

Figure 1

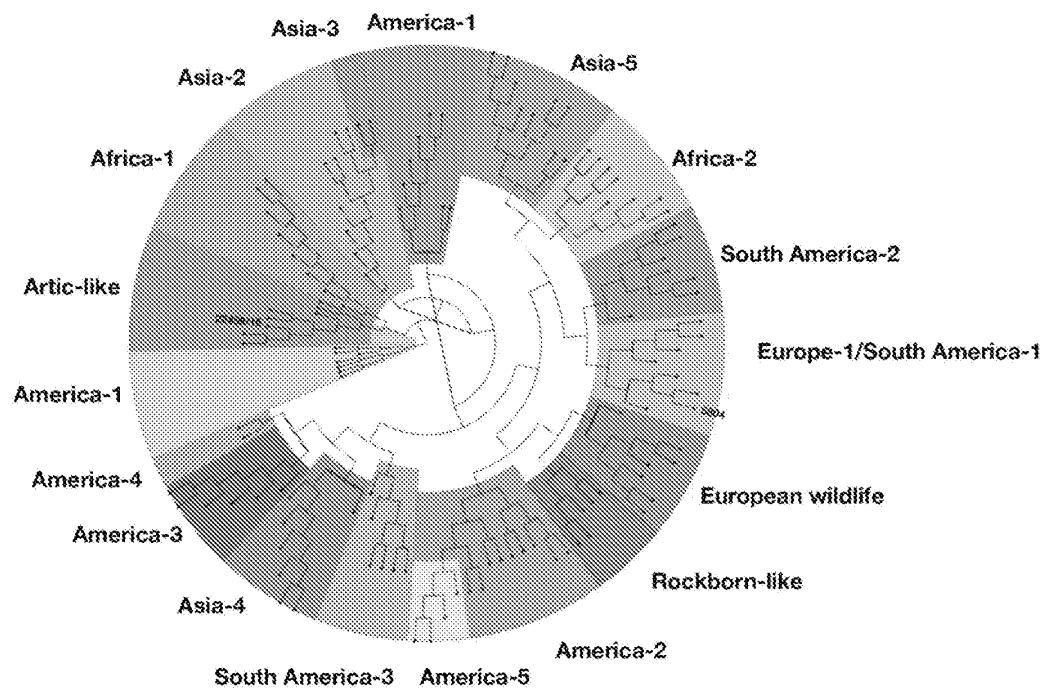


Figure 2

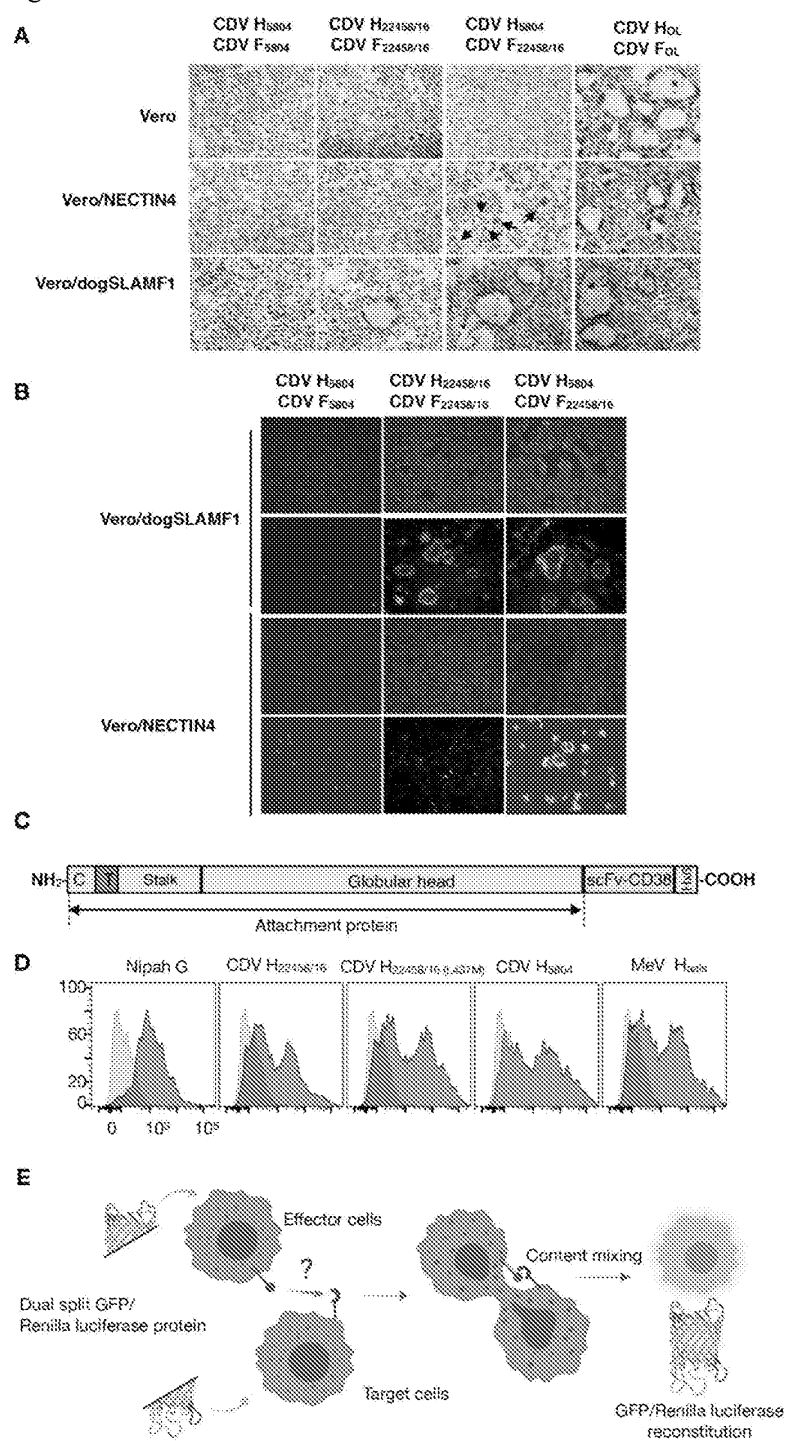


Figure 2 (cont.)

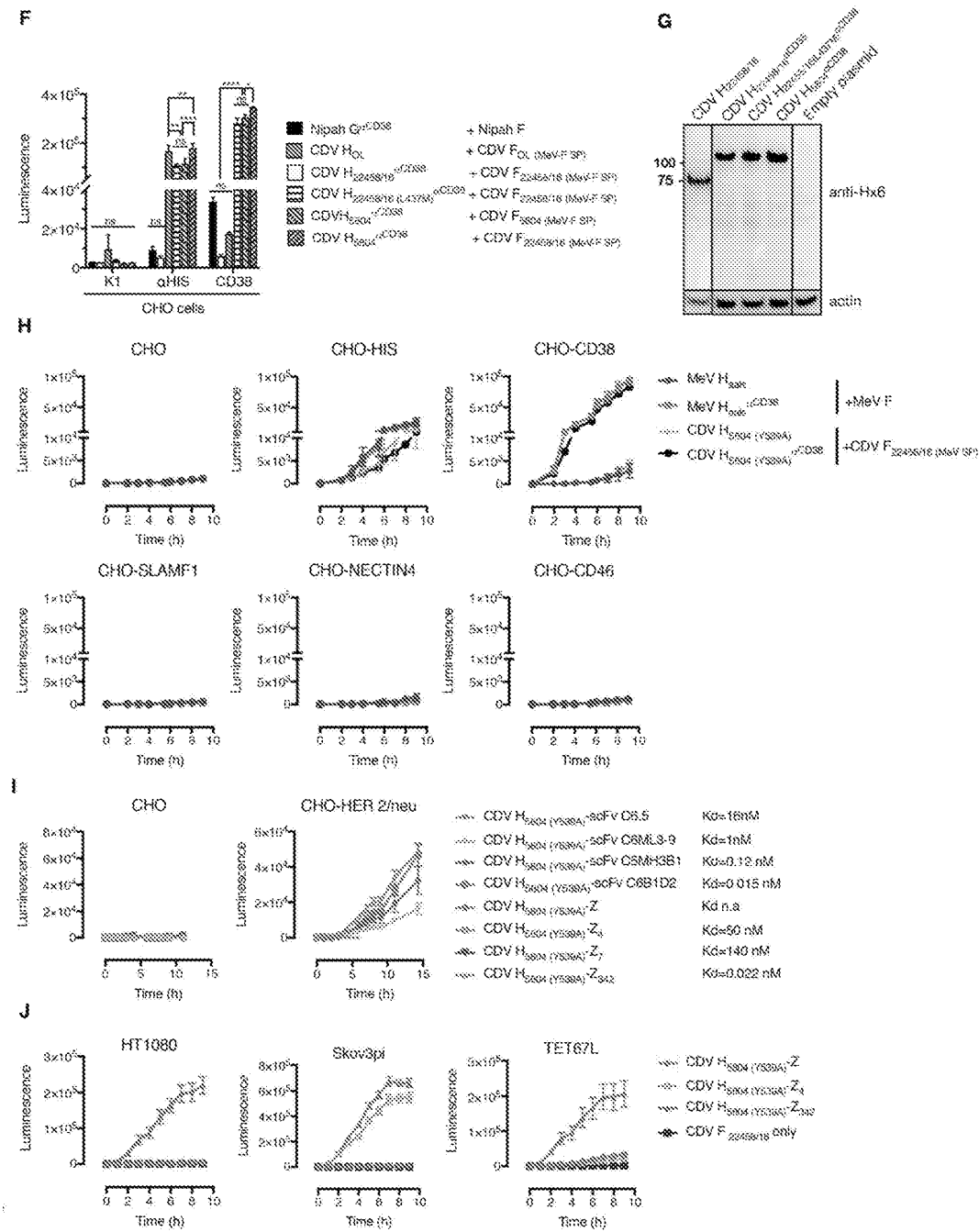


Figure 3

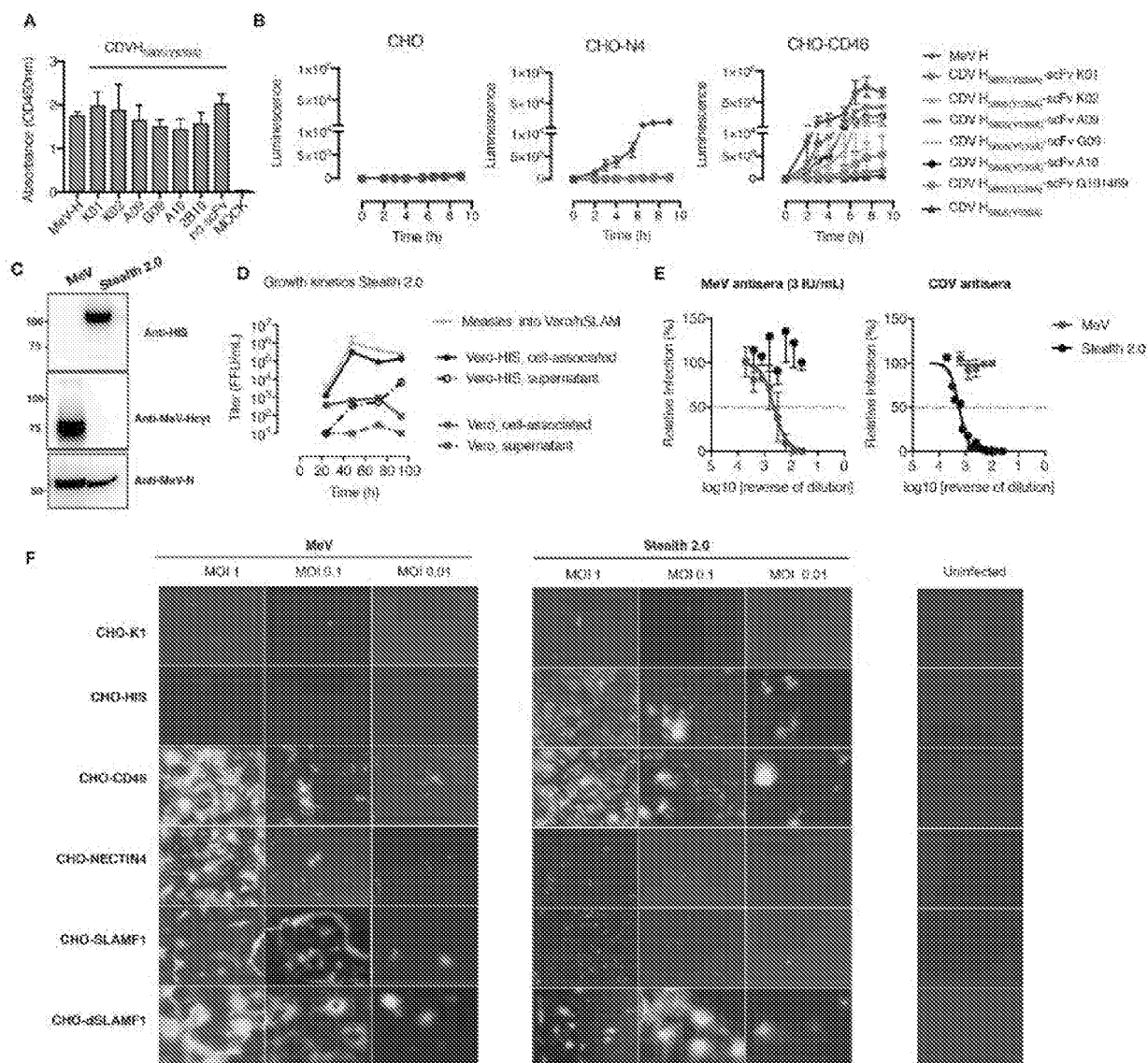


Figure 4

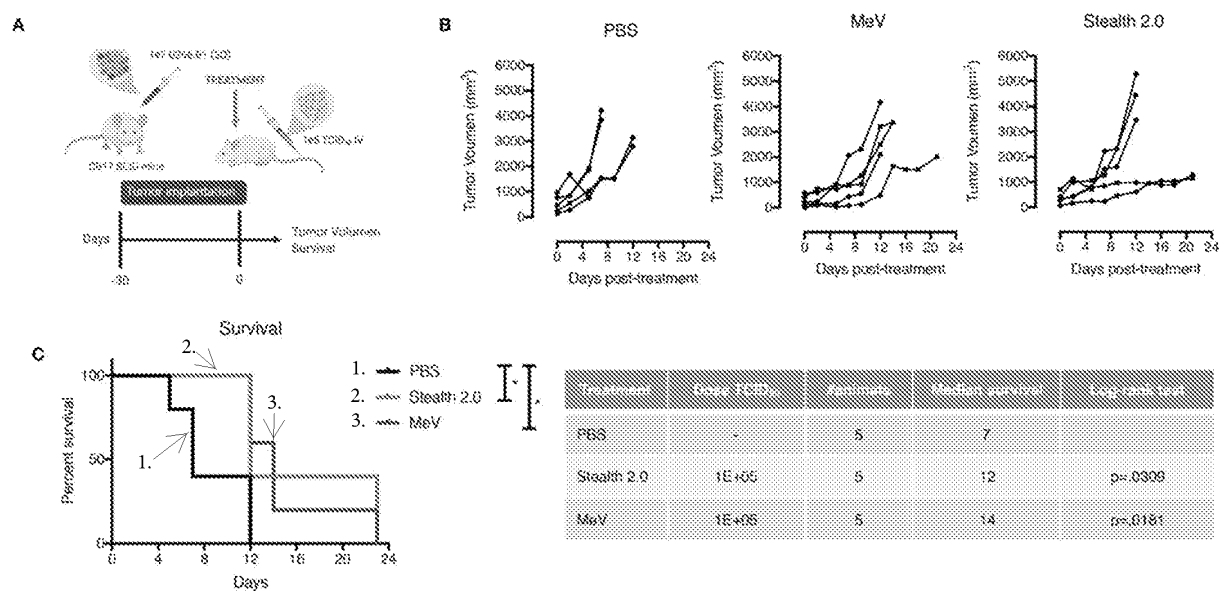


Figure 5

Virus	Construct							Titer
VSV-IFN β -NIS	N	P	M	IFN β	G	NIS	L	1.7e10 TCID50/mL (clinical stock)
VSV-CDV-FH-GFP	N	P	M	CDV-F	CDV-H	GFP	L	1.9e6 TCID50/mL
VSV-CDV-FH α - α EGFR-GFP	N	P	M	CDV-F	CDV-H α	α EGFR	GFP	1.0e7 TCID50/mL
VSV-CDV-FH α - α CD38-GFP	N	P	M	CDV-F	CDV-H α	α CD38	GFP	1.0e6 TCID50/mL

