	V222	34	Q6VZ49	CNPV298	65
034	31326:3280 4 (492)	QRI43016.1	790	ChePV	86	873	ankyrin repeat protein	Q9J511	V224	52	Q6VZ49	CNPV298	70
035	32836:3505 8 (740)	QRI43015.1	945	ChePV	67	737	ankyrin repeat protein	Q9J513	V222	35	Q6VZ50	CNPV297	61
036	35107:3642 3 (438)	QRI43014.1	788	ChePV	89	442	ankyrin repeat protein	Q9J516	V219	47	Q6VZ51	CNPV296	69
037	36474:3766 4 (396)	QRI43013.1	632	ChePV	85	396	ankyrin repeat protein	Q9J517	V218	36	Q6VZ52	CNPV295	75
038	37740:3872 3 (327)	ARF02829.1	420	SWPV	67	330	Uncharacterized protein	Q9J518	V217	52			
039	38792:3929 2 (166)	UOX38555.1	202	FIPV	64	418	ankyrin repeat protein	P14360	V240	29	Q6VZ53	CNPV294	63
040	39345:4003 7 (230)	NP_955317.1	369	CNPV	82	430	ankyrin repeat protein				Q6VZ53	CNPV294	82
041	40090:4095 3 (287)	QGM48928.1	345	MPPV	64	284	ankyrin repeat protein	Q9J519	V216	37	Q6VZ54	CNPV293	62
042	41840:4195 9 (39)												
043	41704:4182 0 (38)	QRI43008.1	75	ChePV	70	75	Uncharacterized protein	Q9J520					

044	41985:4236 8 (127)	ARF02823.1	126	SWPV	51	132	interleukin binding protein	Q9J521	V214	60	Q6VZ58	CNPV289	51
045	42399:4277 6 (125)	QRI43006.1	184	ChePV	78	147	C-type lectin-like protein				Q6VZ59	CNPV288	59
046	42949:4343 4 (161)	NP_955310.1	225	CNPV	75	161	Recep_L_domain domain-containing protein	Q9J522	V213	51	Q6VZ60	CNPV287	75
047	43480:4439 1 (303)	QRI43004.1	551	ChePV	94	305	serine/threonine-protein kinase	Q9J523	V212	56	Q6VZ61	CNPV286	82
048	44399:4477 9 (126)	UOX38581.1	158	FIPV	66	124	EGF-like protein	Q9J524	V211	41	Q6VZ62	CNPV285	69
049	44885:4532 8 (147)	ARF02818.1	136	SWPV	61	192	interleukin binding protein				Q6VZ63	CNPV284	41
050	45494:4581 7107	NP_955306.1	158	CNPV	72	111	CC chemokine-like protein				Q6VZ64	CNPV283	72
051	45923:4628 8 (121)	QRI43000.1	213	ChePV	88	120	HT motif protein	Q9J578	V152	34	Q6VZ65	CNPV282	74
052	46318:4690 2 (194)	QRI42999.1	321	ChePV	78	214	Uncharacterized protein				Q6VZ66	CNPV281	70
053	47008:4741 2 (134)	QRI42998.1	221	ChePV	85	134	HT motif protein				Q6VZ67	CNPV280	68
054	47405:4791 4 (169)	QGM48914.1	259	MPPV	75	173	beta-NGF-like protein	Q9J5D9	V072	29	Q6VZ68	CNPV279	74
055	47985:4827 8 (97)	QRI42996.1	179	ChePV	87	96	HTH_Tnp_4 domain-containing protein	Q9J528	V207	64	Q6VZ69	CNPV278	80
056	48289:4922 1 (310)	UWX11446.1	511	CRPV	88	310	G protein-coupled receptor-like protein	Q9J529	V206	65	Q6VZ70	CNPV277	87
057	49335:5002 4 (229)	ARF02811.1	195	SWPV	63	227	Uncharacterized protein	Q9J530	V205	40	Q6VZ71	CNPV276	56

058	50018:5104 3 (341)	UWX11444.1	473	CRPV	76	338	serpin-like protein	Q9J531	V204	54	Q6VZ72	CNPV275	76
059	51093:5190 8 (271)	UOX38664.1	364	FIPV	71	272	tyrosine protein kinase	Q77NS7	V203	51	Q6VZ73	CNPV274	69
060	51988:5281 2274	ARF02808.1	389	SWPV	76	276	Uncharacterized protein	Q77NS8	V201	49	Q80GP9	CNPV 201	67
061	53066:5344 6 (126)	ARF02807.1	93	SWPV	55	172							
*062	53494:5400 9 (171)	QRI42990.1	312	ChePV	85	181	C-type lectin like protein	Q9J535	V198	68	Q80FJ5	CVPV198	80
063	54185:5503 9 (284)	QRI42989.1	513	ChePV	98	284	Virion assembly protein	Q9J536	V197	78	Q80GQ1	CNPV 197	89
*064	55036:5539 5 (119)	QRI42988.1	197	ChePV	82	119	Uncharacterized protein	Q9J537	V196	45	Q6VZ77	CNPV270	70
065	55404:5574 5 (113)	QRI42987.1	220	ChePV	96	113	A31R ortholog	Q9J538	V195	68	Q6VZ78	CNPV269	75
066	55755:5587 4 (39)	YP_00904619 2.1	40	PEPV	67	38	A30.5L-like protein						
067	55893:5611 7 (74)	QRI42986.1	102	ChePV	96	75	Uncharacterized protein	Q9J539	V194	72	Q80GQ4	CNPV 194	76
*068	56119:5700 3 (294)	QRI42985.1	568	ChePV	91	305	DNA-directed RNA polymerase 35 kDa subunit	Q9J540	V193	66	Q6VZ80	CNPV267	79
*069	57018:5744 0 (140)	QRI42984.1	279	ChePV	95	140	Viral replication protein A28-like A type	Q9J541	V192	85	Q6VZ81	CNPV266	91
*070	57441:5883 8 (465)	ARF02802.1	670	SWPV	76	471	inclusion-like/fusion protein	Q9J542	V191	62	Q6VZ81	CNPV266	66
071	58928:6025 0 (440)	QRI42982.1	722	ChePV	92	601	A type inclusion-like protein	Q9J543	V190	81	Q6VZ83	CNPV264	87