Figure 6

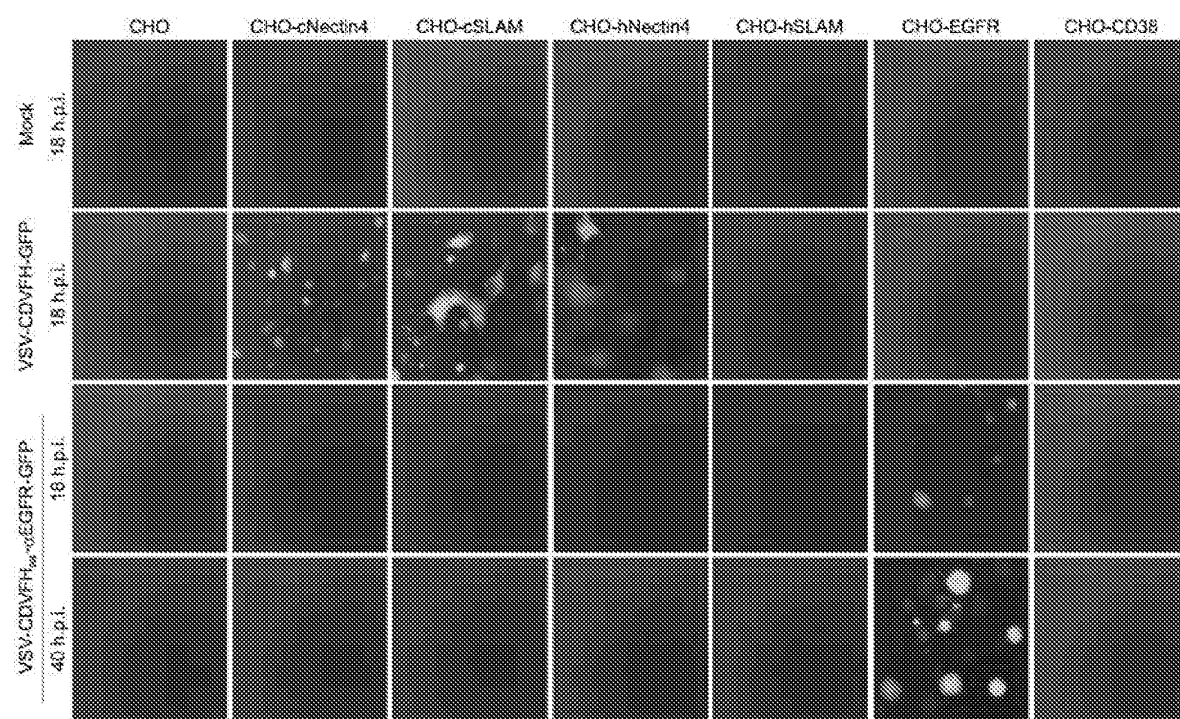


Figure 7

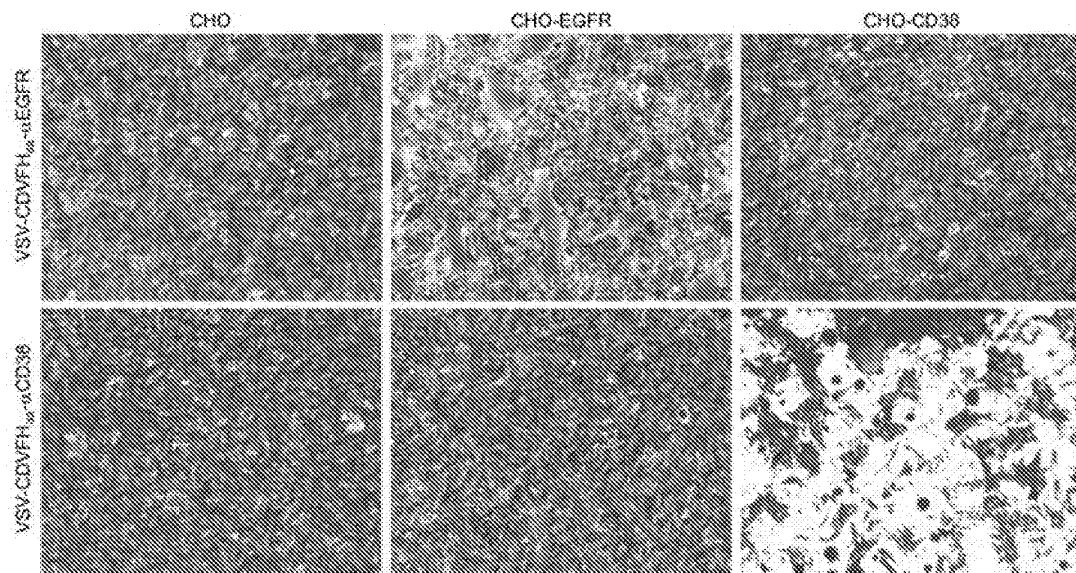
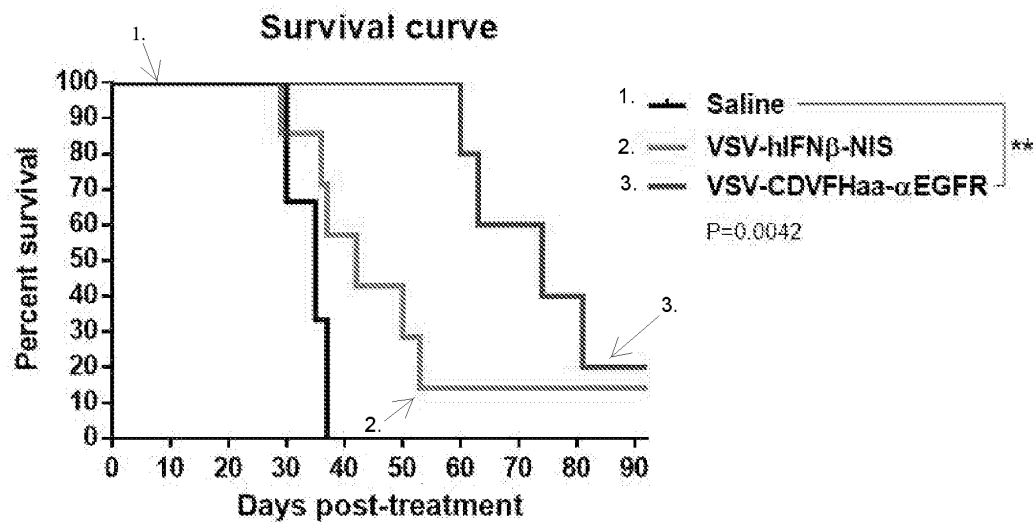


Figure 8



Treatment	Dose TCID ₅₀ /ml	#animals/gr	Median survival
Saline	-	3	35
VSV-hIFN β -NIS	1e7	7	42
VSV-CDV FHaa-IEGS- α EGFR-dG	1e7	5	74

Figure 9

ATGCTCTCCTACCAAGACAAGGTGGGTGCCTTCTACAAGGATAATGCAAGAGCTAAT
TTGTCCAAGCTGTCCTTAGTGACAGAAGAGCAAGGGGGCAGGAGACCACCCTATTT
GCTGTTTGTCTTCTCATCCTACTGGTTGGAATCCTGGCCTTGCTTGCTATCACTGGA
GTTTCGATTTACCAGGTATCAATTAGCAATATGGAATTTAGCAGATTGTTGAAAGAG
GATATGGAGAAGTCAGATGCCGTACATACCAAGTCATAGATGTCTTGACACCGCTC
TTCAAAATTATTGGAGATGAGATTGGGTACGGTTGCCACAAAACTAAACGAGAT
CAAACAATTTATCCTTCAAAAGACTAACTTCTTCAATCCGAACAGGGAATTCGACTT
CCGCGATCTCCACTGGTGCATTAATCCGCCTAGTAAGATCAAAGTGAATTTTACTAG
TACTGTGATACAATTGGGATCAGAAAATCCATTGCATTGGCAGCAAATCCCATCCT
TTTTTCAGCACTCTCCGGAGGCAGAGGTGACATATTCCCACCATAAGATGCAGTGG
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ATTTCGAGTCTTTGAGATAGGGTTCATCAAAAGGTGGCTGAATGACATGCCATTATTC
CAGACAACCAACTATATGATCCTCCCGGAGAATTCTAAAACCAAAGTATGTACTATA
GCAGTGGGCGAGTTGACACTGGCTTCCTTGTGTGTAGATGAGAGCACTGTATTATTA
TATCATGACAGCAATGATTCACAAGATGGTATTCTAGTAGTGACGCTGGGAATCTTT
GGGGCAACACCTATGGATCAAGTCGAAGAGGTGATACCTGTCGCTCACCCATCAGT
AGAAAAAATACATATAACAAATCACCGTGGTTTCATAAAAGATTTCGGTAGCAACCT
GGATGGTGCCTGCATTGGTCTCTGAGAACCTAGAGGAACAAAAAATTGTCTGGAG
TCGGCTTGTCAAAGAAAATCCTACCCTATGTGCAACCAACATCATGGGAACCCTTT
GGAGGAGGACAGTTGCCATCTTATGGGCGGTTGACGTTACATCTAGATGCAAGCACT
GACCGTCAACTTAACATATCATTTACGTACGGTCCGGTTATACTGAATGGAAATGGT
ATGGATTATTATGAAAGCCCACTTTTGGACTCCGGATGGCTTACCATTCCCTCCTAAG
AATGGAACAATTCTTGGATTGATAAACAAGCAAGTAGAGGAGACCAGTTCAGTGT
GATCCCTCATGTGTTGTCATTTGCGCCCAGGGAATCAAGTGGAACCTGTTATTTACC
TATTCAAACATCCCAGATTATGGATAAAGATGTCCTTACTGAGTCTAATTTAGTTGT
GTTGCCTACACAGAATTTTAGATATGTCATAGCAACATATGATATATCCCGAAACGA
TCATGCGATTGTTTATTATGTTTATGACCCAATCCGGACGATTTCTTATACGTACCCA
TTTAGACTAACTACCAAGGGTAGATCTGATTTCCTAAGGATTGAATGTTTTGTGTGG
GATGACGACCTGTGGTGTACCAATTTTACAGGTTTCGAGGCTGACATCACCAACTCT
ACAACCAGTGTTGAGAATTTAGTCCGTATAAGATTCTCCTGTAACCGTTCAAAACCT
TGA (SEQ ID NO:1)

Figure 9 (con't)

MLSYQDKVGAFYKDNARANLSKLSLVTEEQGGRPPYLLFVLLILLVGILALLAITGVRF
HQVSISNMEFSRLLKEDMEKSDAVHHQVIDVLTPLFKIIGDEIGLRLPQKLNEIKQFILQK
TNFFNPNREFDFRDLHWCINPPSKIKVNFTSYCDTIGIRKSIALAANPILFSALSGGRGDIFP
PYRCSGATTSVGKSFPLSVLSMSLISRTSEIINMLTSISDGVYGKTYLLVPDYIEGEFDTQ
KIRVFEIGFIKRWLNDMPLFQTTNYMILPENSKTKVCTIAVGELTLASLCVDESTVLLYH
DSNDSQDGILVVTLGIFGATPMDQVEEVIPVAHPSVEKIHITNHRGFIKDSVATWMVPAL
VSENLEEQKNCLESACQRKSYPMCNQTSWEPFGGGQLPSYGRLTLHLDASTDRQLNISF
TYGPVILNGNGMDYYESPLDSGWLTI PPKNGTILGLINKASRGDQFTVIPHVLSFAPRES
SGNCYLP IQTSQIMDKDVLTESNLVVLPTQNFRYVIA TYDISRNDHAIVYYVYDPIRTISY
TYPFRLTTKGRSDFLRIECFVWDDDLWCHQFYRFEADITNSTTSVENLVRIRFSCNRSKP
(SEQ ID NO:2)

Figure 10

ATGCACAAGGAAATCCCCGAAAAATCCAGAACCCGAACACACACCCCAACAAGACCT
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GTCTGCTACATTATGAACAGAGCCATGTCTTGCAAGCAAGCCAGCTACAGATCGGAT
AACATCCCAGCTCACGGAGACCACGAGGGTGTGTCCATCACACACCAGAGAGTGT
CTCCCAAGGAGCGAGATCCCAGCTCAAGAGGCGGACTTCCAATGCAATCAACTCAG
GATTTTCAGTACATCTGGTTAGTCCTGTGGTGCATCGGAATAGCCAGTCTCTTTCTTTG
TTCTAAGGCTCAGATACATTGGAATAATTTATCAACTATTGGGATCATCGGGACTGA
CAGTGTCCATTATAAGATCATGACTAGGCCAGCCACCAGTACTTGGTCATAAACT
AATGCCTAATGTTTCACTCATAGATAATTGTACCAAAGCAGAATTAGGTGAGTATGA
GAAATTATTAAATTCAGTCCTCGAACCAATCAACCAAGCTTTGACTCTAATGACCAA
GAATGTGAAGCCTCTACAGTCAGTAGGGTCAGGTAGGAGACAGAGGCGTTTTGCAG
GAGTGGTGCTTGCAGGTGCAGCTTTAGGAGTGGCCACTGCTGCACAAATCACTGCAG
GGATAGCTTTACATCAATCCAACCTCAATGCTCAAGCAATCCAATCTCTGAGAACTA
GCCTTGAACAGTCCAACAAGGCTATAGAAGAAATTAGGGAGGCAACCCAGGAAACC
GTCATTGCCGTTTCAGGGAGTCCAGGATTACGTCAATAATGAACTCGTCCCTGCTATA
CAACATATGTCGTGTGAATTAGTTGGGCAGAGATTAGGGTTAAAATTGCTTAGGTAT
TATACCGAGTTGTTGTCAATATTTGGCCCGAGTTTACGTGATCCTATTTTCAGCCGAGA
TATCAATTCAAGCACTGAGTTATGCTCTTGGGGGAGAAATTCATAAGATACTTGAGA
CGTTGGGGTATTCTGGAAATGATATGATTGCAATTTTGGAGAGTCGGGGGATAAAA
ACAAGAATAACTCATGTTGATCTCCCCGGGAAATTTATCATCTTAAGTATCTCATAC
CCAACTTTATCAGAAGTCAAGGGGGTTATAGTCCACAGACTGGAAGCAGTTTCTTAT
AACATAGGGTCACAAGAGTGGTACACCACTGTCCCGAGGTATGTTGCAACTAATGG
TACTTAAATATCCAATTTTCGATGAGTCATCCTGTGTATTTCGTCTCAGAATCAGCCATT
TGTAAGCCAGAACTCCCTATACCCCATGAGCCCACTTCTACAACAATGCATTAGGGGC
GACACTTCATCTTGTGCTCGGACCTTGGTGTCTGGAACCATGGGCAATAAATTTATT
CTGTCAAAAGGCAATATCATCGCAAATTGTGCTTCTATACTATGTAAGTGTATAGC
ACAAGCACAAATTATCAATCAGAGTCCTGATAAGTTGCTGACCTTTATTGCCTCCGAT
ACATGCCCCTAGTTGAAATAGATGGTGTAAACCATCCAGGTTGGAGGCAGGCAATA
CCCTGATATGGTATACGAAAGCAAAGTTGCCCTAGGCCCTGCTATATCACTTGAGAG
GCTAGATGTAGGTACAAATTTAGGGAACGCCCTTAAGAACTGGATGATGCTAAGG
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TGGCAGTCTCCTCAGCGTTCCTATATTAAGCTGTGCAGCCCTGGCTTTGTTATTGCTG
ATTTACTGCTGTAAAAGACGCTATCAACAGACACTCAAGCGGAATACTAAGGTCGA
TCCGACATTTAAACCTGATCTGACTGGGACTTCTAAATCCTATGTAAGATCACTCTG
A (SEQ ID NO:3)

Figure 10 (con't)

MHKEIPEKSRTTRHTQQDLPPQKSTEYTEIKTSRARHGITPAQRSTHYGPRTLDRLVCI
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LVLWCIGIASLFLCSKAQIHWNNLSTIGHGTDSVHYKIMTRPSHQYLVIKLMPNVSLIDN
CTKAELGEYEKLLNSVLEPINQALTLMTKNVKPLQSVGSGRRQRRFAGVVLAGAALGV
ATAAQITAGIALHQSNLNAQAIQSLRTSLEQSNKAIEEIREATQETVIAVQGVQDYVNNE
LVPAIQHMSCELVGQRLGLKLLRYYTELLSIFGPSLRDPISAEISIQALSALGGEIHKILET
LGYSGNDMIAILES RGIKTRITHVDLP GKFIILSISYPTLSEVKG VIVHRLEAVSYNIGSQE
WYTTVPRYVATNGYLISNFEDESSCVFVSESAICSNLSYPMSPLLQQCIRGDTSSCARTL
VSGTMGNKFILSKGNIIANCASILCKCYSTSTIINQSPDKLLTFIASDTCPLVEIDGVTIQVG
GRQYPDMVYESKVALGPAISLERLDVG TNLGNALKKLDDAKVLIDSSNQILETVRRSSF
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(SEQ ID NO:4)

Figure 11.

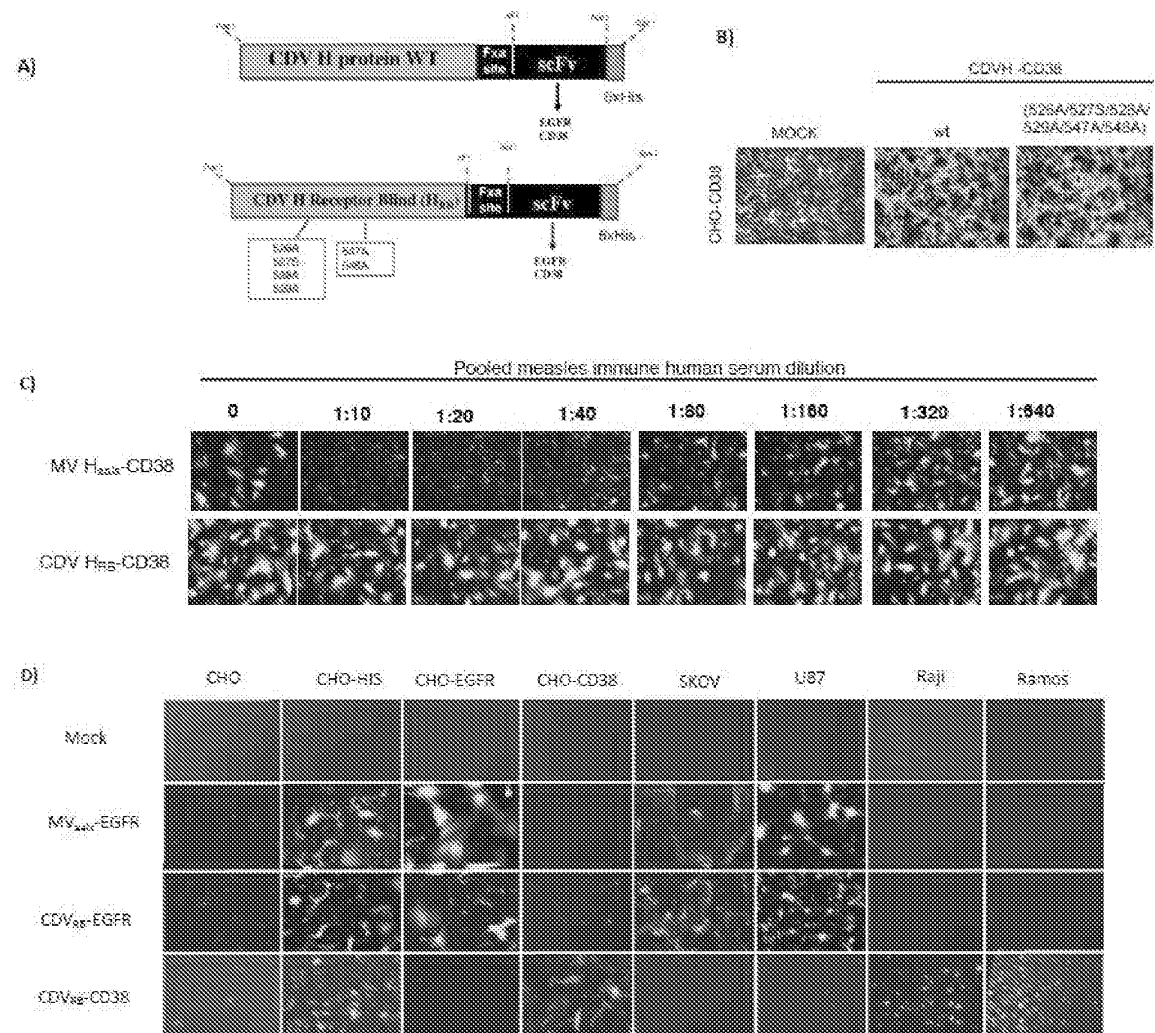
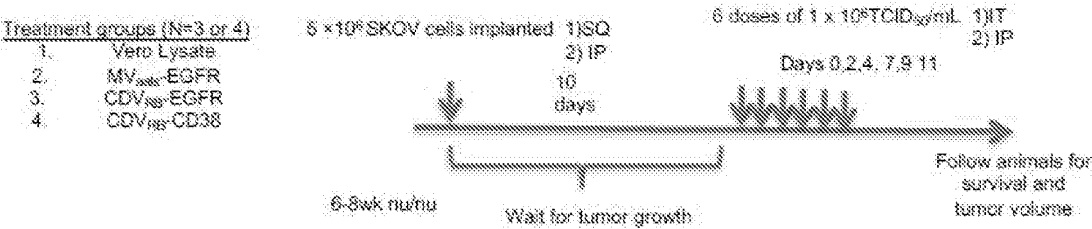


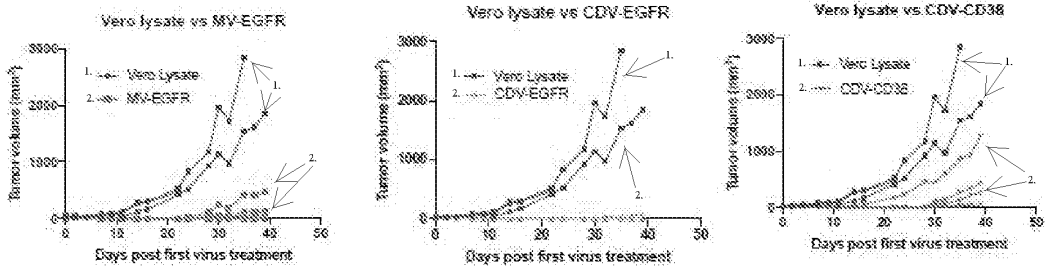
Figure 11 (con't)

E)



F)

1) SQ implantation+IT treatment



2) IP implantation+IP treatment

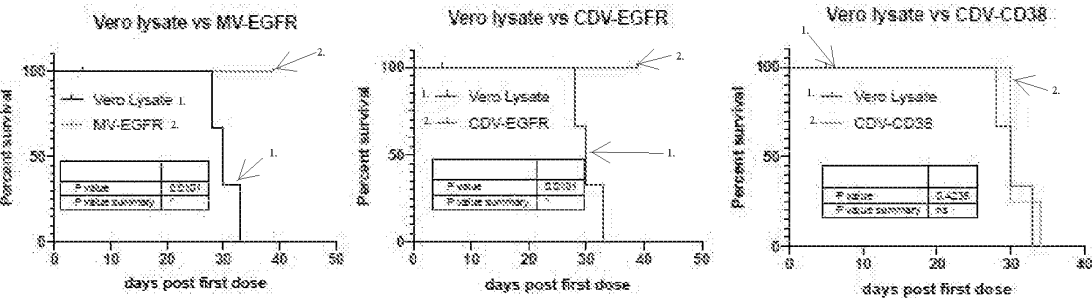


Figure 12

	10	20	30	40	50	60	70	80
AF378705.1_America1	MLSYQDKVGAFYKDNARANS	TKLSLVTEEHGGRRPPYLL	FVLLILLVGLALLAITGVR	FHQVSTSNMEFSRLLEDMEK				
Z35493.1_America1	A		V					
AF259552.1_America1		PS			S	K		
DQ903854.1_America1	P		G			I		
AY548109.1_America1		PS			S	K		
HM046486.1_America1		S	P					
AY542312.2_America1		PS			S	K		
AF112189.1_America2	S		Q		M			
Z47764.1_America2		S	DQ		M			
Z47765.1_America2		S	S	Q		M		
Z47763.1_America2		S	Q		M			
Z54166.1_America2		S	Q		M			
Z54156.1_America2		SR	DQ		M			
KT266736.1_America3		S	Q		R	V		
AY964110.1_America3		S	Q			V		
MF953474.1_America3		S	Q		T	V		
MF953470.1_America3		S	Y	Q		T	V	
JN836734.1_America3		S	Q			V		
MF953472.1_America3		S	Q		T	V		
KJ747371.1_America4	R	D	LS	Q		M		L
JF283477.1_America5		SR	DQ		M			
Z54156.1_America5		SR	DQ		M			
MK473366.1_America5		SR	Q	K		M		
MK473365.1_America5		SR	Q		M			
MK487379.1_America5		SR	Q		M			
AF164967.1_A75/17	S		Q		M			
Z47764.1		S	DQ		M			
KX024709.1_ArticLike		LS	Q		V		IN	
Z47760.1_ArticLike		LS	Q					
KC966928.1_ArticLike		LS	Q				I	
AF172411.1_ArticLike		LS	Q				I	
AY964108.1_ArticLike		LS	GQ				I	
DQ226087.1_ArticLike		LS	Q				I	
MH430949.1_ArticLike		LS	Q					
22458.16		LS	Q				I	
GU266280.1_RockbornLike		S	Q		M			
FJ461702.1_RockbornLike		S	Q		M			
AY964114.1_RockbornLike		S	Q		M			
GU810819.1_RockbornLike		S	Q		M			
Z47759.1_EuropeanWildlife		S	S	Q		M		
GQ214374.2_EuropeanWildlife	H		S	Q	F	V	M	
JN153023.1_EuropeanWildlife		S	Q		F	V	M	
DQ889187.1_EuropeanWildlife	S		S		I		M	A
FJ392651.1_EuropeanWildlife		S	Q				MT	
DQ889188.1_EuropeanWildlife		S		S	I		M	A
JN153020.1_EuropeanWildlife		S	Q		F	V	M	
AY386316.1_5804P		S	Q		F	V	MT	
AY386315.1_Europe1_SA1		S	Q				MT	
JN153024.1_EuropeSA1		S	Q				MT	
FJ416338.1_EuropeSA1		S	Q				MT	
GU001863.1_EuropeSA1		S	Q	L			MT	H
HM120874.1_EuropeSA1		S	Q				MT	
X85000.1_EuropeSA1		S	Q				MT	
KJ865300.1_SA2		S	Q				MT	
FJ392652.1_SA2		S	Q				MT	
JN215477.1_SA2		S	Q				MT	
JN215473.1_SA2		S	Q				MT	
EU098102.1_SA2		S	Q				MT	
MH362795.1_SA2		S	Q				MT	
JN215476.1_SA2		S	Q				MT	
KF835412.1_SA3		SR	Q		I		M	
KF835425.1_SA3		SR	Q		I		M	
KF835414.1_SA3		SR	Q		I		M	
KF835413.1_SA3		S	Q		I		M	
KF835422.1_SA3		S	Q	V		I	M	
KF835411.1_SA3		SR	Q		I		M	
FJ461693.1_Africal		S	Q	I			V	
FJ461704.1_Africal		S	Q	I			V	
FJ461722.1_Africal		S	Q	I			V	
FJ461716.1_Africal		S	Q	I			V	
KY971528.1_Africal		S	Q	I			V	N
FJ461719.1_Africal		S	Q	I			V	
FJ461696.1_Africal		S	Q	I			V	

Figure 12 (cont.)

KY971532.1 Africa1	.S.....Q.I.....V.....
JN812976.1 Africa2	...H.....S...M...R.D.....
KU578254.1 Africa2	S...M...Q.D.....
KC916716.1 Africa2	...H.....S...M...R.D.....
KU578256.1 Africa2	...H.....S...M...R.D.....
KU578255.1 Africa2	...H.....S...M...R.D.....
KU578253.1 Africa2	S...M...Q.D.....
KU578254.1 Africa2	S...M...Q.D.....
KC916714.1 Africa2	S...M...Q.D.....
AB025271.2 Asia1	P.....Q.....I.....
DB5755.1 Asia1	S.....Q.....I.....
AB687720.2 Asia1	S...F.....Q.....I.....
EU564813.1 Asia1	S.....Q.....I.....N.....
JQ732176.1 Asia1	S.....Q.....I.....
EU296484.1 Asia1	S.....Q.....I.....
KJ994343.1 Asia1	..P.....S.....Q.....I...T.....
MH337872.1 Asia1	S.....Q.....I...T.....
EU716073.1 Asia2	S.....Q.....A...R...V...G...D.L...
AB475099.1 Asia2	S.....Q.....A...R...V...G...D.L...
FJ868161.1 Asia2	S.....Q.....A...R...V...G...D.L...
JQ732170.1 Asia2	S.....Q.....A...R...V...G...D.L...
AY297453.1 Asia2	S.....Q.....A...R...V...G...D.L...
AB025270.1 Asia2	S.....Q.....A...R...V...G...D.L...
AB212730.1 Asia2	S.....Q.....A...R...V...G...D.L...
EU743934.1 Asia3	E...M.....S.....QRS.....A...R...V...G...D.L...
EU743935.1 Asia3	E...M.....S.....QRS.....A...R...V...G...D.L...
AY297454.1	S.....Q.....A...R...V...G...D.L...
KJ489381.1 Asia4	S...P.....Q.....M.....
KJ437596.1 Asia4	K...S.....Q.....M.....
MH496773.1 Asia4	..F.....S.....Q.....M.....
MH496772.1 Asia4	..F.....S.....Q.....M.....
MH496777.1 Asia4	..F.....S.....Q.....M.....
MH496778.1 Asia4	..F.....S.....Q.....M.....
MH496774.1 Asia4	..F.....S.....Q.....M.....
MF964178.1 Asia5	S.....Q.....
MF964179.1 Asia5	S.....Q.....
MF964182.1 Asia5	V...S.....Q.....
MF964183.1 Asia5	T...S.....Q.....
MF964180.1 Asia5	S.....Q.....I.....
MF964187.1 Asia5	S.....Q.....
MF964181.1 Asia5	S.....Q.....
MF964185.1 Asia5	S.....Q.R.....
MF964186.1 Asia5	S.....Q.....

Figure 12 (cont.)

	90	100	110	120	130	140	150	160
AF378705.1_America1	SEAVHHQVIDVLTPLFKIIGDEIGRLPQKLNEIKQFILQKTNFFNPNNREFDFRDLHWCINPPSKVKVNFNTNYCESIGIR							
Z35493.1_America1		S						
AF259552.1_America1							T	
DQ903854.1_America1								
AY548109.1_America1							DT	
HM046486.1_America1							T	
AY542312.2_America1							DT	
AF112189.1_America2						I	DT	
Z47764.1_America2						I	DT	
Z47765.1_America2					Y	I	DT	
Z47763.1_America2		V		P		I	DT	
Z54166.1_America2		V				I	DT	
Z54156.1_America2						I	DT	
KT266736.1_America3		R			V	I	DT	
AY964110.1_America3						I	DT	
MF953474.1_America3						I	DT	
MF953470.1_America3						I	DT	
JN836734.1_America3						I	DT	
MF953472.1_America3						I	DT	
KJ747371.1_America4						I	DT	
KJ747372.1_America4						I	DT	
Z54156.1_America5						I	DT	
MK473366.1_America5						I	DT	K
MK473365.1_America5						I	DT	K
MK487379.1_America5						I	DT	K
AF164967.1_A75/17						I	DT	
Z47764.1						I	DT	
KX024709.1_ArticLike	D					I	S	DT
Z47760.1_ArticLike	D					I	DT	
KC966928.1_ArticLike	D					I	S	DT
AF172411.1_ArticLike	D	S			K		DT	
AY964108.1_ArticLike	D					I	S	DT
DQ226087.1_ArticLike	D					I	S	DT
MH430949.1_ArticLike	D					I	DT	E
22458.16	D					I	S	DT
GU266280.1_RockbornLike						I	L	DT
FJ461702.1_RockbornLike						I	L	DT
AY964114.1_RockbornLike						I	L	DT
GU810819.1_RockbornLike						I	L	DT
Z47759.1_EuropeanWildlife						I	DT	
GQ214374.2_EuropeanWildlife		S				I	DT	
JN153023.1_EuropeanWildlife	D					I	DT	
DQ889187.1_EuropeanWildlife					K	I	DT	
FJ392651.1_EuropeanWildlife	M		V			I	S	DT
DQ889188.1_EuropeanWildlife					K	I	DT	
JN153020.1_EuropeanWildlife	D	Y	R			I	DT	
AY386316.1_5804P			V	Q		I	DT	K
AY386315.1_Europe1_SA1			V			I	DT	K
JN153024.1_EuropeSA1			V			I	DT	
FJ416338.1_EuropeSA1			V			I	DT	
GU001863.1_EuropeSA1			V			I	DT	
HM120874.1_EuropeSA1			V			I	DT	
X85000.1_EuropeSA1			V			I	DT	K
KJ865300.1_SA2			V			I	DT	
FJ392652.1_SA2			V			I	DT	E
JN215477.1_SA2			V			I	DT	
JN215473.1_SA2			V			I	DT	
EU098102.1_SA2			V			I	DT	
MH362795.1_SA2			V			I	DT	
JN215476.1_SA2			V			I	DT	
KF835412.1_SA3			V		S	I	DT	
KF835425.1_SA3			V		S	I	DT	
KF835414.1_SA3			V		S	I	DT	
KF835413.1_SA3			S			I	DT	
KF835422.1_SA3			S			I	DT	
KF835411.1_SA3			V		S	I	DT	
FJ461693.1_Africal			S			I	S	DT
FJ461704.1_Africal			S			I	S	DT
FJ461722.1_Africal			S			I	S	DT
FJ461716.1_Africal			S			I	S	DT
KY971528.1_Africal			S			I	S	DT
FJ461719.1_Africal			S			I	S	DT
FJ461696.1_Africal			S			I	S	DT
KY971532.1_Africal			K	S		V	I	S

Figure 12 (cont.)

JN812976.1 Africa2	I.....DT....
KU578254.1 Africa2	I.....DT...K
KC916716.1 Africa2	I.....DT....
KU578256.1 Africa2	I.....DT...K
KU578255.1 Africa2	Y.....I.....DT...K
KU578253.1 Africa2	I.....DT...K
KU578254.1 Africa2	I.....DT...K
KC916714.1 Africa2	I.....DT...K
AB025271.2 Asia1	I.....DTV.VK
D85755.1 Asia1	I.....DTV.VK
AB687720.2 Asia1	I.....DTV.VK
EU564813.1 Asia1	I.....DTV.VK
JQ732176.1 Asia1	I.....DTV.VK
EU296484.1 Asia1	I.....DTV.VK
KJ994343.1 Asia1	I.....DTV.VK
MH337872.1 Asia1	I.....DTV.VK
EU716073.1 Asia2	M.....I.....DT...VK
AB475099.1 Asia2	M.....I.....DA...V.
FJ868161.1 Asia2	M.....I.....DTV.VK
JQ732170.1 Asia2	I.....DT....
AY297453.1 Asia2	M.....I.....DA...V.
AB025270.1 Asia2	M.....I.....DA...V.
AB212730.1 Asia2	M.....I.....DA...V.
EU743934.1 Asia3	M.....Q...G.....S...NF.....I.....DA...V.
EU743935.1 Asia3	M.....Q...YG.....S...NF.....I...N...DA...V.
AY297454.1	M.....I.....DA...V.
KJ489381.1 Asia4	I.....DT....
KJ437596.1 Asia4	I.....DT....
MH496773.1 Asia4	I.....DT....
MH496772.1 Asia4	I.....DT....
MH496777.1 Asia4	I.....DT....
MH496778.1 Asia4	I.....DT....
MH496774.1 Asia4	I...T...DT....
MF964178.1 Asia5	V.....I.....DI...K
MF964179.1 Asia5	V.....I.....DI...K
MF964182.1 Asia5	..K.....V.....I.....DI...K
MF964183.1 Asia5	V.....I.....DI...K
MF964180.1 Asia5	V.....H...I.....DI...K
MF964187.1 Asia5	V.....I.....DI...K
MF964181.1 Asia5	V.....I.....DI...K
MF964185.1 Asia5	I.....DM...K
MF964186.1 Asia5	I.....DI...K

Figure 12 (cont.)

	170	180	190	200	210	220	230	240
AF378705.1_America1	...	...	...	...	...	...	...	...
Z35493.1_America1	...	P	...	...	...	...	A	...
AF259552.1_America1	S	...	Y	...	V	...	...	...
DQ903854.1_America1	...	...	...	...	V	...	...	...
AY548109.1_America1	S	...	Y	...	V	...	...	...
HM046486.1_America1	S	...	Y	R	...	T	...	...
AY542312.2_America1	S	...	Y	...	V	...	...	...
AF112189.1_America2	S	...	G	Y	R	...	H	Y
Z47764.1_America2	S	...	Y	...	R	S	...	Y
Z47765.1_America2	S	...	Y	I	R	...	N	M
Z47763.1_America2	S	...	Y	...	R	...	Y	...
Z54166.1_America2	S	...	HT	G	Y	R	...	Y
Z54156.1_America2	S	...	RS	G	Y	S	...	YL
KT266736.1_America3	S	...	G	Y	A	R	K	N
AY964110.1_America3	S	...	G	Y	A	R	K	N
MF953474.1_America3	S	...	G	Y	A	R	T	K
MF953470.1_America3	S	...	G	Y	A	R	T	K
JN836734.1_America3	S	...	G	Y	A	R	K	N
MF953472.1_America3	S	...	G	Y	A	R	T	K
KJ747371.1_America4	S	...	G	Y	N	I	I	M
KJ747372.1_America4	S	...	G	Y	N	I	I	M
JF283477.1_America5	S	...	G	SY	R	...	FL	...
Z54156.1_America5	S	...	RS	G	Y	S	...	YL
MK473366.1_America5	S	...	G	V	SY	R	...	YL
MK473365.1_America5	S	...	G	V	SY	R	...	YL
MK487379.1_America5	S	...	G	V	SY	R	...	YL
AF164967.1_A75/17	S	...	G	Y	R	...	Y	...
Z47764.1	S	...	Y	...	R	S	...	Y
KX024709.1_ArticLike	S	L	...	G	Y	I	S	S
Z47760.1_ArticLike	S	L	...	Y	...	S	A	S
KC966928.1_ArticLike	S	L	...	G	Y	I	S	S
AF172411.1_ArticLike	S	L	...	...	S	...	S	Y
AY964108.1_ArticLike	S	L	V	...	G	Y	S	S
DQ226087.1_ArticLike	S	L	...	G	Y	...	S	Y
MH430949.1_ArticLike	S	L	...	G	Y	V	ES	S
22458.16	S	L	F	...	G	Y	S	Y
GU266280.1_RockbornLike	S	...	R	G	Y	RF	...	Y
FJ461702.1_RockbornLike	S	...	R	G	Y	RF	...	Y
AY964114.1_RockbornLike	S	...	R	G	Y	RF	...	Y
GU810819.1_RockbornLike	S	...	R	G	Y	RF	...	Y
Z47759.1_EuropeanWildlife	S	...	...	Y	A	R	...	Y
GQ214374.2_EuropeanWildlife	S	...	G	Y	N	A	A	R
JN153023.1_EuropeanWildlife	S	...	G	Y	N	A	R	...
DQ889187.1_EuropeanWildlife	S	L	...	R	G	Y	A	R
FJ392651.1_EuropeanWildlife	S	...	G	Y	N	A	I	R
DQ889188.1_EuropeanWildlife	S	L	...	R	G	Y	A	R
JN153020.1_EuropeanWildlife	S	...	G	Y	N	A	R	...
AY386316.1_5804P	S	...	G	Y	...	R	K	TS
AY386315.1_Europe1_SA1	S	...	G	Y	...	R	K	TS
JN153024.1_EuropeSA1	S	...	G	Y	...	R	K	G.T
FJ416338.1_EuropeSA1	S	...	G	Y	...	R	K	G.T
GU001863.1_EuropeSA1	S	...	G	SY	...	R	K	K.T
HM120874.1_EuropeSA1	S	...	G	Y	M	R	K	G.T
X85000.1_EuropeSA1	S	...	G	Y	...	R	K	TS
KJ865300.1_SA2	S	...	G	Y	...	R	V	...
FJ392652.1_SA2	S	...	G	Y	...	R	T	YF
JN215477.1_SA2	S	...	G	Y	...	R	T	Y
JN215473.1_SA2	S	...	G	Y	V	...	T	Y
EU098102.1_SA2	S	...	G	Y	...	M	R	T
MH362795.1_SA2	S	...	G	Y	...	R	V	Y
JN215476.1_SA2	S	...	G	Y	...	R	T	Y
KF835412.1_SA3	S	...	G	Y	...	R	A	Y
KF835425.1_SA3	S	...	G	Y	...	R	A	Y
KF835414.1_SA3	S	...	G	Y	...	R	A	Y
KF835413.1_SA3	S	...	G	Y	...	R	A	Y
KF835422.1_SA3	S	V	...	G	Y	...	R	A
KF835411.1_SA3	S	...	G	Y	...	R	A	Y
FJ461693.1_Africal	S	K	...	G	Y	M	R	Y
FJ461704.1_Africal	S	K	...	G	Y	M	R	Y
FJ461722.1_Africal	S	K	...	G	Y	M	R	Y
FJ461716.1_Africal	S	K	...	R	Y	M	R	R
KY971528.1_Africal	S	K	...	G	Y	M	R	Y
FJ461719.1_Africal	S	K	FL	...	G	Y	M	R
FJ461696.1_Africal	S	L	K	...	KG	Y	I	R

Figure 12 (cont.)