072	60301:6070 2 (133)	QRI42982.1	139	ChePV	86	601	A type inclusion-like protein	Q9J543	V190	58	Q6VZ83	CNPV264	74
*073	60691:6416 4 (1157)	QRI42981.1	2214	ChePV	98	1157	DNA-directed RNA polymerase	Q9J544	V189	91	Q6VZ84	CNPV263	95
*074	64243:6539 4 (383)	QRI42980.1	710	ChePV	96	383	intermediate transcription factor	Q9J545	V188	74	Q6VZ85	CNPV262	85
*075	65411:6587 8 (155)	QRI42979.1	293	ChePV	95	152	Holliday junction resolvase	Q9J546	V187	67	Q6VZ86	CNPV261	84
*076	65891:6719 8 (435)	QRI42978.1	753	ChePV	91	431	DNA polymerase processivity factor	Q9J547	V185	68	Q6VZ87	CNPV259	83
*077	67245:6753 5 (96)	QRI42977.1	193	ChePV	95	112	Virion membrane protein homolog	Q9J548	V186	77	Q6VZ88	CNPV260	90
*078	67543:6780 3 (86)	QRI42976.1	130	ChePV	98	89	Protein A19 homolog	Q9J549	V184	74	Q6VZ89	CNPV258	76
*079	67771:6915 9 (462)	QRI42975.1	873	ChePV	95	462	DNA helicase, transcriptional elongation	Q9J550	V183	84	Q6VZ90	CNPV257	90
*080	69177:6974 6 (189)	QRI42974.1	315	ChePV	88	192	Virion membrane protein	Q9J551	V182	78	Q6VZ91	CNPV256	85
*081	69757:7086 0 (367)	QRI42973.1	662	ChePV	93	368	Protein A19 homolog	Q9J552	V181	77	Q6VZ92	CNPV255	89
*082	70844:7113 4 (96)	QRI42972.1	177	ChePV	89	96	Core protein A15 homolog	Q9J553	V180	64	Q6VZ93	CNPV254	76
*083	71328:7160 6 (92)	QRI42970.1	140	ChePV	99	92	Virion envelope protein	Q9J554	V179	72	Q6VZ95	CNPV252	67
*084	71748:7186 4 (38)	QRI42969.1	75	ChePV	92	69	IMV membrane protein	Q9J555	V178	63	Q6VZ96	CNPV251	83
085	71853:7202 6 (57)	ARF02792.1	77	SWPV	66	73	Uncharacterized protein						
*086	72086:7260 1 (171)	QRI42967.1	296	ChePV	92	168	virion protein	Q9J557	V176	58	Q6VZ98	CNPV249	82

*087	72598:7344 9 (283)	QRI42966.1	412	ChePV	88	279	Protein A11 homolog	Q9J558	V175	68	Q6VZ99	CNPV248	80
*088	73467:7616 9 (900)	QRI42965.1	1620	ChePV	95	893	virion core protein	Q9J559	V174	71	Q6VZA0	CNPV247	83
*089	76362:7726 4: (300)	QRI42963.1	594	ChePV	97	300	intermediate transcription factor	Q9J561	V172	78	Q6VZA2	CNPV245	92
*090	77328:7945 7 (709)	QRI42962.1	1370	ChePV	98	709	Early transcription factor 82 kDa subunit	Q9J562	V171	87	Q6VZA3	CNPV244	95
*091	79464:8058 5 (373)	QRI42962.1	650	ChePV	94	373	Protein A6 homolog	Q9J563	V170	65	Q6VZA4	CNPV243	86
*092	80580:8109 8 (172)	QRI42960.1	293	ChePV	96	169	DNA-directed RNA polymerase 19 kDa subunit	Q05569	V169	72	Q6VZA5	CNPV242	90
*093	81137:8183 2 (231)	QRI42959.1	207	ChePV	52	215	immunodominant virion protein	Q9J564	V168	35	Q6VZA6	CNPV241	42
*094	81919:8390 1 (660)	QRI42958.1	1339	ChePV	99	659	virion core protein	P17355	V167	85	Q6VZA7	CNPV240	89
*095	83915:8413 3 (72)	ARE67721.1	140	SWPV	94	72	virion redox protein	Q9J565	V166	80	Q6VZA8	CNPV239	80
*096	84130:8480 7 (225)	QRI42956.1	431	ChePV	98	225	late transcription factor	Q9J566	V165	92	Q6VZA9	CNPV238	96
097	84782:8633 5 (517)	ARF02784.1	469	SWPV	50	559	ankyrin repeat protein	Q9J4Z4	V246	29	Q6VZB3	CNPV234	35
098	86373:8734 7 (324)	QRI42954.1	651	ChePV	98	323	ribonucleotide reductase small subunit				Q6VZB1	CNPV236	87
099	87452:8850 (351)	QGM48866.1	140	MGPV	30	470	ankyrin repeat protein	Q9J5H8	V023	39	Q6VZB4	CNPV233	26
100	88564:8867 7 (37)	UOX38547.1	42	FIPV	59	508	ankyrin repeat protein						
101	88695:8890	QRI42952.1	107	ChePV	87	454	ankyrin repeat protein				Q6VZB3	CNPV234	52

	7 (70)												
102	88970:8978 2 (270)	QRI42952.1	445	ChePV	95	454	ankyrin repeat protein	Q9J4Z4	V246	33	Q6VZB3	CNPV234	69
103	90088:9154 5 (485)	ARE67470.1	467	SWPV	59	471	ankyrin repeat protein	Q9J4Z4	V246	29	Q6VZB4	CNPV233	59
104	91651:9223 2 (193)	QRM16127.1	174	ALPV	55	287	N1R/p28-like protein	P14365	V236	32	Q6VZI8	CNPV159	50
105	92277:9288 8 (203)	ARE67467.1	231	SWPV	59	204	CC chemokine-like protein	P21973	V060	36	Q6VZB5	CNPV232	60
106	92931:9337 4 (147)	NP_955254.1	112	CNPV	52	158	MyD116-like domain protein				Q6VZB6	CNPV231	52
107	93642:9427 7 (193)	QRI42932.1	272	ChePV	66	216	deoxycytidine kinase-like protein	P21974	V059	24	Q6VZD4	CNPV213	58
108	94296:9446 6 (211)												
109	94533:9506 3 (176)	QRI42931.1	334	ChePV	80	176	N1R/p28-like protein	P14364	V248	31	Q6VZD5	CNPV212	75
110	95121:9528 5 (54)	ARE67441.1	56.6	SWPV	67	54	Uncharacterized protein				Q6VZD6	CNPV211	65
111	95340:9573 8 (132)	ARE67440.1	189	SWPV	77	131	N1R/p28-like protein	Q9J598	V124	38	Q6VZD7	CNPV210	77
112	96054:9656 3 (169)	QRI42928.1	273	ChePV	76	310	N1R/p28-like protein	P14365	V236	28	Q6VZD8	CNPV209	64
113	96679:9719 4 (171)	QRI42927.1	253	ChePV	73	200	Type I site-specific deoxyribonuclease	Q9J571	V160	43	Q6VZD9	CNPV208	70
114	97222:9785 1 (209)	QRI42926.1	235	ChePV	77	173	N1R/p28-like protein	P14364	V248	40	Q6VZE0	CNPV207	67
115	98019:9944 0 (473)	QRI42925.1	873	ChePV	96	439	photolyase	Q77NS9	V158	71	Q6VZE1	CNPV206	83
116	99507:1004	QRI42924.1	564	ChePV	91	318	N1R/p28-like protein	Q9J573	V157	51	Q6VZE2	CNPV205	76

	66 (319)													
117	100693:100 854 (53)	ARF02755.1	56.6	SWPV	58	53	Uncharacterized protein					Q6VZE3	CNPV204	55
118	100914:102 074 (386)	QRI42922.1	612	ChePV	80	382	N1R/p28-like protein	Q9J575	V155	38	Q6VZE4	CNPV203	69	
119	102171:103 001 (276)	QRI42921.1	458	ChePV	85	276	N1R/p28-like protein	P14365	V236	34	Q6VZE5	CNPV202	71	
120	103036:103 638 (200)	ARF02752.1	218	SWPV	62	197	Uncharacterized protein	Q9J577	V153	49	Q6VZE6	CNPV201	50	
121	103764:104 222 (152)	QRI42919.1	256	ChePV	87	166	Rep-like protein				Q6VZE7	CNPV200	77	
122	104252:104 926 (224)	QRI42918.1	397	ChePV	91	225	deoxycytidine kinase-like protein	Q9J579	V151	51	Q6VZE8	CNPV199	84	
123	105184:105 681 (165)	ARF02750.1	196	SWPV	57	159	C-type lectin-like protein				Q6VZE9	CNPV198	54	
124	105728:106 570 (280)	ARF02749.1	390	SWPV	71	279	N1R/p28-like protein	Q9J581	V149	55	Q6VZF0	CNPV197	62	
125	106639:107 211 (190)	QRI42915.1	348	ChePV	90	189	domain-containing protein	Q9J581	V149	55	Q6VZF1	CNPV196	74	
126	107257:107 715 (152)	UOX38608.1	115	FIPV	47	141	domain-containing protein				Q6VZF2	CNPV195	50	
*127	107783:108 193 (136)	QRI42913.1	215	ChePV	78	140	Virion protein	Q9J582	V148	52	Q6VZF3	CNPV194	70	
128	108199:108 492 (97)	QRI42912.1	153	ChePV	90	104	HT motif protein	Q9J583	V147	58	Q6VZF4	CNPV193	82	
*129	108559:111 099 (846)	QRI42911.1	1578	ChePV	95	846	mRNA-capping enzyme large subunit	Q9J584	V146	75	Q6VZF5	CNPV192	90	
130	111233:111 418 (61)	QRI42910.1	121	ChePV	95	103	Molluscum contagiosum virus MC089L homolog	Q9J585	V145	62	Q6VZF6	CNPV191	75	
*131	111381:111	QRI42909.1	285	ChePV	93	153	Late protein H7 homolog	Q9J586	V144	56	Q6VZF7	CNPV190	83	