KY971532.1 Africa1	.S....K...S.....G....Y.....I.R.....Y..
JN812976.1 Africa2	.S.....D.G....Y.....R.....A.....Y..
KU578254.1 Africa2	.S.....G....Y.....R.....K.A.....Y..
KC916716.1 Africa2	.S.....D.G....Y.....R.....A.....Y..
KU578256.1 Africa2	.S.....G....Y.....R.....A.....Y..
KU578255.1 Africa2	.S.....G....Y.....R.....A.....Y..
KU578253.1 Africa2	.S.....G....Y.....R.....K.A.....Y..
KU578254.1 Africa2	.S.....G....Y.....R.....K.A.....Y..
KC916714.1 Africa2	.S.....G....Y.....R.....K.A.....Y..
AB025271.2 Asia1	.S.....I.....A.G....Y.....R.....Y..
DB5755.1 Asia1	.S.....I.....A.G....Y.....R.....Y..
AB687720.2 Asia1	.S.....I.....A.G....Y.....R.....Y..
EU564813.1 Asia1	.S.....I.....A.G....Y.....R.....Y.G
JQ732176.1 Asia1	.S.....IS.....A.G....Y.....R.....Y..
EU296484.1 Asia1	.S.....I.....A.G....Y.....R.....M.....Y..
KJ994343.1 Asia1	.S.....I.....A.G....Y.....R.S.....Y..
MH337872.1 Asia1	.S.....I.....A.G....Y.....R.S.....Y..
EU716073.1 Asia2	.S.....I.....V.G....Y.....R.....K.....Y..
AB475099.1 Asia2	.S.....G....Y.....R.....K.....S.....Y..
FJ868161.1 Asia2	.S.....I.....A.G....Y.....R.....Y..
JQ732170.1 Asia2	.S.....G....Y.....R.....K.....Y..
AY297453.1 Asia2	.S.....G....Y.....R.....K.....S.....Y..
AB025270.1 Asia2	.S.....G....Y.....R.....K.....Y..
AB212730.1 Asia2	.S.....G....Y.....R.....K.....S.....Y..
EU743934.1 Asia3	.S.....I.F.C.G....Y.....I.....R.I.....T.....S.....L.....Y..
EU743935.1 Asia3	.S.....H.....I.F.C.G....Y.....I.....R.I.....T.....S.....L.....Y..
AY297454.1	.S.....G....Y.....R.....K.....S.....Y..
KJ489381.1 Asia4	.S.....G....Y.....RI.....K.....S.I.....Y..
KJ437596.1 Asia4	.S.....G....Y.....R.....K.....M..Y.D
MH496773.1 Asia4	.S.....G....Y.....RI.....K.....S.I.....Y..
MH496772.1 Asia4	.S.....G....Y.....RI.....K.....S.I.....Y..
MH496777.1 Asia4	.S..S.....G....YS.....RI.....K.....S.I.....Y..
MH496778.1 Asia4	.S.....D....Y.....I.RI.....K.....S.I.....Y..
MH496774.1 Asia4	.S.....S.....G....Y.....RI.....K.....S.I.....Y..
MF964178.1 Asia5	ES.....E.G....Y.....V.....N.....Y..
MF964179.1 Asia5	ES.....G....Y.....V.....Y..
MF964182.1 Asia5	ES.....E.G....Y.....V.....N.....Y..
MF964183.1 Asia5	ES.....G....Y.....V.....Y..
MF964180.1 Asia5	ES.....E.G....Y.....V..I.....Y..
MF964187.1 Asia5	ES.....G....Y.....V.....Y..
MF964181.1 Asia5	ES.....G....Y.....V.....Y..
MF964185.1 Asia5	ES.....S.....G....Y.....R.....Y..
MF964186.1 Asia5	ES.....G....Y.N.....R.....Y..

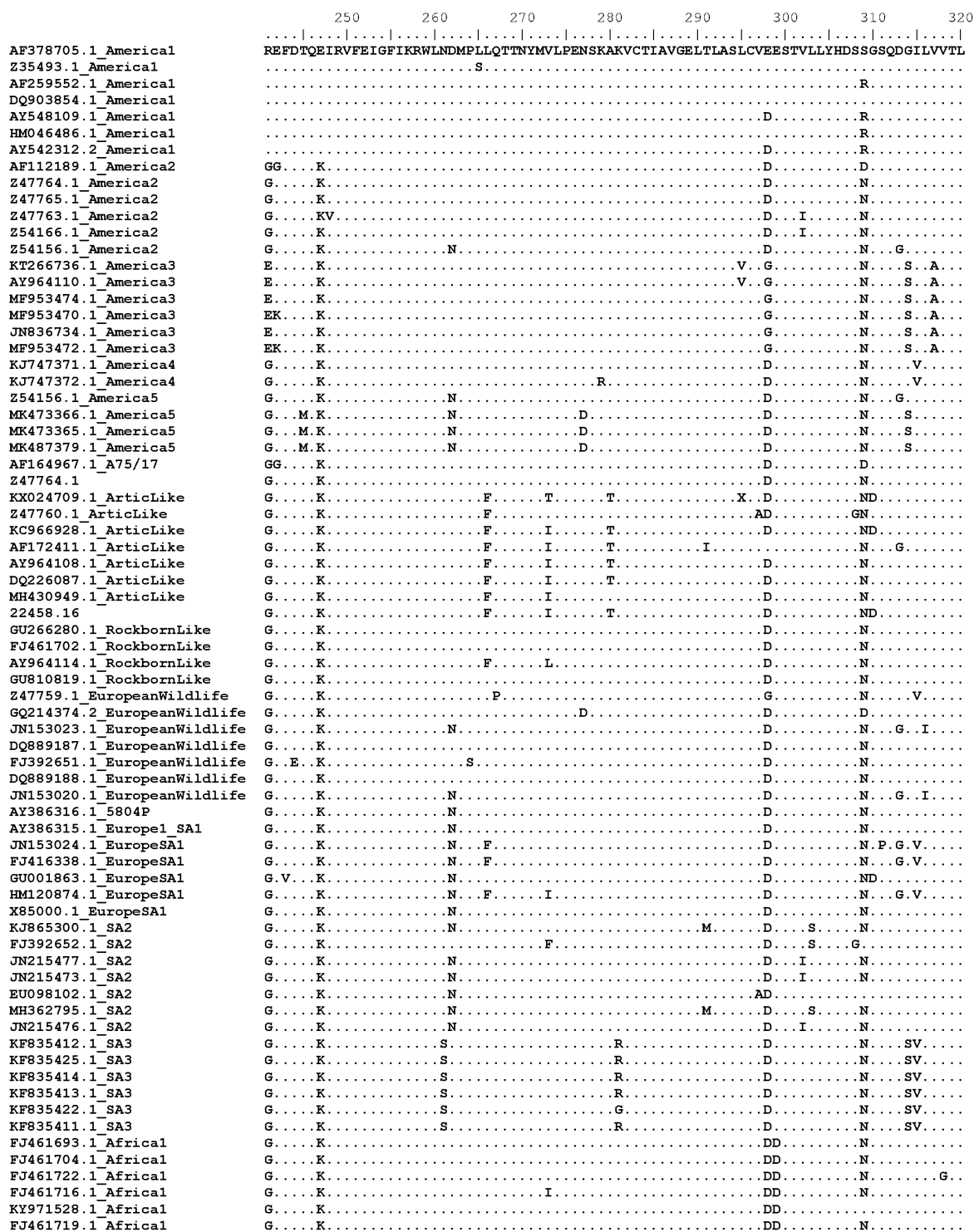


Figure 12 (cont.)

FJ461696.1 Africa1	G....K.....G.....N.....
KY971532.1 Africa1	G....K.....D.....N.....
JN812976.1 Africa2	G....K.....N.....D.....S.....N.....
KU578254.1 Africa2	G.....N.....I.....D.....S.....N.....
KC916716.1 Africa2	G....K.....N.....DK.....S.....N.....
KU578256.1 Africa2	G....K.....N.....D.....S.....N.....
KU578255.1 Africa2	G....K.....N.....A.....D.....S.....N.....
KU578253.1 Africa2	G.....N.....I.....D.....S.....N.....
KU578254.1 Africa2	G.....N.....I.....D.....S.....N.....
KC916714.1 Africa2	G.....N.....I.....D.....S.....N.....
AB025271.2 Asia1	G...S.K.....T.....D...W.....N...N.....
D85755.1 Asia1	G...S.....T.....D.....N...N.....
AB687720.2 Asia1	G...S.K.....VT.....D.....N...N.....
EU564813.1 Asia1	G...S.K.....T.....D.....N.....
JQ732176.1 Asia1	E...S.K.....T.....D...S.....N...N.....
EU296484.1 Asia1	G...GS.K.....T.....D.....M...N.....
KJ994343.1 Asia1	G...S.K.....NI.....T.....D.....N...NS.....
MH337872.1 Asia1	G...S.K.....NI.....T.....D.....N...N.....
EU716073.1 Asia2	K.....D.....N.....S.....
AB475099.1 Asia2	K.....D.....N...S.....
FJ868161.1 Asia2	G...S.K.....E.....D.....N.PH.SV.....
JQ732170.1 Asia2	G....K.....D.....N...S.....
AY297453.1 Asia2	K.....D.....N...S.....
AB025270.1 Asia2	K.....D.....N...S.....
AB212730.1 Asia2	K.....D.....N...S.....
EU743934.1 Asia3	K...R.....K..E.....I...I.G...E.....DQ.....D.....Y...N...R.S.....
EU743935.1 Asia3	K...R.....K..E.....I...I.G...E.....DQ.....D.....Y...N...R.S.....
AY297454.1	K.....D.....N...S.....
KJ489381.1 Asia4	G....K...V.....L.....V.....D.....N.....
KJ437596.1 Asia4	G....K...V.....L.....A.....N.....
MH496773.1 Asia4	G....K...V.....L.....D.....N.....
MH496772.1 Asia4	G....K...V.....L.....D.....N.....
MH496777.1 Asia4	G....K...V.....L.....D.....N.....
MH496778.1 Asia4	G....K...V.....L.....D.....N.....
MH496774.1 Asia4	G....K.....L.....D.....N.....
MF964178.1 Asia5	E....K.....N.....S.....D...V.....P...S.....
MF964179.1 Asia5	E....K.....N.....S.N.....D...V.....P...S.....
MF964182.1 Asia5	E....K.....N.....S.....D...V.....P...S.....
MF964183.1 Asia5	E....K.....N.....S.N.....D...V.....P...S.....
MF964180.1 Asia5	E....K.....N.....S.....D...V.....P...S.....
MF964187.1 Asia5	EK...K.....N.....S.N.....D...V.....P...S.....
MF964181.1 Asia5	E....K.....N.....S.N.....D...V.....P...S.....
MF964185.1 Asia5	E....K.....N.S.....S.....D...V.S.D.P.S.....
MF964186.1 Asia5	E....K.....N.....S.....D...V.....P...S.....

Figure 12 (cont.)

	330	340	350	360	370	380	390	400
AF378705.1_America1	G	I	F	W	A	T	F	M
Z35493.1_America1	G	I	F	W	A	T	F	M
AF259552.1_America1	G	I	F	W	A	T	F	M
DQ903854.1_America1	G	I	F	W	A	T	F	M
AY548109.1_America1	G	I	F	W	A	T	F	M
HM046486.1_America1	G	I	F	W	A	T	F	M
AY542312.2_America1	G	I	F	W	A	T	F	M
AF112189.1_America2	G	I	F	W	A	T	F	M
Z47764.1_America2	G	I	F	W	A	T	F	M
Z47765.1_America2	G	I	F	W	A	T	F	M
Z47763.1_America2	G	I	F	W	A	T	F	M
Z54166.1_America2	G	I	F	W	A	T	F	M
Z54156.1_America2	G	I	F	W	A	T	F	M
KT266736.1_America3	G	I	F	W	A	T	F	M
AY964110.1_America3	G	I	F	W	A	T	F	M
MF953474.1_America3	G	I	F	W	A	T	F	M
MF953470.1_America3	G	I	F	W	A	T	F	M
JN836734.1_America3	G	I	F	W	A	T	F	M
MF953472.1_America3	G	I	F	W	A	T	F	M
KJ747371.1_America4	G	I	F	W	A	T	F	M
KJ747372.1_America4	G	I	F	W	A	T	F	M
JF283477.1_America5	G	I	F	W	A	T	F	M
Z54156.1_America5	G	I	F	W	A	T	F	M
MK473366.1_America5	G	I	F	W	A	T	F	M
MK473365.1_America5	G	I	F	W	A	T	F	M
MK487379.1_America5	G	I	F	W	A	T	F	M
AF164967.1_A75/17	G	I	F	W	A	T	F	M
Z47764.1	G	I	F	W	A	T	F	M
KK024709.1_ArticLike	G	I	F	W	A	T	F	M
Z47760.1_ArticLike	G	I	F	W	A	T	F	M
KC966928.1_ArticLike	G	I	F	W	A	T	F	M
AF172411.1_ArticLike	G	I	F	W	A	T	F	M
AY964108.1_ArticLike	G	I	F	W	A	T	F	M
DQ226087.1_ArticLike	G	I	F	W	A	T	F	M
MH430949.1_ArticLike	G	I	F	W	A	T	F	M
22458.16	G	I	F	W	A	T	F	M
GU266280.1_RockbornLike	G	I	F	W	A	T	F	M
FJ461702.1_RockbornLike	G	I	F	W	A	T	F	M
AY964114.1_RockbornLike	G	I	F	W	A	T	F	M
GU810819.1_RockbornLike	G	I	F	W	A	T	F	M
Z47759.1_EuropeanWildlife	G	I	F	W	A	T	F	M
GQ214374.2_EuropeanWildlife	G	I	F	W	A	T	F	M
JN153023.1_EuropeanWildlife	G	I	F	W	A	T	F	M
DQ889187.1_EuropeanWildlife	G	I	F	W	A	T	F	M
FJ392651.1_EuropeanWildlife	G	I	F	W	A	T	F	M
DQ889188.1_EuropeanWildlife	G	I	F	W	A	T	F	M
JN153020.1_EuropeanWildlife	G	I	F	W	A	T	F	M
AY386316.1_5804P	G	I	F	W	A	T	F	M
AY386315.1_Europe1_SA1	G	I	F	W	A	T	F	M
JN153024.1_EuropeSA1	G	I	F	W	A	T	F	M
FJ416338.1_EuropeSA1	G	I	F	W	A	T	F	M
GU001863.1_EuropeSA1	G	I	F	W	A	T	F	M
HM120874.1_EuropeSA1	G	I	F	W	A	T	F	M
X85000.1_EuropeSA1	G	I	F	W	A	T	F	M
KJ865300.1_SA2	G	I	F	W	A	T	F	M
FJ392652.1_SA2	G	I	F	W	A	T	F	M
JN215477.1_SA2	G	I	F	W	A	T	F	M
JN215473.1_SA2	G	I	F	W	A	T	F	M
EU098102.1_SA2	G	I	F	W	A	T	F	M
MH362795.1_SA2	G	I	F	W	A	T	F	M
JN215476.1_SA2	G	I	F	W	A	T	F	M
KF835412.1_SA3	G	I	F	W	A	T	F	M
KF835425.1_SA3	G	I	F	W	A	T	F	M
KF835414.1_SA3	G	I	F	W	A	T	F	M
KF835413.1_SA3	G	I	F	W	A	T	F	M
KF835422.1_SA3	G	I	F	W	A	T	F	M
KF835411.1_SA3	G	I	F	W	A	T	F	M
FJ461693.1_Africal	G	I	F	W	A	T	F	M
FJ461704.1_Africal	G	I	F	W	A	T	F	M
FJ461722.1_Africal	G	I	F	W	A	T	F	M
FJ461716.1_Africal	G	I	F	W	A	T	F	M
KY971528.1_Africal	G	I	F	W	A	T	F	M
FJ461719.1_Africal	G	I	F	W	A	T	F	M

Figure 12 (cont.)