	842 (153)												
*132	111847:112797 (578)	QRI42908.1	565	ChePV	96	316	DNA topoisomerase 1	Q9J587	V143	77	Q6VZF8	CNPV189	91
*133	112798:113340 (180)	QRI42907.1	236	ChePV	76	170	late transcription factor	Q9J588	V142	53	Q6VZF9	CNPV188	71
							RNA						
*134	113490:115889 (799)	QRI42906.1	1504	ChePV	97	799	polymerase-associated transcription-specificity factor	Q9J589	V141	81	Q6VZG0	CNPV187	93
*135	115985:117007 (340)	CDQ47768.1	580	CNPV	99	340	Immunodominant envelope protein p35	Q9J590	V140	60	Q6VZG1	CNPV186	71
136	117045:118064 (339)	ARF02739.1	444	SWPV	69	337	ankyrin repeat protein	Q9J508	V227	27	Q6VZG2	CNPV185	35
*137	118056:11862 (189)	ARF02738.1	344	SWPV	94	190	Putative viral membrane protein	Q9J591	V139	88	Q6VZG3	CNPV184	92
*138	118641:119141 (166)	QRI42902.1	330	ChePV	96	166	Probable dual specificity protein phosphatase	Q9J592	V138	85	Q6VZG4	CNPV183	86
*139	119151:123017 (1288)	QRI42901.1	2504	ChePV	98	1288	DNA-directed RNA polymerase 147 kDa polypeptide	Q9J593	V137	89	Q6VZG5	CNPV182	94
*140	123060:123470 (136)	QRI42900.1	234	ChePV	95	136	Membrane protein	Q85281	V136	77	Q6VZG6	CNPV181	89
*141	123463:12402 (185)	QRI42899.1	359	ChePV	96	186	DNA-directed RNA polymerase 22 kDa subunit	Q85280	V135	75	Q6VZG7	CNPV180	89
*142	124020:124922 (300)	QRI42898.1	587	ChePV	95	302	Cap-specific mRNA (nucleoside-2'-O-)-methyltransferase	P15916	V134	72	Q6VZG8	CNPV179	90
*143	124956:125402 (148)	QRI42897.1	278	ChePV	92	148	IMV membrane protein	P15915	V133	74	Q6VZG9	CNPV178	91

*144	125752:126 510 (252)	QRI42895.1	469	ChePV	96	252	DNA-binding virion core protein	P15913	V131	71	Q6VZH1	CNPV176	88
*145	126536:127 447 (303)	QRI42894.1	618	ChePV	98	303	Core protein VP8	P15912	V130	81	Q6VZH2	CNPV175	85
*146	127437:127 727 (96)	UOX38686.1	120	FIPV	62	96	L3L ortholog	P15911	V129	37	Q6VZH3	CNPV174	60
*147	127771:128 502 (243)	QRI42892.1	490	ChePV	97	243	L2R ortholog	P15910	V128	87	Q6VZH4	CNPV173	93
*148	128503:129 51 (337)	QRI42891.1	612	ChePV	98	335	G9R ortholog	P15909	V127	72	Q6VZH5	CNPV172	90
*149	129530:130 312 (260)	QRI42890.1	533	ChePV	99	260	late transcription factor	P15908	V126	95	Q6VZH6	CNPV171	98
150	130366:131 016 (216)	QRI42889.1	388	ChePV	87	212	thymidylate kinase				Q6VZH7	CNPV170	87
151	131069:132 202 (377)	UOX38632.1	528	FIPV	75	391	N1R/p28-like protein	P14364	V248	38	Q6VZH9	CNPV168	80
152	132268:132 810 (180)	QRM15799.1	178	PGPV	60	168	Ig-like domain protein	P21975	V055	45	Q6VZI0	CNPV167	55
153	133068:133 490 (140)	ARE67387.1	222	SWPV	72	149	TGF-beta-like protein				Q6VZI5	CNPV162	72
154	133534:134 571 (345)	UWX11321.1	514	CRPV	73	356	TGF-beta-like protein	Q9J5D1	V080	22	Q6VZI6	CNPV161	73
155	134688:135 734 (348)	ARF02770.1	358	SWPV	83	318	N1R/p28-like protein	P14364	V248	41	Q6VZC9	CNPV218	70
156	135947:136 060 (37)												
157	136214:136 378 (54)	QRM15791.1	96.3	PGPV	74	159	TGF-beta-like protein				Q6VZI9	CNPV157	69
158	136395:136 70 (104)	QRM15791.1	84.3	PGPV	46	159	TGF-beta-like protein				Q6VZI9	CNPV157	42

159	136919:137 422 (167)	UOX38856.1	160	CNPV	60	347	TGF-beta-like protein				Q6VZJ0	CNPV158	57
160	137538:138 050 (170)	ARF02771.1	221	SWPV	66	161	N1R/p28-like protein	Q9J598	V124	46	Q6VZI2	CNPV165	54
161	138164:139 177 (337)	UOX38631.1	491	FIPV	73	392	N1R/p28-like protein	Q9J598	V124	56	Q6VZI7	CNPV160	72
162	139354:139 662 (102)	ARF02727.1	112	SWPV	82	93	CC chemokine gene family protein	Q9J5A1	V121	44			
163	139805:139 918 (37)												
164	140228:140 761 (177)	YP_00904635 5.1	75.1	PIPV	27	239	Uncharacterized protein				Q6VZC3	CNPV224	45
165	141049:141 333 (94)	YP_00917710 6.1	112	TKPV	56	141	beta-Nerve growth factor	Q9J5D5	V76	33			
166	141568:142 47 (303)	UWX11302.1	372	CRPV	63	304	thioredoxin binding protein				Q6VZJ8	CNPV149	61
*167	142623:143 666 (347)	QRI42866.1	570	ChePV	95	348	virion core protein	Q9J5A2	V120	78	Q6VZJ9	CNPV148	85
*168	143631:144 197 (188)	QRI42865.1	343	ChePV	95	188	G6R ortholog	Q9J5A3	V119		Q6VZK0	CNPV147	85
*169	144406:145 782 (458)	QRM15423.1	755	MLPV	86	440	G5R orthologue	Q9J5A5	V117	63	Q6VZK2	CNPV145	81
170	145871:146 335 (154)												
171	146461:148 119 (552)	QRM15422.1	807	MLPV	74	556	ankyrin repeat protein	Q9J5A7	V155	37	Q6VZK3	CNPV144	63
172	148152:150 149 (665)	QRM15421.1	858	MLPV	68	671	ankyrin repeat protein	Q9J569	V162	27	Q6VZK4	CNPV143	60
173	150287:151 24 (319)	QRI42860.1	359	ChePV	60	321	N1R/p28-like protein	P14364	V248	35	Q6VZK5	CNPV142	52

174	151407:151 958 (183)	YP_00904635 5.1	53	PGPV	27	239	Uncharacterized protein						
175	152011:152 559 (182)	QRI42859.1	329	ChePV	94	184	HAL3-like domain protein	Q9J5A8	V114	77	Q6VZK6	CNPV141	88
176	152854:153 051 (65)	QRI42858.1	93.6	ChePV	91	66	Replication-associated protein	Q9J5A9	V113	74	Q6VZK7	CNPV140	82
*177	153111:153 716 (201)	QRI42857.1	389	ChePV	91	213	Putative membrane protein	Q9J5B0	V112	71	Q6VZK8	CNPV139	83
*178	153727:155 067 (446)	QRI42856.1	827	ChePV	95	444	serine/threonine-protein kinase	Q9J5B1	V111	78	Q6VZK9	CNPV138	87
179	155141:156 574 (477)	QRI42855.1	736	ChePV	83	462	Protein F11 homolog	P36700	V110	44	Q6VZL0	CNPV137	69
*180	156606:158 498 (630)	QRM15414.1	1121	MLPV	90	625	Virion release protein	P36317	V109	50	Q6VZL1	CNPV136	77
*181	158498:159 634 (378)	QRI42853.1	755	ChePV	97	378	Major envelope protein	P36316	V108	85	Q6VZL2	CNPV135	91
182	159839:165 19 (1785)	QRI42852.1	2742	ChePV	76	1801	variola B22R gene family protein	Q9J5B3	V107	47	Q6VZL3	CNPV134	67
183	165254:165 418 (54)	ARF02717.1	68.6	SWPV	89	90	Uncharacterized protein	Q9J5B4	V106	48	Q6VZL4	CNPV133	62
*184	165772:166 230 (152)	ARF02716.1	277	SWPV	90	151	Protein F15	Q9J5B5	V105	79	Q6VZL5	CNPV132	76
*185	166339:166 971 (210)	ARF02715.1	211	SWPV	64	212	DNA-directed RNA polymerase	Q9J5B6	V104	45	Q6VZL6	CNPV131	64
*186	167047:167 391 (114)	QRI42847.1	195	ChePV	87	119	DNA-binding virion core phosphoprotein	Q9J5B7	V103	79	Q6VZL7	CNPV130	76
*187	167385:168 803 (472)	QRI42846.1	918	ChePV	96	472	Poly (A) polymerase catalytic subunit	P0DTA8	V102	74	Q6VZL8	CNPV129	88
*188	168796:170	QRI42845.1	1320	ChePV	90	724	Protein E2 homolog	Q9J5B9	V101	62	Q6VZL9	CNPV128	80

	976 (726)												
							DNA-directed RNA						
*189	171002:171 550 (182)	QGM48759.1	366	MPPV	99	182	polymerase 30 kDa polypeptide	Q9J5C0	V100	86	Q6VZM0	CNPV127	99
190	171756:177 344 (1862)	UOX38824.1	2533	FIPV	70	1971	variola B22R-like protein	Q9J5C1	V099	60	Q6VZM1	CNPV126	68
191	177644:182 917 (1757)	QRM15402.1	2434	MLPV	71	1767	variola B22R-like protein	Q9J5C2	V098	57	Q6VZM2	CNPV125	70
192	183004:186 333 (1109)	QGM48756.1	641	MPPV	58	1911	variola B22R-like protein	Q9J5A0	V122	38	Q6VZJ3	CNPV154	38
193	186335:188 722 (795)	QRI42839.1	1437	FIPV	84	1902	variola B22R-like protein	Q9J5C3	V097	76	Q6VZM3	CNPV124	84
*194	188773:190 488 (571)	NP_955146.1	986	CNPV	87	571	Protein E6 homolog	Q9J5C4	V096	76	Q6VZM4	CNPV123	87
*195	190490:191 311 (273)	QGM48754.1	505	MPPV	89	274	Virion core membrane protein	Q9J5C5	V095	65	Q6VZM5	CNPV122	89
*196	191303:194 269 (988)	QRI42835.1	1821	ChePV	90	988	DNA polymerase	P21402	V094	78	Q6VZM6	CNPV121	91
*197	194296:194 580 (94)	QRI42834.1	181	ChePV	93	93	FAD-linked sulfhydryl oxidase	Q9J5C7	V093	84	Q6VZM7	CNPV120	82
198	194914:196 866 (650)	QRI42832.1	1199	ChePV	91	648	Protein O1 homolog	O72896	V091	198	Q6VZM9	CNPV118	77
*199	197045:197 977 (310)	QRI42831.1	571	ChePV	98	310	DNA-binding virion protein	Q9J5C9	V090	84	Q6VZN0	CNPV117	93
*200	197984:198 184 (66)	QRI42830.1	86	ChePV	94	69	Thymidine kinase	O72899	V089	69	Q9WII0	CNPV116	75
*201	198185:199 081 (298)	QRI42829.1	450	ChePV	83	289	DNA-binding phosphoprotein	P12923	V088	30	Q9WII1	CNPV115	68
202	199424:200 113 (229)	YP_00944797 6.1	165	FGPV	43	219	deoxycytidine kinase	P21974	V087	43			