FJ461696.1_Africa1	...G...QV...V...V.R...I...S...
KY971532.1_Africa1	...G...QV...V...V.R...I...S...
JN812976.1_Africa2	...G..L.QV...V...QN...S...
KU578254.1_Africa2	...G..LV.QV...V...R...QN...RS...
KC916716.1_Africa2	...G..L.QV...V...R...QN...S...
KU578256.1_Africa2	...G..L.QV...V...QN...S...
KU578255.1_Africa2	...G..L.QV...V...QN...S...
KU578253.1_Africa2	...G..L.QV...V...QN...RS...
KU578254.1_Africa2	...G..LV.QV...V...R...QN...RS...
KC916714.1_Africa2	...G..LV.QV...V...R...QN...RS...
AB025271.2_Asia1	...G...QV...V.R...V...N...S...
D85755.1_Asia1	...G...QV...V.R...V...N...S...
AB687720.2_Asia1	...G...QV...V.R...V...N...S...R...
EU564813.1_Asia1	...G...QV...I...V.R...V...V.V...N...HI.S...
JQ732176.1_Asia1	...G...QV...I...V.R...VV...V.V...N...S...
EU296484.1_Asia1	...G...QV...I...V.G...V...V.V...N...S...G...
KJ994343.1_Asia1	...G...QV...I...V.R...VV...V.V...N...SC...
MH337872.1_Asia1	...G...QV...I...V.R...VV...V.V.G...N...S...
EU716073.1_Asia2	...G...NQV...V...V...V.Q.G.N...S...
AB475099.1_Asia2	...G...NQV...V.R...V...V.Q.G.N...S...
FJ868161.1_Asia2	...G...NQV...V...V...V.Q.G.N...S...
JQ732170.1_Asia2	...G...QV...V...V...V...N...S...
AY297453.1_Asia2	...G...NQV...V.R...V...V.Q.G.N...S...
AB025270.1_Asia2	...G...NQV...V.R...V...V.Q.G.N...S...
AB212730.1_Asia2	...G...NQV...V.R...V...V.Q.G.N...S...
EU743934.1_Asia3	...E.S...NQV...N.V.R...Y.I.V...V.RL.G.EN...R.ES...K...C...
EU743935.1_Asia3	...E.S...NQV...N.V.R...Y.I.V...V.RL.G.EN...R.ES...K...C...
AY297454.1	...G...NQV...V.R...V...V.Q.G.N...S...
KJ489381.1_Asia4	...G...QV...V.M...V.V...N...S...
KJ437596.1_Asia4	...G...QV...V...V.V...N...S...
MH496773.1_Asia4	...G...QV.V...S.V.M...V.V...N...S...
MH496772.1_Asia4	...G...QV.V...S.V.M...V.V...N...S...
MH496777.1_Asia4	...G...QV.V...S.V.M...V.V...N...S...
MH496778.1_Asia4	...G...QV...S.V.M...V.V...N...S...
MH496774.1_Asia4	...G...QV...S.V.M...V.V...N...S...
MF964178.1_Asia5	...G..L.QV.K...V...QT...
MF964179.1_Asia5	...G..L.QV.K...I...QT...
MF964182.1_Asia5	...A..L.QV.K...V...QT...
MF964183.1_Asia5	...G..L.QV.K...I...QT...
MF964180.1_Asia5	...G..L.QV.K...I...QT...
MF964187.1_Asia5	...G..L.QV.K...I...QT...
MF964181.1_Asia5	...G..L.QV.K...I...QT...
MF964185.1_Asia5	...G..L.QV.K...V...QN...
MF964186.1_Asia5	...M.G..L.QV.K...V...QN...

Figure 12 (cont.)

	410	420	430	440	450	460	470	480
AF378705.1_America1	RQLPSYGR	LTPLDASV	LQLNISFT	YGPVILNG	DGMDYYES	PLLNSGWL	TIPPKNGT	IVGLINKAGR
Z35493.1_America1	.....	.....	.....	.....	.....	.....	.....	.....
AF259552.1_America1	G.....	.....	V.....	.....	L.....	S.....	I.....	.....
DQ903854.1_America1	.....	.....	.....	.....	F.....	.....	.....	.....
AY548109.1_America1	G.....	.....	V.....	.....	L.....	S.....	I.....	.....
HM046486.1_America1	G.....	.....	.....	.....	L.....	S.....	I.....	Q.....
AY542312.2_America1	G.....	.....	V.....	.....	L.....	S.....	I.....	.....
AF112189.1_America2	G.....	P.I.....	A.....	D.....	VL.....	S.....	S.....	I.....
Z47764.1_America2	G.....	P.I.....	.....	D.....	VL.....	S.....	II.....	W.....
Z47765.1_America2	G.....	AP.I.R.....	.....	D.....	VL.....	S.....	I.....	.....
Z47763.1_America2	G.....	P.I.....	N.....	G.....	VL.....	S.....	I.....	.....
Z54166.1_America2	G.....	P.I.....	N.....	G.....	VL.....	S.....	I.....	.....
Z54156.1_America2	G.....	P.I.....	.....	D.....	VL.....	S.....	I.....	.....
KT266736.1_America3	G.....	PRT.....	.....	SD.....	VL.....	S.....	I.....	.....
AY964110.1_America3	G.....	P.T.....	.....	SD.....	VL.....	S.....	I.....	.....
MF953474.1_America3	G.....	P.T.....	.....	SD.....	VL.....	S.....	I.....	.....
MF953470.1_America3	G.....	P.T.....	.....	SD.....	VL.....	S.....	I.....	.....
JN836734.1_America3	G.....	P.T.....	.....	SD.....	VL.....	S.....	I.....	.....
MF953472.1_America3	G.....	P.T.....	.....	SD.....	VL.....	S.....	I.....	.....
KJ747371.1_America4	G.....	P.I.....	I.....	D.....	VL.....	S.....	I.....	.....
KJ747372.1_America4	G.....	P.I.....	I.....	D.....	VL.....	S.....	I.....	.....
Z54156.1_America5	G.....	P.I.....	.....	D.....	VL.....	S.....	I.....	.....
MK473366.1_America5	G.....	P.I.....	.....	.....	VL.....	S.....	I.....	.....
MK473365.1_America5	G.....	P.I.....	.....	.....	VL.....	S.....	I.....	.....
MK487379.1_America5	G.....	P.I.....	.....	.....	VL.....	S.....	I.....	.....
AF164967.1_A75/17	G.....	P.I.....	.....	D.....	VL.....	S.....	I.....	.....
Z47764.1	G.....	P.I.....	.....	D.....	VL.....	S.....	II.....	W.....
KX024709.1_ArticLike	G.....	H.....	T.R.....	N.....	MD.....	L.....	S.....	I.....
Z47760.1_ArticLike	G.....	.....	I.R.....	.....	D.....	L.....	S.....	I.....
KC966928.1_ArticLike	G.....	H.....	T.R.....	N.....	MD.....	L.....	S.....	I.....
AF172411.1_ArticLike	G.....	.....	I.R.....	.....	D.....	L.....	S.....	I.....
AY964108.1_ArticLike	G.....	H.....	I.R.....	.....	D.....	L.....	S.....	I.....
DQ226087.1_ArticLike	G.....	.....	H.....	I.R.I.....	D.....	L.....	S.....	I.....
MH430949.1_ArticLike	G.....	.....	V.I.....	.....	D.....	L.....	S.....	I.....
22458.16	G.....	H.....	T.R.....	N.....	D.....	L.....	S.....	I.....
GU266280.1_RockbornLike	G.....	.....	P.I.....	.....	D.....	VL.....	S.....	I.....
FJ461702.1_RockbornLike	G.....	.....	P.I.....	.....	D.....	VL.....	S.....	I.....
AY964114.1_RockbornLike	G.....	H.....	P.I.....	.....	D.....	VL.....	S.....	I.....
GU810819.1_RockbornLike	G.....	.....	P.I.....	.....	D.....	VL.....	S.....	I.....
Z47759.1_EuropeanWildlife	G.....	.....	PGI.....	.....	D.....	VL.....	S.....	R.....
GQ214374.2_EuropeanWildlife	G.....	.....	PDI.....	.....	DF.....	VL.....	S.....	G.....
JN153023.1_EuropeanWildlife	G.....	.....	PGI.....	.....	D.....	VL.....	S.....	I.....
DQ889187.1_EuropeanWildlife	G.....	.....	PGI.....	L.....	I.....	L.....	S.....	T.....
FJ392651.1_EuropeanWildlife	G.....	.....	P.I.....	.....	D.....	VL.....	M.....	S.....
DQ889188.1_EuropeanWildlife	G.....	.....	PGI.....	I.....	.....	L.....	S.....	T.....
JN153020.1_EuropeanWildlife	G.....	.....	PGI.....	.....	D.....	VL.....	S.....	I.....
AY386316.1_5804P	G.....	.....	P.I.....	.....	SD.....	R.....	VL.....	S.....
AY386315.1_Europe1_SA1	G.....	.....	P.I.....	.....	SD.....	R.....	VL.....	S.....
JN153024.1_EuropeSA1	G.....	.....	P.I.....	.....	D.....	VL.....	S.....	I.....
FJ416338.1_EuropeSA1	G.....	.....	P.I.....	V.....	.....	D.....	VL.....	S.....
GU001863.1_EuropeSA1	G.....	.....	P.M.....	.....	PD.....	VL.....	S.....	I.....
HM120874.1_EuropeSA1	G.....	.....	P.I.....	V.....	.....	D.....	VL.....	S.....
X85000.1_EuropeSA1	G.....	.....	P.I.....	.....	SD.....	R.....	VL.....	S.....
KJ865300.1_SA2	G.....	.....	P.I.....	.....	T.SD.....	L.....	S.....	I.....
FJ392652.1_SA2	G.....	W.....	P.I.....	V.....	.....	SD.....	L.....	S.....
JN215477.1_SA2	G.....	.....	.....	.....	SD.....	.....	L.....	S.....
JN215473.1_SA2	G.....	.....	PNI.....	.....	SD.....	.....	L.....	S.....
EU098102.1_SA2	G.....	.....	P.I.....	.....	SD.....	.....	L.....	S.....
MH362795.1_SA2	G.....	.....	P.I.....	.....	T.SD.....	L.....	S.....	I.....
JN215476.1_SA2	G.....	.....	PNI.....	.....	SD.....	.....	L.....	S.....
KF835412.1_SA3	G.....	.....	P.I.....	H.....	S.SD.....	S.....	VL.....	S.....
KF835425.1_SA3	E.....	.....	P.I.....	H.....	S.SD.....	.....	VL.....	S.....
KF835414.1_SA3	E.....	.....	P.I.....	H.....	S.SD.....	.....	VL.....	S.....
KF835413.1_SA3	E.....	.....	P.I.....	H.....	S.SD.....	.....	VL.....	S.....
KF835422.1_SA3	G.....	.....	P.I.....	H.....	SD.....	.....	VL.....	S.....
KF835411.1_SA3	G.....	.....	P.I.....	H.....	S.SD.....	.....	VL.....	S.....
FJ461693.1_Africal	G.....	.....	.....	I.....	.....	D.....	L.....	S.....
FJ461704.1_Africal	G.....	.....	.....	I.....	.....	D.....	L.....	S.....
FJ461722.1_Africal	G.....	.....	.....	I.....	.....	D.....	L.....	S.....
FJ461716.1_Africal	G.....	.....	.....	I.....	.....	D.....	L.....	S.....
KY971528.1_Africal	G.....	.....	S.I.....	.....	.....	D.....	L.....	S.....
FJ461719.1_Africal	G.....	.....	.....	I.....	.....	D.....	L.....	S.....
FJ461696.1_Africal	G.....	.....	.....	I.....	.....	D.....	VL.....	S.....

Figure 12 (cont.)

KY971532.1 Africa1	G.....I.....F.DP.....L.....S.....I.....
JN812976.1 Africa2	I.P.I.....D.....D.....VL.....S.....I.....
KU578254.1 Africa2	A..I.P.IH.....D.....D.....VL.....S.....I.....
KC916716.1 Africa2	I.P.I.....D.....D.....VL.....S.....I.....
KU578256.1 Africa2	I.P.I.....D.....D.....VL.....S.....I.....
KU578255.1 Africa2	I.P.I.....H.....D.....D.....VL.....S.....I.....
KU578253.1 Africa2	I.P.IH.....D.....D.....VL.....S.....I.....
KU578254.1 Africa2	A..I.P.IH.....D.....D.....VL.....S.....I.....
KC916714.1 Africa2	A..I.P.IH.....D.....D.....VL.....S.....I.....
AB025271.2 Asia1	G.....P.I.....SD.....VL.....S.....T.....
D85755.1 Asia1	G.....L..P.I.....D.....V.....VL.....S.....T.....
AB687720.2 Asia1	G.....P.I.....Y.....D.....VL.....S.....T.....
EU564813.1 Asia1	G.....P.I.....D.....D.....VL.....S.....T.....
JQ732176.1 Asia1	G.....P.I.....E.....VL.....S.....H.....T.....
EU296484.1 Asia1	G.....P.I.....A.....D.....VL.....S.....T.....
KJ994343.1 Asia1	G.....P..N.....E.....S..VL.....S.....T.....
MH337872.1 Asia1	G.....P.....E.....V.....VL.....S.....T.Y.....
EU716073.1 Asia2	V.....I.....D.....L.....S.....T.....
AB475099.1 Asia2	V.....I.....N.....D.....L.....S.....K.....T.....
FJ868161.1 Asia2	V.....H..I.....N.....D.....L.....S.....T.....
JQ732170.1 Asia2	V.....I.....D.....L.....S.....I.....
AY297453.1 Asia2	V.....I.....N.....D.....L.....S.....T.....
AB025270.1 Asia2	V.....I.....N.....D.....L.....S.....T.....
AB212730.1 Asia2	V.....I.....N.....D.....L.....S.....T.....
EU743934.1 Asia3	V.V.....ERI.....N.....D.R.....L.....S.E.....TS.....
EU743935.1 Asia3	V.V.....ERI.....N.....D.R.....L.....S.E.....TS.....
AY297454.1	V.....I.....N.....D.....L.....S.....T.....
KJ489381.1 Asia4	G.....P.I.....N.....I.D.....VL.....S.....V.....
KJ437596.1 Asia4	G.....P.I.....N.....D.....VL.....R.S.....V.....
MH496773.1 Asia4	G.....P.I.....N.....I.D.....VL.....S.....V.....
MH496772.1 Asia4	G.....P.I.....N.....I.D.....VL.....S.....V.....
MH496777.1 Asia4	G.....P.I.....N.....I.D.....VL.....S.....V.....
MH496778.1 Asia4	G.....P.I.....N.....I.D.....VL.....S.....V.....
MH496774.1 Asia4	G.....P.I.....N.....I.D.....VL.....S.....V.....
MF964178.1 Asia5	P.I.....G.....DY.....VL.....S.E.....I.....
MF964179.1 Asia5	P.I.....G.....DY.....VL.....S.....I.....
MF964182.1 Asia5	P.I.....G.....DY.....VL.....S.E.....I.....
MF964183.1 Asia5	P.I.....G.....DY.....VL.....S.....I.....
MF964180.1 Asia5	P.I.....G.....DY.....VL.....S.....I.....
MF964187.1 Asia5	P.I.....G.....GY.....VL.....S.....I.....
MF964181.1 Asia5	P.I.....G.....DY.....VL.....S.....I.....
MF964185.1 Asia5	GR.....P.I..I.....G.....D.....VL.....S.....I.....
MF964186.1 Asia5	S..P.I.....G.....D.....VL.....S.....I.....

Figure 12 (cont.)

	490	500	510	520	530	540	550	560
AF378705.1_America1	FAPWESSGNCYLPIQTSQIIDRDVLI	ESNIVVLPTQSFRIYIATYDISRSD	HAIVYVYDPIRTISYTHPFLTTKGRPD					
Z35493.1_America1	M	L						
AF259552.1_America1	R	G	L	N	F	F	Y	
DQ903854.1_America1	R							
AY548109.1_America1	R	G	L	N	F	F	Y	
HM046486.1_America1	R	C	V	N				
AY542312.2_America1	R	G	L	N	F	F	Y	
AF112189.1_America2	R	M	K	T	L	N	A	Y
Z47764.1_America2	R	M	K	T	L	N	I	G
Z47765.1_America2	R	E	M	K	T	L	N	T
Z47763.1_America2	R	M	K	T	L	N		G
Z54166.1_America2	R	M	K	T	L	N		G
Z54156.1_America2	R	M	K	T	L	N	I	G
KT266736.1_America3	R	M	K	T	L	N		T
AY964110.1_America3	R	M	K	T	L	N		DN
MF953474.1_America3	R	M	K	T	L	N		DN
MF953470.1_America3	R	M	K	T	L	N		DN
JN836734.1_America3	R	M	K	T	L	N		DN
MF953472.1_America3	R	M	K	T	L	N		DN
KJ747371.1_America4	R	M	K	T	L	S	N	V
KJ747372.1_America4	R	M	K	T	L	S	N	V
Z54156.1_America5	R	M	K	T	L	N	I	G
MK473366.1_America5	R	M	K	T	LM	N		G
MK473365.1_America5	R	M	K	T	LM	N		G
MK487379.1_America5	R	R	M	K	T	LM	N	G
AF164967.1_A75/17	R	M	K	T	L	N		G
Z47764.1	R	M	K	T	L	N	I	G
KX024709.1_ArticLike	R	M	K	T	L	N		N
Z47760.1_ArticLike	R	M	K	T	L	N		N
KC966928.1_ArticLike	R	M	K	T	L	N		N
AF172411.1_ArticLike	R	M	K	T	L	N		G
AY964108.1_ArticLike	R	M	K	T	L	N		N
DQ226087.1_ArticLike	R	M		T	L	N		N
MH430949.1_ArticLike	R	M	K	T	L	N		N
22458.16	R	M	K	T	L	N		N
GU266280.1_RockbornLike	R	F	M	K	T	L	N	D
FJ461702.1_RockbornLike	R	F	M	K	T	L	N	K
AY964114.1_RockbornLike	R	F	M	K	T	L	N	D
GU810819.1_RockbornLike	R	F	M	K	T	L	N	D
Z47759.1_EuropeanWildlife	R	M		T	L	N		N
GQ214374.2_EuropeanWildlife	R	M	K	T	L	N		D
JN153023.1_EuropeanWildlife	S	R	R	M	K	T	L	N
DQ889187.1_EuropeanWildlife	R	M	K	T	L	N		D
FJ392651.1_EuropeanWildlife	R	G	M	K	A	L	N	D
DQ889188.1_EuropeanWildlife	R	M	K	T	L	N		D
JN153020.1_EuropeanWildlife	S	R	R	M	K	T	L	N
AY386316.1_5804P	R	M	K	T	L	N		G
AY386315.1_Europel_SA1	R	M	K	T	L	N		G
JN153024.1_EuropeSA1	R	M	K	T	L	N		G
FJ416338.1_EuropeSA1	R	M	K	T	L	N		G
GU001863.1_EuropeSA1	R	M	K	T	L	N		G
HM120874.1_EuropeSA1	R	M	K	T	L	N		G
X85000.1_EuropeSA1	R	M	K	T	L	N		G
KJ865300.1_SA2	R	M	K	T	L	N		G
FJ392652.1_SA2	R	M	K	T	L	N		G
JN215477.1_SA2	R	M	K	T	L	N		G
JN215473.1_SA2	R	M	K	T	L	N		G
EU098102.1_SA2	R	M	N	T	L	L	N	G
MH362795.1_SA2	R	M	K	T	L	N		G
JN215476.1_SA2	R	M	K	TG	L	N	S	G
KF835412.1_SA3	R	R	M	K	L	N	T	N
KF835425.1_SA3	R	R	M	K	L	N	T	N
KF835414.1_SA3	R	R	M	K	L	N	T	N
KF835413.1_SA3	R	R	M	K	L	N	T	N
KF835422.1_SA3	R	R	M	K	L	N	T	N
KF835411.1_SA3	R	R	M	K	L	N	T	N
FJ461693.1_Africal	S	R	S	M	K	T	L	N
FJ461704.1_Africal	S	R	S	M	K	T	L	N
FJ461722.1_Africal	S	R	S	M	K	T	L	N
FJ461716.1_Africal	S	R	S	M	K	T	L	N
KY971528.1_Africal	S	R	S	M	K	T	L	N
FJ461719.1_Africal	S	R	S	M	K	T	L	N
FJ461696.1_Africal	R	S	M	K	T	L	N	V
KY971532.1_Africal	R	S	VM	K	T	L	I	V
JN812976.1_Africa2	R	K	M	K	T	L	N	GV

Figure 12 (cont.)