	854 (54)												
218	212905:213 816 (303)	QRI42811.1	543	ChePV	84	337	DFP domain-containing protein	Q9J5E0	V071	58	Q6VZQ0	CNPV097	73
219	213929:214 16 (77)	ARE67602.1	156	SWPV	100	77							
220	213929:214 16 (46)	ARE67601.1	59	SWPV	70	47	Uncharacterized protein				Q6VZQ2	CNPV095	74
221	214316:215 152 (278)	UWX11237.1	511	CRPV	96	278	T10-like protein	Q9J5E1	V070	56	Q6VZQ3	CNPV094	84
*222	215254:216 066 (270)	UWX11235.1	389	CRPV	76	268	virion core protein	Q9J5E2	V069	54	Q6VZQ4	CNPV93	71
223	216253:216 606 (117)	UOX38786.1	93.2	FIPV	49	162	Uncharacterized protein				Q6VZQ5	CNPV092	60
224	216897:217 133 (78)	NP_955114.1	156	CNPV	89	83	HT motif protein	Q9J5E4	V068	62	Q6VZQ6	CNPV091	91
225	217139:217 339 (66)												
226	217324:217 704 (126)	QRI42804.1	175	ChePV	74	127	PIR Superfamily Protein	Q9J5E5	V067	44	Q6VZQ7	CNPV090	62
227	217691:218 203 (170)	QRM15364.1	244	MLPV	73	182	PIR Superfamily Protein	Q9J5E5	V066	59	Q6VZQ8	CNPV089	72
228	218178:218 495 (165)	ARE67659.1	118	SWPV	62	104	Uncharacterized protein	Q9J5E6	V065	35	Q6VZQ9	CNPV088	58
229	218533:218 934 (133)	QRI42802.1	265	ChePV	94	149	glutathione peroxidase	Q9J5E7	V064	68	Q6VZR0	CNPV087	83
230	219007:219 135 (42)	NP_955110.1	77	CNPV	88	198	glutathione peroxidase	Q9J5E7	V064	60	Q6VZR0	CNPV087	86
231	219380:220 126 (248)	NP_955250.1	319	CNPV	73	359	N1R/p28-like protein	Q9J598	V124	65	Q6VZC0	CNPV227	74
232	220464:220	QRM15718.1	70.1	PGPV	77	121					Q6VZR1	CNPV086	47

	631 (55)													
233	220585:220815 (76)	QRM15718.1	100	PGPV	75	121	Tnfr-like protein				Q6VZR1	CNPV086	64	
234	220891:222069 (392)	QRM15717.1	632	PGPV	86	395	domain-containing protein	P21971	V063	36	Q6VZD1	CNPV216	39	
235	222124:222966 (280)	QRI42800.1	383	ChePV	69	303	RNA phosphatase				Q6VZR2	CNPV085	60	
*236	223000:223656 (218)	QRI42799.1	413	ChePV	88	218	uracil DNA glycosylase	P21968	V062	80	Q6VZR3	CNPV084	89	
237	223663:224250 (195)	ARF02679.1	338	SWPV	85	195	CC chemokine-like protein	P21973	V061	33	Q6VZB5	CNPV232	28	
*238	224381:226759 (792)	QRI42797.1	1539	ChePV	95	794	NTPase, DNA replication	P21969	V060	79	Q6VZR5	CNPV082	90	
239	227129:228079 (316)	QRI42796.1	380	ChePV	64	334	Ig-like domain protein	P21975	V059	34	Q6VZR6	CNPV081	56	
*240	228579:230480 (633)	QRI42795.1	1220	ChePV	99	633	Early transcription factor 70 kDa subunit	P21966	V058	93	Q6VZR7	CNPV080	98	
*241	230467:23095 (163)	QRI42793.1	314	ChePV	96	160	DNA-directed RNA polymerase 18 kDa subunit	P21967	V057	80	Q6VZR9	CNPV078	87	
242	231587:231988 (133)	ARE67642.1	139	SWPV	59	435	ankyrin repeat protein	Q9J4Z4	V056	38	Q6VZ56	CNPV291	40	
243	232014:232784 (256)	ARE67642.1	201	SWPV	48	435	ankyrin repeat protein	Q9J569	V055	30	Q6VZJ7	CNPV150	32	
*244	232959:233669 (236)	QRI42792.1	432	ChePV	93	232	Putative Nudix hydrolase	P21970	V054	71	Q6VZS1	CNPV076	80	
*245	233695:234333 (212)	QRM15352.1	338	MLPV	87	265	mRNA-decapping protein	P32817	V053	69	Q6VZS2	CNPV075	78	
*246	234330:236237 (635)	QRI42790.1	1244	ChePV	96	635	Nucleoside triphosphate phosphohydrolase I	O72907	V052	83	Q6VZS3	CNPV074	94	