KU578254.1 Africa2	...R.....M.K...T...L.....N.....V.D.....Y.....
KC916716.1 Africa2	...R.....M.K...T...L.....N.....V.D.....
KU578256.1 Africa2	...R.....M.K...T...L.....N.I.....V.D.....
KU578255.1 Africa2	...R.....M.K...T...L.....N.I.....V.D.....
KU578253.1 Africa2	...R.....M.K...T...L.....N.....V.D.....Y.....
KU578254.1 Africa2	...R.....M.K...T...L.....N.....V.D.....Y.....
KC916714.1 Africa2	...R.....M.K...T...L.....N.....V.D.....Y.....
AB025271.2 Asia1	...R.....M.K...T...L.....N.....G.....G.....Y.....
D85755.1 Asia1	...R.....M.K...T...L.....N.....G.....G.....MY.....
AB687720.2 Asia1	...R.....M.K...T...L.....N.....G.....F.....Y.....
EU564813.1 Asia1	...R.....M.K...T...L.....N.....G.....D.....Y.....
JQ732176.1 Asia1	...R.....M.K...T...L.....N.....G.....Y.....
EU296484.1 Asia1	...R.....M.K...T...L.....N.....G.....Y.....
KJ994343.1 Asia1	...R.....M.K...T...L.....N.....GN.....N.....
MH337872.1 Asia1	...R.....M.K...T...L.....N.....G.....N.....
EU716073.1 Asia2	...R...E.....M.K...T...L.....N.....EN.....Y.....
AB475099.1 Asia2	...R.....M.K...T...L.....N.....V.....EN.....Y.....
FJ868161.1 Asia2	...R.....M.K...T...L.....N.....V.....GN.....MY.....
JQ732170.1 Asia2	...R.....M.K...T...L.....N.....V.....D.....Y.....
AY297453.1 Asia2	...R.....M.K...T...L.....N.....V.....KN.....MY.....
AB025270.1 Asia2	...R.....M.K...T...L.....N.G..V.....EN.....Y.....
AB212730.1 Asia2	...R.....M.K...T...L.....N.....V.....EN.....Y.....
EU743934.1 Asia3	...R.....M.K...T...L..F...N.....V.....RY.....Y.....
EU743935.1 Asia3	...R.....M.K...T...L..F...N.....V.....RY.....Y.....
AY297454.1	...R.....M.K...T...L.....N.....V.....EN.....Y.....
KJ489381.1 Asia4	...R.....M.K.....L.....N.....D.....Y.....
KJ437596.1 Asia4	...R.....M.K.....L.....N.....D.....Y.....
MH496773.1 Asia4	...R.....M.K...T...L.....N.....D.....Y.....
MH496772.1 Asia4	...R.....M.K...T...L.....N.....D.....Y.....
MH496777.1 Asia4	...R.....M.K...T...L.....N.....D.....Y.....
MH496778.1 Asia4	...R.....M.K...T...L.....N.....D.....Y.....
MH496774.1 Asia4	...R.....M.K...T...L.....N.....D.....Y.....
MF964178.1 Asia5	...R.P.....M.K...T...L...L.HN.....V.D.....D.....K.Y..Y.....
MF964179.1 Asia5	...R.....M.K...T...L...L.N.....V.D.....Y.....
MF964182.1 Asia5	...R.....M.K...T...L...L.HN.....V.D.....Y.....
MF964183.1 Asia5	...R.....M.K...T...L...L.N.....V.D.....
MF964180.1 Asia5	...R.....M.K...T...L...L.N.....V.G.....Y.....
MF964187.1 Asia5	...R.....M.K...T...L...L.N.....V.D.....Y.....
MF964181.1 Asia5	...R.....M.K...T...L...L.N.....V.D...C.....Y.....
MF964185.1 Asia5	...R.....M.K...T...L...R.N.....V.N.....Y.....
MF964186.1 Asia5	...R.....M.K...T...L...L.N...V...V.D.....Y.....

Figure 12 (cont.)

	570	580	590	600
AF378705.1_America1	FLRIECFVWDDNLWCHQFYRFEADIANSTTSVENLVRIRFSCNR*---			
Z35493.1_America1	N.....			SNP*
AF259552.1_America1	Y..N.....			SNP*
DQ903854.1_America1	*			---
AY548109.1_America1	Y..N.....			SNP*
HM046486.1_America1	Y..N.....			SNP*
AY542312.2_America1	Y..N.....			SNP*
AF112189.1_America2	D.....	ST.....		SKP*
Z47764.1_America2	D.....	T.ST.....	I.....	SKP*
Z47765.1_America2	D.....	T.ST.....		S.SKP*
Z47763.1_America2	D.....	ST.....		H.SKP*
Z54166.1_America2	D.....	T.ST.....		S.SKP*
Z54156.1_America2	D.....	ST.....		SKP*
KT266736.1_America3	D.....	T..I.....	T.DP..S..K..	SGP*
AY964110.1_America3	D.....	T.....		S.SRP*
MF953474.1_America3	D.....	T.A.....		SRP*
MF953470.1_America3	D.....	T.A.....		SRP*
JN836734.1_America3	D.....	T.....		---
MF953472.1_America3	D.....	T.A.....		SRP*
KJ747371.1_America4	D.....	T.....		M.....SKP*
KJ747372.1_America4	D.....	T.....		M.....SKP*
Z54156.1_America5	D.....	ST.....		SKP*
MK473366.1_America5	D.....	T.ST.....		SKP*
MK473365.1_America5	D.....	T.ST.....		SKP*
MK487379.1_America5	D.....	T.ST.....		SKP*
AF164967.1_A75/17	D.....	ST.....		SKP*
Z47764.1	D.....	T.ST.....	I.....	SKP*
KX024709.1_ArticLike	D.....	T.....		SKP*
Z47760.1_ArticLike	D.....	T.....		SKP*
KC966928.1_ArticLike	D.....	T.....		SKP*
AF172411.1_ArticLike	D.....	T.....		SKP*
AY964108.1_ArticLike	D.....	N.....		SKP*
DQ226087.1_ArticLike	D.....	T.....		SKP*
MH430949.1_ArticLike	GD.....	T.....		K.....SKP*
22458.16	D.....	T.....		SKP*
GU266280.1_RockbornLike	D.....	T.F.....		SKP*
FJ461702.1_RockbornLike	D.....	TD.....		SKP*
AY964114.1_RockbornLike	D.....	T.FP.....		SKP*
GU810819.1_RockbornLike	D.....	T.F.....		SKP*
Z47759.1_EuropeanWildlife	D.....	T.....		SKP*
GQ214374.2_EuropeanWildlife	GD.....	T.....		SKH*
JN153023.1_EuropeanWildlife	D.....	T.....		H.....SKP*
DQ889187.1_EuropeanWildlife	YD.....	T.....		SKP*
FJ392651.1_EuropeanWildlife	D.....	T.....		SKP*
DQ889188.1_EuropeanWildlife	YD.....	T.....		SKP*
JN153020.1_EuropeanWildlife	D.....	T.....		H.....SKP*
AY386316.1_5804P	D.....	T.....		SKP*
AY386315.1_Europe1_SA1	D.....	T.....		SKP*
JN153024.1_EuropeSA1	D.....	T.....	I.....	H.....SKP*
FJ416338.1_EuropeSA1	D.....	Q.....	T.....	I.....H.....SKP*
GU001863.1_EuropeSA1	D.....	VT.....		K...D.SKP*
HM120874.1_EuropeSA1	D.....	T.....	I.....	H.....SKP*
X85000.1_EuropeSA1	D.....	T.....		SKP*
KJ865300.1_SA2	D.....	T.....		SKP*
FJ392652.1_SA2	S.....D.....	Q.....	T.....	SKP*
JN215477.1_SA2	D.....	Q.....	T.....	SKP*
JN215473.1_SA2	D.....	Q.....	T.....	SKP*
EU098102.1_SA2	D.....	Q.....	T.....	SKP*
MH362795.1_SA2	D.....	T.....		SKP*
JN215476.1_SA2	D.....	Q.....		G.....SKP*
KF835412.1_SA3	D.....	K...T.....		SKP*
KF835425.1_SA3	D.....	K...T.....		SKP*
KF835414.1_SA3	D.....	K...T.....		SKP*
KF835413.1_SA3	D.....	K...T.....		SKP*
KF835422.1_SA3	D.....	T.....		SKP*
KF835411.1_SA3	D.....	K...T.....		SKP*
FJ461693.1_Africal	D.....	T.....		SKP*
FJ461704.1_Africal	D.....	T.....		SKP*
FJ461722.1_Africal	D.....	T.....		SKP*
FJ461716.1_Africal	D.....	T.....		SKP*
KY971528.1_Africal	D.....	T.....		SKP*
FJ461719.1_Africal	D.....	T.....		SRP*
FJ461696.1_Africal	D.....	T.....		SKP*
KY971532.1_Africal	D.....	T.....		SKP*

Figure 12 (cont.)

JN812976.1 Africa2	D.....VT.....C.....SKP*
KU578254.1 Africa2	D.....VT.....C.....SKP*
KC916716.1 Africa2	D.....VT.....C.....SKP*
KU578256.1 Africa2	D.....VT.....C.....SKP*
KU578255.1 Africa2	D.....VT.....C.....SKP*
KU578253.1 Africa2	D.....VT.....C.....SKP*
KU578254.1 Africa2	D.....VT.....C.....SKP*
KC916714.1 Africa2	D.....VT.....C.....SKP*
AB025271.2 Asia1	D.....N.T.....SKP*
D85755.1 Asia1	D.....N.T.....SKP*
AB687720.2 Asia1	D.....N.T.....H.....SKP*
EU564813.1 Asia1	D.....N.T.....SKP*
JQ732176.1 Asia1	D.....NVT.....SKP*
EU296484.1 Asia1	D.....N.T.....SKP*
KJ994343.1 Asia1	D.....N.T.....SKP*
MH337872.1 Asia1	D.....N.T.....SKP*
EU716073.1 Asia2	D.....S.TS.....D.....SKP*
AB475099.1 Asia2	D.....S.T.....D.....SKP*
FJ868161.1 Asia2	D.....S.T.....D.....SKP*
JQ732170.1 Asia2	D.....T.....SKP*
AY297453.1 Asia2	D.....S.T.....D.....SKP*
AB025270.1 Asia2	D.....S.T.....D.....SKP*
AB212730.1 Asia2	D.....S.T.....D.....SKP*
EU743934.1 Asia3	D.....S.T.....D.....SEP*
EU743935.1 Asia3	D.....S.T.....D.....SEP*
AY297454.1	D.....S.T.....D.....SKP*
KJ489381.1 Asia4	D.....T.....S.M.....SKP*
KJ437596.1 Asia4	D.....T.A.....S.M.....SKP*
MH496773.1 Asia4	D.....D.T.....SKP*
MH496772.1 Asia4	D.....D.T.....SKP*
MH496777.1 Asia4	D.....D.T.....SKP*
MH496778.1 Asia4	D.....D.T.....SKP*
MH496774.1 Asia4	D.....D.VT.....SKP*
MF964178.1 Asia5	D.....VT.....SKP*
MF964179.1 Asia5	G.D.....VT.....K.....SKP*
MF964182.1 Asia5	D.....VT.....SKP*
MF964183.1 Asia5	D.....VT.....SKP*
MF964180.1 Asia5	D.....VT.....SKP*
MF964187.1 Asia5	D.....VT.....SKP*
MF964181.1 Asia5	D.....VT.....SKP*
MF964185.1 Asia5	D.....VT.....H.....F.....SKP*
MF964186.1 Asia5	D.....VT.....SKP*

	10	20	30	40	50	60	70	80
AF378705 ONDERSTEPOORT	MHKGI	PKS	SKTQT	HTHTQ	DRP	Q	P	Q
KY971531 OVI SA 2017		P				S	N	
MF926604 BJ16C9 DOG CN 2017		P				S	N	
AF305419 ONDERSTEPOORT	R			L			N	T
AF014953 ONDERSTEPOORT				L			N	T
KY971529 BUCHAREST SA 2017				L			N	T
JN896987 SNYDERHILL 1940	A	H	N	S	G	D		L
KM926612 CDVL CN 1992	E	H	N		G	D		N
HMO63009 SHUSKIY MINK KZ 1998	E	H	N		G	D		N
HMO46486 PHOCACASPIAN2007_SEAL	E	H	N		G	D		N
S460 RACCOON DE 2015	NK	G	S	P	P	H	IKS	AGAKV
S272 FOX DE 2016	NK	G	S	P	PEP	H	IKS	AGAKV
S466 RACCOON DE 2015	NKT	G	P	P	P	H	IKS	AGAKA
AY386315 5804 DOGV DE 1989	NK	G	P	P	P	H	IKSA	K
MF437053 GABON DOG GA 2015	NK	G	IP	P	PS	H	IKSA	K
KM280689 251 DOG UV 2012	NK	G	IL	P	L	QRH	IKSA	P
KX434626 LDMBTU2_BR 2013	NK	G	L	T	F	QRH	IKSA	Q
MH426739 LDMBTU1_FOX BR 2014	NK	G	L	T	F	QRH	IKSA	Q
MH382872 LDMBTU5_BR 2013	NK	G	L	T	F	KRH	IKSA	Q
MH349541 LDMBTU3_BR 2013	NK	G	L	P	L	QRH	IKSA	Q
AY466011 2654 RACCOON US 1998	NK	R			L	H	LA	K
AY443350 2601 RACCOON US 2000	NK	R	N	R			KSA	K
EU716337 164071 DOG US 2004	NK	R	N	RK		L	H	KSA
AY649446 2689 RACCOON US 2001	NK	R	N	RK		L	H	KSA
AF164967 A7517 DOGV US 1975	NK	R	N	RK		L	H	KSA
KJ123771 171391513 DOG US 2004	NK	R	N	RK		L	H	KSA
KU666057 RHODEISLAND RACCOON_U	NK	R	R	RK		L	Q	H
KF640687 R252 DOGV US 1974	NK	R	R			L	H	KSA
KU578257 SE DOG TZ 1994	NK	ER	RI			L	Q	Y
KU578256 SNP LION TZ 1994	NK	ER	RI			L	Q	Y
KU578255 SNP HYENA TZ 1994	NK	ER	RI			L	Q	Y
KU578254 SE JACKAL TZ 2011	NK	ER	RI			L	Q	H
KU578253 SE DOG TZ 2007	NK	ER	RI			L	Q	H
AB474397 007LM DOG JP 2004	EK	R				L	Q	H
AB475099 55L DOG JP 2009	EK	R				L	Q	H
AB476401 011C DOG JP 2004	EK	R				L	Q	H
AB490672 009LH DOGH JP 2004	EK	R				L	Q	H
AB490678 50CBLH DOGH JP 2009	K	R				L	Q	H
KF914669 2784 DOG IT 2013	E	ER	R			L	Q	K
KX024709 12254 BADGER IT 2015	E	ER	R			L	Q	K
22458 DOG SPA 2016	E	EK	R	R			L	Q
KX774415 PT61 TIGER RU 2004	K	ER	R	Y			L	Q
BAIKAL SEAL RU 1988	K	ER					L	R
MH496772 1 DOG TH 2014	NK	R	R	R		R	LS	H
MH496773 2 DOG TH 2014	NK	R	R	R		R	LS	H
MH496777 6 DOG TH 2014	NK	R	R	R		R	LS	H
MH496778 7 DOG TH 2014	NK	R	R	R		R	GLS	H
MH496775 3 DOG TH 2014	NK	R	R	R		R	LS	H
KJ747372 2262 DOG US 2013	NK	LEG				M	NP	S
KJ747371 1941 FOX US 2013	NK	LEG				M	NP</	

Figure 13 (cont.)

KJ994343_ZC_RACCOONDOGV_CN_2017 ..NK...K.NPRQ..R..LLQ.H..RST..K..QG.Y.....YHS.LAL..SIH.I.N.T..C..A...SD...P.
KY971532_WT02_HYENA_SA_2017 ...KFF.N.T.....LL..H..KSA..K.....V.....G.....Y..VN.TG.C..A.Y.SD...P.
KY971528_WT01_DOG_SA_2016 ..RKP..K.....R.P...H..KSA..K.P.....G.....IH..VN.TG.C..A.Y..D...P.
PC0046_SEAL_KZ_2000 ..GE..TG.T.R.....SH..K.D...I..TQ.GT...K..DH...K...H...N.A..H.HIG.GPE...A.
PC0020_SEAL_KZ_2000 ..GE..TG.T.R.....SH..K.D...I..TQ.GT...K..DH...K...H...N.A..H.HIG.GPE...A.
PC0021_SEAL_AZ_2000 ..GE..TG.T.R.....SH..K.D...I..TQ.GT...K..DH...K...H...N.A..H.HIG.GPE...A.
MH316137_1747_DOG_IT_2018 ..NK...R...R...L...R..KSA.V..FQ....T...L...HG-.I...-IHHI.N.T..CR.A...SD...A.