247	236355:236 633 (92)	ARF02674.1	99	SWPV	72	110							
248	236651:237 511 (286)	UWX11204.1	246	CRPV	54	286	CC chemokine-like protein				Q6VZS5	CNPV072	46
*249	237556:238 425 (289)	QRI42787.1	573	ChePV	98	289	mRNA capping enzyme small subunit	O72908	V051	79	Q6VZS6	CNPV071	91
*250	238456:240 117 (553)	QRM15347.1	1040	MLPV	98	551	rifampicin resistance protein	O72909	V050	84	Q6VZS7	CNPV070	89
*251	240134:240 598 (154)	QRI42785.1	282	ChePV	98	155	late transcription factor	O72910	V049	70	Q6VZS8	CNPV069	87
252	240702:241 550 (282)	QRI42784.1	506	ChePV	93	257	GNS1/SUR4 protein	Q9J5F5	V048	83	Q6VZS9	CNPV068	86
253	241639:241 809 (56)												
254	241909:242 487 (192)												
255	242558:244 309 (583)	QRI42781.1	768	ChePV	71	583	semaphorin-like protein	Q9J5F6	V047	47	Q6VZT2	CNPV065	66
256	244502:244 630 (42)												
257	244704:245 258 (184)	ARF02669.1	261	SWPV	69	272	TGF-beta-like protein				Q6VZT3	CNPV064	61
258	245315:246 184 (289)	QRI42779.1	539	ChePV	92	358	hydroxysteroid dehydrogenase-like protein	Q67477	V045	59	Q6VZT4	CNPV063	76
259	246464:247 525 (353)	QRM15339.1	590	MLPV	87	350	serpin-like protein	Q9J5F9	V044	50	Q6VZT5	CNPV062	76
260	247567:249 261 (564)	QRI42777.1	1077	ChePV	91	567	DNA ligase	Q67480	V043	72	Q6VZT6	CNPV061	85
261	249346:250	ARF02665.1	186	SWPV	59	236	E3 CR1-beta	Q9J5G2	V041	57	Q6VZT7	CNPV060	49

	071 (241)												
262	250138:251 157 (339)	QRI42775.1	591	ChePV	92	338	serpin-like protein	Q9J5G3	V040	51	Q6VZT8	CNPV059	69
263	251216:251 761 (181)	QRI42774.1	256	ChePV	71	180	Bcl-2-like protein	Q9J5G4	V039	42	Q6VZT9	CNPV058	56
264	251799:252 713 (304)	QRM15334.1	499	MLPV	72	301	serpin-like protein	Q9J5G3	V040	31	Q6VZU0	CNPV057	67
265	252754:253 191 (145)	QRI42772.1	253	ChePV	94	145	Deoxyuridine 5'-triphosphate nucleotidohydrolase	Q9J5G5	V038	69	Q6VZU1	CNLV056	80
266	253188:253 67 (162)	QRI42771.1	262	ChePV	88	321	Uncharacterized protein	Q9J5G6	V037	37	Q6VZU2	CNPV055	74
267	253732:254 142 (136)	QRM15331.1	156	MLPV	68	140	Orfan	Q9J5G7	V036	33	Q6VZU3	CNPV054	61
268	254224:254 631 (135)	QRI42770.1	255	ChePV	88	146	Deoxyuridine 5'-triphosphate nucleotidohydrolase	Q9J5G5	V035	69	Q6VZU4	CNPV053	70
269	254745:255 749 (334)	ARF02658.1	427	SWPV	68	329	ankyrin repeat protein	Q9J5G9	V034	48	Q6VZY0	CNPV017	37
270	255803:256 342 (179)	QRM15329.1	166	MLPV	70	171	C-type lectin-like protein				Q64335	CNPV052	61
271	256409:256 633 (74)	ARF02656.1	74.7	SWPV	62	398	DNase II-like protein				Q6VZU6	CNPV051	57
272	256626:257 594 (322)	QRI42768.1	555	ChePV	84	408	DNase II-like protein				Q6VZU6	CNPV051	72
273	257691:258 686 (331)	QRI42767.1	532	ChePV	69	352	ankyrin repeat protein	O90760	V031	44	Q6VZU7	CNPV050	69
274	258707:259 153 (148)	ARF02654.1	143	SWPV	49	148	Uncharacterized protein				Q6VZU8	CNPV049	47
275	259241:261	QRM15325.1	1379	MLPV	84	801	alkaline	Q9J5H1	V030	57	Q6VZU9	CNPV048	69

	622 (793)						phosphodiesterase-like protein						
276	261813:262 190 (125)	QRM15324.1	234	MLPV	91	124	peptidyl-tRNA hydrolase	Q9J5H2	V029	58	Q6VZV0	CNPV047	71
277	262226:263 584 (452)	QRI42763.1	792	ChePV	93	450	ankyrin repeat protein	Q9J5I7	V218	30	Q6VZV1	CNPV046	74
278	263626:264 618 (330)	QRI42762.1	508	ChePV	82	332	interleukin 18 receptor-like protein	Q9J5H4	V027	46	Q6VZV2	CNPV045	71
279	264741:265 949 (402)	YP_00904603 0.1	270	PEPV	42	406	ankyrin repeat protein	Q9J5H5	V026	42	Q6VZ56	CNPV291	28
280	266032:267 459 (475)	QRI42761.1	820	ChePV	91	480	ankyrin repeat protein	Q9J5H7	V024	31	Q6VZV3	CNPV044	73
281	267503:268 108 (201)	QRI42760.1	328	ChePV	86	201	Uncharacterized protein	Q9J5H6	V025	57	Q6VZV4	CNPV043	75
282	268251:270 062 (603)	QRI42759.1	1095	ChePV	91	606	ankyrin repeat protein	Q9J5H7	V024	52	Q6VZV5	CNPV042	76
283	270089:271 426 (445)	QRI42758.1	618	ChePV	79	430	ankyrin repeat protein	Q9J5H8	V023	57	Q6VZV6	CNPV041	73
284	271494:273 266 (590)	QRI42757.1	858	ChePV	78	591	ankyrin repeat protein	Q9J5H9	V022	34	Q6VZV7	CNPV040	68
285	273297:274 280 (327)	QRM15315.1	477	MLPV	80	327	G protein-coupled receptor-like protein	Q9J5I0	V021	45	Q6VZV8	CNPV039	72
286	274389:275 624 (411)	QRM15314.1	594	MLPV	78	413	vaccinia HT Motif -like protein	P14361	V006	32	Q6VZV9	CNPV038	62
287	275629:276 168 (179)	QRI42754.1	315	ChePV	88	179	Uncharacterized protein				Q6VZW 0	CNPV037	64
288	276225:276 509 (94)	ARF02643.1	93.6	SWPV	59	88	FLYWCH-type domain-containing protein	Q9J5I2	V019	29	Q6VZW 1	CNPV036	55
289	276765:278 789 (674)	QRI42751.1	1120	ChePV	82	664	ankyrin repeat protein	Q9J5I3	V018	43	Q6VZW 3	CNPV034	74