90 100 110 120 130 140 150 160
AF378705_ONDERSTEPOORT GNHEATIQHIPESVSKGARSQIERRQPNAINSGSQCTWLVLWCLGLIASLFLCSKAQIHWNNLSTIGITGDSVHYKIMTR
KY971531_OVI_SA_2017 M.....
MF926604_BJ16C9_DOG_CN_2017 M.....
AF305419_ONDERSTEPOORT T.....H.....M.....
AF014953_ONDERSTEPOORT T.....M.....
KY971529_BUCHAREST_SA_2017 T.....M.....
JN896987_SNYDERHILL_1940 M.....R.....S.....M.....A.....
KM926612_CDVL_CN_1992 M.....S.....A.....
HM063009_SHUSKIY_MINK_KZ_1998 M.....S.....A.....
HM046486_PHOCACASPIAN2007_SEAL M.....S.....A.....
S460_RACCOON_DE_2015 ..D..C..H..T...Q..V..RFK...S..TS.....I..V.....
S272_FOX_DE_2016 ..D..C..H..T...Q..V..RFK...S..TS.....I..V.....R.....
S466_RACCOON_DE_2015 ..D..C..H..T...Q..V..RFK...S..TS.....I..V.....
AY386315_5804_DOGV_DE_1989 ..D..G..H..T...Q..V..RFK...S..TS.....I..V.....
MF437053_GABON_DOG_GA_2015 ED..G..H..T...Q..V..RFK...S..TI.....I.....
KM280689_251_DOG_UY_2012 ..D..G..VH..T...Q..M..RFK...SS..TS.....I.....
KX434626_LDMBTU2_BR_2013 KD..G..H..T..R..Q..M..FRFK...SS..TS.....I.....
MH426739_LDMBTU1_FOX_BR_2014 KD..G..H..T..R..Q..M..FRFK...SS..TS.....I.....
MH382872_LDMBTU5_BR_2013 ..D..G..H..T..R..Q..M..FRFK...SS..TS.....I.....
MH349541_LDMBTU3_BR_2013 ..D..G..H..T..R..Q..M..RFK...SS..TS.....I.....
AY466011_2654_RACCOON_US_1998 GT.H.T.G...Q..G..RLK...S.....A.....
AY443350_2601_RACCOON_US_2000 ..D..G..H..T.G..PQ.SG...K...S.....I..V.....A.....
EU716337_164071_DOG_US_2004 ..D..GT.H.T.G...Q..G..RLK...S..T.....I.....
AY649446_2689_RACCOON_US_2001 ..D..GT.H.T.G...Q..G..RLK...S..T.....I.....
AF164967_A7517_DOGV_US_1975 ..D..GT.H.T.G...Q..G..RLK...S..T.....I.....
KJ123771_171391513_DOG_US_2004 ..D..GT.H.T.G...Q..G..RLK...S..T.....I.....
KU666057_RHODEISLAND_RACCOON_U ..D..GT.H.T.G...Q..G..RLK...S..T.....I..TT...S.....
KF640687_R252_DOGV_US_1974 ..D..G..H..T...Q...RFK...S..T.....I.....
KU578257_SE_DOG_TZ_1994 ..D..G..H..K...Q..T...FK..RSD.T.....I.....I.....
KU578256_SNP_LION_TZ_1994 ..D..G..H..K...Q..T...FK..RSD.T.....I.....I.....
KU578255_SNP_HYENA_TZ_1994 ..D..G..H..K...Q..T...FK..RSD.T.....I.....I.....
KU578254_SE_JACKAL_TZ_2011 ..D..KG..H..K...Q..G..FKK.RYDTT.....I.....I.....
KU578253_SE_DOG_TZ_2007 ..D..KG..H..K...Q..G..FKK.RYDTT.....I.....I.....
AB474397_007LM_DOG_JP_2004 ..D..DG..H..T...Q..K..RLKMG.S..VK.....I..V.....
AB475099_55L_DOG_JP_2009 ..D..DG..H..T...Q..K..RLKMG.S..VK.....I..V.....
AB476401_011C_DOG_JP_2004 ..D..DG..H..T...Q..K..RLKMG.S..VK.....I..V.....
AB490672_009LH_DOGH_JP_2004 ..D..DG..H..T...Q..K..RLKMG.S..VK...Y.....I..V.....
AB490678_50CBLH_DOGH_JP_2009 ..D..DG..H..T...Q..K..RLKMG.S..VK.....I..V.....
KF914669_2784_DOG_IT_2013 ..D..GVVH.TL...Q....LK..PS....F.YI.....I.....
KX024709_12254_BADGER_IT_2015 ..D..GVVH.TL...Q....LK..PS....F.YI.....I.....
22458_DOG_SPA_2016 ..D..GVVH.T...Q....LK..TS....F.YI.....I.....
KX774415_PT61_TIGER_RU_2004 ..D..GVVH.T.K...Q....LK...S....F.YV.....I.....
BAIKAL_SEAL_RU_1988 ..D..GVVH.T...PQ.SG..LK...S..F....YI.....I.....
MH496772_1_DOG_TH_2014 RD.DG.VH.A...QE...LFE...S..TD..F....I...I.....
MH496773_2_DOG_TH_2014 RD.DG.VH.A...QE...LFE...S..TD..F....I...I.....
MH496777_6_DOG_TH_2014 RD.DG.VH.A...QE...LFE...S..TD..F....I...I.....
MH496778_7_DOG_TH_2014 RD.DG..H.A...QE...LSK...S..TD..F....I...I.....
MH496775_3_DOG_TH_2014 RD.DG..H.A...QE...LFE...S..TD..F....I...I.....
KJ747372_2262_DOG_US_2013 ..D..G..H..TL.GI.Q...RFK...ST.TSP.P.....I.....E.....
KJ747371_1941_FOX_US_2013 ..D..G..H..TL..I.Q...RFK...ST.TSP.P.....I.....E.....
KJ466106_SY_RACCOONDOGV_CN_2012 RD..G..H..T...TQ..S.WFK.W.S..T.A.....I.....
MH496775_4_DOG_TH_2014 RD..G..HYT...TQ..S.WFK.W.S..T.A.....I.....
JN896331_PS_DOGV_CN_2010 RD..G..H..T...TQ..S.WFK...S..T.A.....I.....
AB753775_AC96I_DOG_JP_2004 RD..G..H..T...TQ..S.WFK...S..T.A.....I.....
MK431532_NTU_DOG_TW_2005 RD..G..H..T...TQ..S.WFK...S..T.A.....I.....
KC427278_HEBEI_MINK_CN_2008 RD..G..H..T...TQ..S.WFK.W.S..T.A.....I.....
MH496776_5_DOG_TH_2014 RD..G..H..T...TQ..S.WFK.W.S..T.A.....I.....
KP765764_LN1_FOX_CN_2010 RD..G..H..T...TR..S.WFK...S..T.A.P.Y.....I.....
KX347928_AH_DOG_CN_2015 RD..KG..H..T...TR..S.WFK...S..T.A.P.Y.....I.....
MH496779_8_DOG_TH_2014 RD..G..H..T...TQ..S.WFK.W.S..T.A.....I.....
JX681125_HLJ1_FOX_CN_2006 RD..D..H..T...TQ..S.WFK.W.S..T.A.....I.....
KP793921_GIANTPANDASX_CN_2014 RD..G..H..T...TQ..S.WFK...S..T.A...Y.....I..T.....
KP677502_LOUGUANTAIL_PANDA_CN_ RD..G..H..T...TQ..S.WFK...S..T.A...Y.....I..T.....

[illegible]

Figure 13 (cont.)

MH496775_4_DOG_TH_2014	N.....V.....
JN896331_PS_DOGV_CN_2010	N.....V.....
AB753775_AC96I_DOG_JP_2004	N.....V.....
MK431532_NTU_DOG_TW_2005	N.....V.....
KC427278_HEBEI_MINK_CN_2008	N.....V.....
MH496776_5_DOG_TH_2014	N.....V.....
KP765764_LN1_FOX_CN_2010	N.....V.....
KX347928_AH_DOG_CN_2015	N.....V.....
MH496779_8_DOG_TH_2014	H.....N.....V.....K.....
JX681125_HLJ1_FOX_CN_2006	I.....N.....V.....
KP793921_GIANTPANDASX_CN_2014	S.....AV.....
KP677502_LOUGUANTAI1_PANDA_CN	S.....AV.....
KP765763_SD7_FOX_CN_2014	N.....V.....K.....
KP738610_SD11_RACCOONDOG_CN_20	N.....V.....K.....
MH337872_SD16F_FOX_CN_2016	N.....V.....K.....
KX499865_ZYL_FOX_CN_2015	N.....V.....K.....
MF041963_CDV06_WOLF_ET_2016	N.....V.....
KJ848781_RDJL_RACCOONDOG_CN_20	N.....V.....
KX709880_HL001_DOG_CN_2012	N.....V.....
LC159587_HCM33_DOG_VN_2014	N.....V.....K.L.....
AB687720_CYN07DV_MACAQUE_JP_20	N...L...V.....
KF856711_BJ01_MONKEY_CN_2006	N...L...V.....
HM852904_MKYKM08_MACAQUE_CN_20	N...L...V.....
LC342298_RC13_RACCOON_JP_2016	N.M.....V.....
KJ994343_ZC_RACCOONDOGV_CN_201	N.....V.....K.....
KY971532_WT02_HYENA_SA_2017	V.....V.....K.....I.....
KY971528_WT01_DOG_SA_2016	I.....K.....
PC0046_SEAL_KZ_2000	S.....RS.....K.....
PC0020_SEAL_KZ_2000	S.....RS.....K.....
PC0021_SEAL_AZ_2000	S.....RS.....K.....
MH316137_1747_DOG_IT_2018	I.....V.....-

AF378705_ONDERSTEPOORT	250.....260.....270.....280.....290.....300.....310.....320
KY971531_OVI_SA_2017	AQITAGIALHQSNLNAQAIQSLRTSLEQSNKATEEETREATQETVIAVQGVQDYVNNELVPAMQHMSELVQRLGLRLRL
MF926604_BJ16C9_DOG_CN_2017	.....
AF305419_ONDERSTEPOORT	.....
AF014953_ONDERSTEPOORT	.....
KY971529_BUCHAREST_SA_2017	.....
JN896987_SNYDERHILL_1940	K.....
KM926612_CDV1_CN_1992	K.....
HM063009_SHUSKIY_MINK_KZ_1998	K.....
HM046486_PHOCACASPIAN2007_SEAL	K.....
S460_RACCOON_DE_2015	A.....I.....K.....
S272_FOX_DE_2016	A.....I.....K.....
S466_RACCOON_DE_2015	A.....I.....K.....
AY386315_5804_DOGV_DE_1989	I.....K.....
MF437053_GABON_DOG_GA_2015	I.....K.....
KM280689_251_DOG_UY_2012	K.....
KX434626_LDMBTU2_BR_2013	I.....K.....
MH426739_LDMBTU1_FOX_BR_2014	I.....K.....
MH382872_LDMBTU5_BR_2013	I.....I.....K.....
MH349541_LDMBTU3_BR_2013	I.....Q.....K.....
AY466011_2654_RACCOON_US_1998	I.....I.....K.....
AY443350_2601_RACCOON_US_2000	K.....
EU716337_164071_DOG_US_2004	K.....
AY649446_2689_RACCOON_US_2001	K.....
AF164967_A7517_DOGV_US_1975	K.....
KJ123771_171391513_DOG_US_2004	K.....
KU666057_RHODEISLAND_RACCOON_U	S.....K.....K.....
KF640687_R252_DOGV_US_1974	I.....K.....
KU578257_SE_DOG_TZ_1994	K.....
KU578256_SNP_LION_TZ_1994	K.....
KU578255_SNP_HYENA_TZ_1994	K.....
KU578254_SE_JACKAL_TZ_2011	I.....K.....
KU578253_SE_DOG_TZ_2007	K.....
AB474397_007LM_DOG_JP_2004	K.....
AB475099_55L_DOG_JP_2009	K.....
AB476401_011C_DOG_JP_2004	K.....
AB490672_009LH_DOGH_JP_2004	K.....
AB490678_50CBLH_DOGH_JP_2009	K.....
KF914669_2784_DOG_IT_2013	V.....K.....
KX024709_12254_BADGER_IT_2015	I.....K.....

Figure 13 (cont.)

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22458 DOG SPA 2016 .....I.....K...
KX774415_PT61_TIGER RU_2004 .....D.....K...
BAIKAL_SEAL RU_1988 .....K...
MH496772_1 DOG TH 2014 .....I.....K...
MH496773_2 DOG TH 2014 .....I.....K...
MH496777_6 DOG TH 2014 .....I.....K...
MH496778_7 DOG TH 2014 .....K...
MH496775_3 DOG TH 2014 .....L.....K...
KJ747372_2262 DOG US 2013 .....K...
KJ747371_1941_FOX US 2013 .....K...
KJ466106_SY_RACCOONDOG_CN_2012 .....A.....K...
MH496775_4 DOG TH 2014 .....A.....K...
JN896331_PS_DOGV_CN_2010 .....K...
AB753775_AC96I_DOG JP_2004 .....K...
MK431532_NTU DOG TW 2005 .....K...
KC427278_HEBEI MINK_CN_2008 .....K...
MH496776_5 DOG TH 2014 .....K...
KP765764_LN1_FOX_CN_2010 .....K...
KX347928_AH DOG_CN_2015 .....K...
MH496779_8 DOG TH 2014 .....K...
JX681125_HLJ1_FOX_CN_2006 .....A.....K...
KP793921_GIANTPANDASX_CN_2014 .....K...
KP677502_LOUGUANTAI1_PANDA_CN_ .....K...
KP765763_SD7_FOX_CN_2014 .....K...
KP738610_SD11_RACCOONDOG_CN_20 .....K...
MH337872_SD16F_FOX_CN_2016 .....K...
KX499865_ZYL_FOX_CN_2015 .....K...
MF041963_CDV06_WOLF_ET_2016 .....K...
KJ848781_RDJL_RACCOONDOG_CN_20 .....K...
KX709880_HL001 DOG_CN_2012 .....K...
LC159587_HCM33 DOG_VN_2014 .....F.....V.....K...
AB687720_CYN07DV_MACAQUE JP_20 .....K...
KF856711_BJ01_MONKEY_CN_2006 .....K...
HM852904_MKYKM08_MACAQUE_CN_20 .....K...
LC342298_RC13_RACCOON JP_2016 .....N.....K...
KJ994343_ZC_RACCOONDOGV_CN_201 .....K...
KY971532_WT02_HYENA_SA_2017 .....K...
KY971528_WT01 DOG_SA_2016 .....A.....K...
PC0046_SEAL_KZ_2000 .....I.....K...
PC0020_SEAL_KZ_2000 .....I.....K...
PC0021_SEAL_AZ_2000 .....I.....K...
MH316137_1747 DOG_IT_2018 .....S.....-.....K...