290	278845:279 567 (240)	ARF02642.1	291	SWPV	60	238	V-type Ig domain	Q9J5I4	V017	51	Q6VZW 4	CNPV033	50
291	279684:280 385 (233)	ARF02641.1	334	SWPV	67	243	Ig-like domain putative IFN-gamma binding protein	Q9J5I5	V016	36	Q6VZW 5	CNPV032	53
292	280801:281 163 (120)	ARF02639.1	150	SWPV	62	120	Uncharacterized protein				Q6VZW 6	CNPV031	60
293	281239:282 459 (406)	QRM15306.1	479	MLPV	76	336	ankyrin repeat protein	Q9J5I9	V012	46	Q6VZW 7	CNPV030	70
294	282497:282 922 (141)	QRI42746.1	245	ChePV	84	141	C-type lectin-like protein				Q6VZW 8	CNPV029	64
295	283040:284 260 (406)	ARF02636.1	484	SWPV	65	408	ankyrin repeat protein	P14360	V240	33	Q6VZW 9	CNPV028	55
296	284361:284 654 (97)	QRM15303.1	140	MLPV	91	626	ankyrin repeat protein				Q6VZX0	CNPV027	49
297	284677:285 834 (385)	QRI42743.1	451	ChePV	66	381	ankyrin repeat protein	Q9J4Z4	V246	31	Q6VZX1	CNPV026	52
298	285921:286 841 (306)	QRM15301.1	456	MLPV	81	300	alpha-SNAP-like protein	Q9J5J0	V011	57	Q6VZX2	CNPV025	65
299	286911:288 482 (523)	ARF02632.1	615	SWPV	65	530	ankyrin repeat protein	Q9J4Z4	V246	32	Q6VZ37	CNPV310	35
300	288594:289 166 (190)	ARE67579.1	280	SWPV	72	190	ankyrin repeat protein	O90760	V031	31	Q6VZ38	CNPV309	34
301	289286:290 356 (356)	QRI42739.1	554	ChePV	79	358	serpin-like protein	Q9J5J1	V010	65	Q6VZX5	CNPV022	71
302	290412:291 986 (524)	QRI42738.1	887	ChePV	87	535	ankyrin repeat protein	Q9J4Z4	V246	35	Q6VZX6	CNPV021	68
303	292035:293 414 (459)	ARE67577.1	563	SWPV	59	483	Ig-like domain protein	Q9J5I4	V017	28	Q6VZ27	CNPV320	33
304	293445:295	YP_00904625	549	PIPV	47	680	ankyrin repeat protein	Q9J4Z6	V244_	34	Q6VZY8	CNPV009	32

	538 (697)		0.1										
305	295555:296 805 (416)	QRM15296.1	672	MLPV	82	419	ankyrin repeat protein	Q9J4Z5	V245	48	Q6VZX7	CNPV020	61
306	296974:298 299 (441)	QRI42736.1	668	ChePV	76	436	ankyrin repeat protein	Q9J5I7	V014	53	Q6VZX8	CNPV019	64
307	298443:299 897 (484)	QRI42734.1	709	ChePV	81	479	ankyrin repeat protein	Q9J5G9	V034	34	Q6VZY0	CNPV017	70
308	300021:300 584 (187)	QRI42733.1	194	ChePV	67	168	C-type lectin protein	P14370	V008	47	Q6VZY1	CNPV016	58
309	300883:301 035 (50)												
310	301567:303 408 (613)	ARF02862.1	694	SWPV	74	480	Putative ankyrin repeat protein	Q70GZ8	V162	37	Q6VZC4	CNPV223	31
311	303583:304 992 (469)	QRI43039.1	685	ChePV	78	485	V-type Ig domain	Q9J5I4	V017	34	Q6VZ27	CNPV320	76
312	305257:306 699 (480)	ARF02652.1	164	SWPV	31	452	ankyrin repeat protein	Q9J5I7	V014	28	Q6VZ51	CNPV296	28
313	306987:308 822 (611)	ARE67225.1	770	SWPV	65	586	ankyrin repeat protein	Q9J4Z4	V246	48	Q6VZY6	CNPV011	65

¹ aa, amino acid.

² Best-matching, significant non-FWPV protein sequence from BlastP analysis of GenBank database.

³ AN, Accession numbers are from the GenBank or SwissProt database.

⁴ BlastP score.

⁵ %ID, % identity, percent amino acid identity.

⁶ Function was deduced either from the degree of amino acid similarity to known genes or by the presence of Prosite signatures.

⁷ Best-matching ORF from the FWPV challenge strain.

⁸ Best-matching ORF from the CNPV strain.

*Represents conserved gene of avipoxvirus

CNPV, Canarypox virus; SWPV, Shearwaterpox virus; PEPV, Penguinpox virus; PIPV, Pigeonpox virus; FGPV, Flamingopox virus; TKPV, Turkeypox virus; MLPV, Mudlarkpox virus; MPPV, Magpiepox virus; ChePV, Cheloniid poxvirus