330 340 350 360 370 380 390 400
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
YYTELLSIFGPSLRDPISAEISIQALSVALGGEIHKILEKLGYSGGDMIAALESRGIKTKITHVDLPKGFIILSI SYPTL
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
AF378705_ONDERSTEEPOORT .....K...
KY971531_OVI_SA_2017 .....K...
MF926604_BJ16C9 DOG_CN_2017 .....K...
AF305419_ONDERSTEEPOORT .....I.....S.....K...
AF014953_ONDERSTEEPOORT .....I.....S.....K...
KY971529_BUCHAREST_SA_2017 .....I.....S.....K...
JN896987_SNYDERHILL_1940 .....I.....K...
KM926612_CDLV_CN_1992 .....I.....K...
HM063009_SHUSKIY MINK_KZ_1998 .....I.....K...
HM046486_PHOCACASPIAN2007_SEAL .....I.....K...
S460_RACCOON_DE_2015 .....N.....I.....L.....K...
S272_FOX_DE_2016 .....N.....I.....L.....K...
S466_RACCOON_DE_2015 .....N.....I.....L.....K...
AY386315_5804 DOGV_DE_1989 .....N.....I.....L.....K...
MF437053_GABON DOG_GA_2015 .....N.....I.....L.....K...
KM280689_251 DOG_UY_2012 .....Q.....N.....L.....K...
KX434626_LDMBTU2_BR_2013 .....N.....L.....K...
MH426739_LDMBTU1_FOX_BR_2014 .....N.....L.....K...
MH382872_LDMBTU5_BR_2013 .....N.....L.....K...
MH349541_LDMBTU3_BR_2013 .....N.....L.....K...
AY466011_2654_RACCOON_US_1998 .....N.....L.....K...
AY443350_2601_RACCOON_US_2000 .....S.....L.....K...
EU716337_164071 DOG_US_2004 .....V.....N.....L.....K...
AY649446_2689_RACCOON_US_2001 .....V.....N.....L.....K...
AF164967_A7517 DOGV_US_1975 .....N.....L.....K...
KJ123771_171391513 DOG_US_2004 .....N.....L.....K...
KU666057_RHODEISLAND_RACCOON_U .....N.....L.....K...
KF640687_R252 DOGV_US_1974 .....N.....L.....K...
```

Figure 13 (cont.)

KU578257 SE DOG TZ 1994	N.....L.....
KU578256 SNF LION TZ 1994	N.....Q.....L.....
KU578255 SNF HYENA TZ 1994	N.....Q.....L.....
KU578254 SE JACKAL TZ 2011	N.....L.....
KU578253 SE DOG TZ 2007	N.....L.....
AB474397 007LM DOG JP 2004	N.....V.....
AB475099 55L DOG JP 2009	N.....V.....
AB476401 011C DOG JP 2004	N.....V.....
AB490672 009LH DOGH JP 2004	N.....V.....
AB490678 50CBLH DOGH JP 2009	N.....V.....
KF914669 2784 DOG IT 2013	N.....R.....
KX024709 12254 BADGER IT 2015	N.....R.....
22458 DOG SPA 2016	T.....R.....
KX774415 PT61 TIGER RU 2004	N.....R.....
BAIKAL SEAL RU 1988	N.....R.....
MH496772 1 DOG TH 2014	N.....L.....
MH496773 2 DOG TH 2014	N.....L.....
MH496777 6 DOG TH 2014	N.....L.....
MH496778 7 DOG TH 2014	N.....L.....
MH496775 3 DOG TH 2014	V.....L.....
KJ747372 2262 DOG US 2013	N.....L.....
KJ747371 1941 FOX US 2013	N.....L.....
KJ466106 SY RACCOONDOG CN 2012	N.....L.....
MH496775 4 DOG TH 2014	N.....L.....
JN896331 PS DOGV CN 2010	N.....L.....
AB753775 AC96I DOG JP 2004	N.....L.....
MK431532 NTU DOG TW 2005	N.....L.....
KC427278 HEBEI MINK CN 2008	N.....L.....
MH496776 5 DOG TH 2014	N.....L.....
KP765764 LN1 FOX CN 2010	N.....L.....
KX347928 AH DOG CN 2015	N.....L.....
MH496779 8 DOG TH 2014	N.....L.....
JX681125 HLJ1 FOX CN 2006	N.....L.....
KP793921 GIANTPANDASX CN 2014	N.....L.....
KP677502 LOUGUANTAIL PANDA CN	N.....L.....
KP765763 SD7 FOX CN 2014	N.....L.....
KP738610 SD11 RACCOONDOG CN 20	N.....L.....
MH337872 SD16F FOX CN 2016	N.....L.....
KX499865 ZYL FOX CN 2015	N.....L.....
MF041963 CDV06 WOLF ET 2016	N.....L.....
KJ848781 RDJL RACCOONDOG CN 20	N.....T.....
KX709880 HL001 DOG CN 2012	N.....L.....
LC159587 HCM33 DOG VN 2014	N.....L.....
AB687720 CYN07DV MACAQUE JP 20	N.....L.....
KF856711 BJ01 MONKEY CN 2006	N.....L.....
HM852904 MKYKM08 MACAQUE CN 20	N.....L.....
LC342298 RC13 RACCOON JP 2016	F.N.....A.....L.....
KJ994343 ZC RACCOONDOGV CN 201	N.....L.....
KY971532 WT02 HYENA SA 2017	N.....
KY971528 WT01 DOG SA 2016	N.....
PC0046 SEAL KZ 2000	L.....
PC0020 SEAL KZ 2000	L.....
PC0021 SEAL AZ 2000	L.....
MH316137 1747 DOG IT 2018	N.....L.....

AF378705 ONDERSTEEPOORT	410.....420.....430.....440.....450.....460.....470.....480.....
KY971531 OVI SA 2017	SEVKGVIHVRLEAVSYNIGSQEWYTTVPRIATNGYLISNFDSSCVFVSESAICSONSLYPMSPLLQCCIRGDTSSCAR
MF926604 BJ16C9 DOG CN 2017	K.....
AF305419 ONDERSTEEPOORT	K.....
AF014953 ONDERSTEEPOORT	.....
KY971529 BUCHAREST SA 2017	.....
JN896987 SNYDERHILL 1940	.....
KM926612 CDVL CN 1992	.....
HM063009 SHUSKIY MINK KZ 1998	.....
HM046486 PHOCACASPIAN2007 SEAL	.....
S460 RACCOON DE 2015	V.....
S272 FOX DE 2016	V.....
S466 RACCOON DE 2015	V.....
AY386315 5804 DOGV DE 1989	V.....
MF437053 GABON DOG GA 2015	V.....
KM280689 251 DOG UY 2012	V.....
KX434626 LDMBTU2 BR 2013	V.....

Figure 13 (cont.)

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MH426739_LDMBTU1_FOX_BR_2014 .....V.....
MH382872_LDMBTU5_BR_2013 .....V.....
MH349541_LDMBTU3_BR_2013 .....V.....
AY466011_2654_RACCOON_US_1998 .....V.....P.....
AY443350_2601_RACCOON_US_2000 .....V.....P.....
EU716337_164071_DOG_US_2004 .....V.....P.....
AY649446_2689_RACCOON_US_2001 .....V.....P.....
AF164967_A7517_DOGV_US_1975 .....V.....P.....
KJ123771_171391513_DOG_US_2004 .....A.....V.....
KU666057_RHODEISLAND_RACCOON_U .....V.....P.....
KF640687_R252_DOGV_US_1974 .....V.....
KU578257_SE_DOG_TZ_1994 .....V.....
KU578256_SNP_LION_TZ_1994 .....V.....
KU578255_SNP_HYENA_TZ_1994 .....V.....
KU578254_SE_JACKAL_TZ_2011 .....V.....
KU578253_SE_DOG_TZ_2007 .....V.....
AB474397_007LM_DOG_JP_2004 .....V.....
AB475099_55L_DOG_JP_2009 .....V.....
AB476401_011C_DOG_JP_2004 .....V.....
AB490672_009LH_DOGH_JP_2004 .....V.....
AB490678_50CBLH_DOGH_JP_2009 .....V.....
KF914669_2784_DOG_IT_2013 .....V.....
KK024709_12254_BADGER_IT_2015 .....V.....
22458_DOG_SPA_2016 .....V.....
KK774415_PT61_TIGER_RU_2004 .....V.....
BAIKAL_SEAL_RU_1988 .....V.....
MH496772_1_DOG_TH_2014 .....V.....
MH496773_2_DOG_TH_2014 .....V.....
MH496777_6_DOG_TH_2014 .....V.....
MH496778_7_DOG_TH_2014 .....V.....
MH496775_3_DOG_TH_2014 .....V.....
KJ747372_2262_DOG_US_2013 .....V.....
KJ747371_1941_FOX_US_2013 .....V.....
KJ466106_SY_RACCOONDOG_CN_2012 .....K.V.....I.....
MH496775_4_DOG_TH_2014 .....K.V.....I.....
JN896331_PS_DOGV_CN_2010 .....K.V.....I.....
AB753775_AC96I_DOG_JP_2004 .....K.V.....I.....
MK431532_NTU_DOG_TW_2005 .....K.V.....I.....
KC427278_HEBEI_MNKN_CN_2008 .....K.V.....I.....
MH496776_5_DOG_TH_2014 .....K.V.....I.....
KP765764_LN1_FOX_CN_2010 .....K.V.....I.....
KK347928_AH_DOG_CN_2015 .....K.V.....I.....
MH496779_8_DOG_TH_2014 .....K.V.....S.....I.....
JX681125_HLJ1_FOX_CN_2006 .....K.V.....I.....
KP793921_GIANTPANDASX_CN_2014 .....K.V.....I.....
KP677502_LOUGUANTAIL_PANDA_CN .....K.V.....I.....
KP765763_SD7_FOX_CN_2014 .....K.V.....I.....
KP738610_SD11_RACCOONDOG_CN_20 .....K.V.....I.....
MH337872_SD16F_FOX_CN_2016 .....K.V.....I.....
KK499865_ZYL_FOX_CN_2015 .....K.V.....I.....
MF041963_CDV06_WOLF_ET_2016 .....K.V.....I.....
KJ848781_RDJL_RACCOONDOG_CN_20 .....K.V.....I.....
KK709880_HL001_DOG_CN_2012 .....K.V.....I.....
LC159587_HCM33_DOG_VN_2014 .....K.V.....I.....
AB687720_CYN07DV_MACAQUE_JP_20 .....K.V.....I.....
KF856711_BJ01_MONKEY_CN_2006 .....K.V.....I.....
HM852904_MKYKM08_MACAQUE_CN_20 .....K.V.....I.....
LC342298_RC13_RACCOON_JP_2016 .....K.V.....I.....
KJ994343_ZC_RACCOONDOG_CN_201 .....I.....E.V.....I.....L.....P.....S.....F.....RST.....R.....
KY971532_WT02_HYENA_SA_2017 .....V.....V.....L.....L.....T.....
KY971528_WT01_DOG_SA_2016 .....V.....V.....T.....
PC0046_SEAL_KZ_2000 .....
PC0020_SEAL_KZ_2000 .....
PC0021_SEAL_AZ_2000 .....
MH316137_1747_DOG_IT_2018 .....-.....V.....

490 500 510 520 530 540 550 560
AF378705_ONDERSTEEPOORT TLVSGTMGNKFILSKGNIVANCASILCKCYSTSTIINQSPDKLLTFIASDTCPLVEIDGVTIQVGGRRQXPDMVYEGKVAL
KY971531_OVI_SA_2017 .....
MF926604_BJ16C9_DOG_CN_2017 .....
AF305419_ONDERSTEEPOORT .....A.....
AF014953_ONDERSTEEPOORT .....A.....
KY971529_BUCHAREST_SA_2017 .....N.A.....
JN896987_SNYDERHILL_1940 .....S.....
```

Figure 13 (cont.)

KM926612 CDVL CN 1992	S
HM063009 SHUSKIY MINK KZ 1998	S
HM046486 PHOCACASPIAN2007_SEAL	S
S460 RACCOON DE 2015	S
S272 FOX DE 2016	M.S
S466 RACCOON DE 2015	M.S
AY386315 5804 DOGV DE 1989	M.S
MF437053 GABON DOG GA 2015	S
KM280689 251 DOG UY 2012	S
KX434626 LDMBTU2 BR 2013	G
MH426739 LDMBTU1 FOX BR 2014	G
MH382872 LDMBTU5 BR 2013	G
MH349541 LDMBTU3 BR 2013	G
AY466011 2654 RACCOON US 1998	S
AY443350 2601 RACCOON US 2000	S
EU716337 164071 DOG US 2004	G
AY649446 2689 RACCOON US 2001	G
AF164967 A7517 DOGV US 1975	G
KJ123771 171391513 DOG US 2004	G
KU666057 RHODEISLAND RACCOON U	G
KF640687 R252 DOGV US 1974	I
KU578257 SE DOG TZ 1994	I.V
KU578256 SNP LION TZ 1994	S
KU578255 SNP HYENA TZ 1994	S
KU578254 SE JACKAL TZ 2011	S
KU578253 SE DOG TZ 2007	S
AB474397 007LM DOG JP 2004	S
AB475099 55L DOG JP 2009	S
AB476401 011C DOG JP 2004	S
AB490672 009LH DOGH JP 2004	S
AB490678 50CBLH DOGH JP 2009	S
KF914669 2784 DOG IT 2013	S
KX024709 12254 BADGER IT 2015	S
22458 DOG SPA 2016	I
KX774415 PT61 TIGER RU 2004	L
BAIKAL SEAL RU 1988	S
MH496772 1 DOG TH 2014	S
MH496773 2 DOG TH 2014	S
MH496777 6 DOG TH 2014	S
MH496778 7 DOG TH 2014	S
MH496775 3 DOG TH 2014	S
KJ747372 2262 DOG US 2013	S
KJ747371 1941 FOX US 2013	SR
KJ466106 SY RACCOONDOG CN 2012	SR
MH496775 4 DOG TH 2014	S
JN896331 PS DOGV CN 2010	S
AB753775 AC96I DOG JP 2004	S
MK431532 NTU DOG TW 2005	S
KC427278 HEBEI MINK CN 2008	S
MH496776 5 DOG TH 2014	S
KP765764 LN1 FOX CN 2010	S
KX347928 AH DOG CN 2015	S
MH496779 8 DOG TH 2014	S
JX681125 HLJ1 FOX CN 2006	S
KP793921 GIANTPANDASX CN 2014	S
KP677502 LOUGUANTAI1 PANDA CN	S
KP765763 SD7 FOX CN 2014	ST
KP738610 SD11 RACCOONDOG CN 20	S
MH337872 SD16F FOX CN 2016	S
KX499865 ZYL FOX CN 2015	S
MF041963 CDV06 WOLF ET 2016	S
KJ848781 RDJL RACCOONDOG CN 20	S
KX709880 HL001 DOG CN 2012	S
LC159587 HCM33 DOG VN 2014	SR
AB687720 CYN07DV MACAQUE JP 20	I
KF856711 BJ01 MONKEY CN 2006	G
HM852904 MKYKM08 MACAQUE CN 20	I
LC342298 RC13 RACCOON JP 2016	G
KJ994343 ZC RACCOONDOGV CN 201	I
KY971532 WT02 HYENA SA 2017	L
KY971528 WT01 DOG SA 2016	D
PC0046 SEAL KZ 2000	A
PC0020 SEAL KZ 2000	S
PC0021 SEAL AZ 2000	S
MH316137 1747 DOG IT 2018	G

	570	580	590	600	610	620	630	640
	.	.	.	.	.	.	.	.
AF378705_ ONDERSTEPOORT	GPAISLERLDVGTNLGNALKKLLDDAKVLIDSSNQILETVRRSSFNFGSLLSVPILSCTALALLLLIYCKRRYQQTILKQH							
KY971531_OVI SA 2017								
MF926604_BJ16C9_DOG_CN_2017								
AF305419_ONDERSTEPOORT	D							
AF014953_ONDERSTEPOORT	D							
KY971529_BUCHAREST SA 2017	D	I						
JN896987_SNYDERHILL 1940						G		RN
KM926612_CDVL CN 1992						G		RN
HM063009_SHUSKIY MINK KZ 1998						G		RN
HM046486_PHOCACASPIAN2007_SEAL						G		RN
S460_RACCOON DE 2015		I			L	I	F	
S272_FOX DE 2016		I			L	I	F	
S466_RACCOON DE 2015		I			L	I	F	
AY386315_5804 DOGV DE 1989		I			I		F	
MF437053_GABON DOG GA 2015		I		K		I	V F	
KM280689_251 DOG UY 2012		I			I	V F		
KX434626_LDMBTU2_BR 2013		I			I I	V F C	L	
MH426739_LDMBTU1_FOX BR 2014		I			I I	V F C	L	
MH382872_LDMBTU5_BR 2013					I	V F	L	
MH349541_LDMBTU3_BR 2013		I			I	V F		
AY466011_2654_RACCOON US 1998					I		FM	N
AY443350_2601_RACCOON US 2000					I			N
EU716337_164071 DOG US 2004					I			N
AY649446_2689_RACCOON US 2001					I			N
AF164967_A7517 DOGV US 1975					I			N
KJ123771_171391513 DOG US 2004					I			N
KU666057_RHODEISLAND_RACCOON_U			H	D	L	I		N
KF640687_R252 DOGV US 1974					I			N
KU578257_SE DOG TZ 1994	A	E		L	I			N
KU578256_SNP LION_TZ 1994	A	E		L	I			N
KU578255_SNP HYENA_TZ 1994	A	E		L	I			N
KU578254_SE JACKAL_TZ 2011	E		P LS S		I			N
KU578253_SE DOG TZ 2007	E		P LS S		I			N
AB474397_007LM DOG JP 2004							C	H N
AB475099_55L DOG JP 2009							C	H N
AB476401_011C DOG JP 2004							C	H N
AB490672_009LH DOGH JP 2004							C	H N
AB490678_50CBLH DOGH JP 2009							C	N
KF914669_2784 DOG IT 2013						AV		RN
KX024709_12254 BADGER IT 2015						AV		RN
22458 DOG SPA 2016						A		RN
KX774415_PT61 TIGER RU 2004						AV		N
BAIKAL SEAL RU 1988						V		N
MH496772_1 DOG TH 2014					I		C	N
MH496773_2 DOG TH 2014					I		C	N
MH496777_6 DOG TH 2014					I		C	N
MH496778_7 DOG TH 2014					I		C	N
MH496775_3 DOG TH 2014					I		C	N
KJ747372_2262 DOG US 2013				L	I			R N
KJ747371_1941 FOX US 2013				L	I	P		R N
KJ466106_SY RACCOOND OG_CN_2012				K	I			R F HN
MH496775_4 DOG TH 2014				K	I			R F HN
JN896331_PS DOGV_CN 2010				K	I			R F HN
AB753775_AC96I DOG JP 2004				K	I			R F HN
MK431532_NTU DOG TW 2005				K	S	I		R F HN
KC427278_HEBEI MINK_CN 2008		N		K	I			R F HN
MH496776_5 DOG TH 2014				K	I			R F HN
KP765764_LN1 FOX_CN 2010				K	I			R F HN
KX347928_AH DOG_CN 2015				K	I			R F HN
MH496779_8 DOG TH 2014		R		K	I			R F HN
JX681125_HLJ1 FOX_CN 2006				K	I			R F HN
KP793921_GIANTPANDASK_CN 2014				K	I			R F HN
KP677502_LOUGUANTAIL_PANDA_CN				K	I			R F HN
KP7								

Figure 13 (cont.)

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HM852904_MKYKM08_MACAQUE_CN_20 .....K.....M.....I.....R..F..HN
LC342298_RC13_RACCOON_JP_2016 .....I.....V.....R..F..HN
KJ994343_ZC_RACCOONDOGV_CN_201 .....DK.....I.....R..R..F..HN
KY971532_WT02_HYENA_SA_2017 .....R.....I..N
KY971528_WT01_DOG_SA_2016 .....S.....R.....I..N
PC0046_SEAL_KZ_2000 .....I.....R.....N
PC0020_SEAL_KZ_2000 .....I.....R.....N
PC0021_SEAL_AZ_2000 .....I.....R.....N
MH316137_1747_DOG_IT_2018 .....I.....F.....S
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650 660

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AF378705_ONDERSTEPOORT .....TKVDPAFKPDLTGTSKSYVRSI*
KY971531_OVI_SA_2017 .....*
MF926604_BJ16C9_DOG_CN_2017 .....R.....*
AF305419_ONDERSTEPOORT .....*
AF014953_ONDERSTEPOORT .....*
KY971529_BUCHAREST_SA_2017 .....*
JN896987_SNYDERHILL_1940 .....*
KM926612_CDVL_CN_1992 .....*
HM063009_SHUSKIY_MINK_KZ_1998 .....*
HM046486_PHOCACASPIAN2007_SEAL .....*
S460_RACCOON_DE_2015 .....T.....*
S272_FOX_DE_2016 .....T.....*
S466_RACCOON_DE_2015 .....T.....*
AY386315_5804_DOGV_DE_1989 .....T.....*
MF437053_GABON_DOG_GA_2015 .....R...T.....*
KM280689_251_DOG_UY_2012 .....T.....*
KX434626_LDMBTU2_BR_2013 .....T.....*
MH426739_LDMBTU1_FOX_BR_2014 .....T.....*
MH382872_LDMBTU5_BR_2013 .....T.....*
MH349541_LDMBTU3_BR_2013 .....I...T.....*
AY466011_2654_RACCOON_US_1998 .....A...T.....*
AY443350_2601_RACCOON_US_2000 .....A.....*
EU716337_164071_DOG_US_2004 .....A...T.....*
AY649446_2689_RACCOON_US_2001 .....A...T.....*
AF164967_A7517_DOGV_US_1975 .....A...T.....*
KJ123771_171391513_DOG_US_2004 .....A...T.....K..*
KU666057_RHODEISLAND_RACCOON_U .....T.....*
KF640687_R252_DOGV_US_1974 .....T.....*
KU578257_SE_DOG_TZ_1994 .....T.....*
KU578256_SNP_LION_TZ_1994 .....T.....*
KU578255_SNP_HYENA_TZ_1994 .....T.....*
KU578254_SE_JACKAL_TZ_2011 .....LT.....*
KU578253_SE_DOG_TZ_2007 .....LT.....*
AB474397_007LM_DOG_JP_2004 .....T.....R.....*
AB475099_55L_DOG_JP_2009 .....T.....R.....*
AB476401_011C_DOG_JP_2004 .....T.....R.....*
AB490672_009LH_DOGH_JP_2004 .....T.....A.R.....*
AB490678_50CBLH_DOGH_JP_2009 .....T.....*
KF914669_2784_DOG_IT_2013 .....T.....A.....*
KX024709_12254_BADGER_IT_2015 .....T.....*
22458_DOG_SPA_2016 .....T.....*
KX774415_PT61_TIGER_RU_2004 .....T.....*
BAIKAL_SEAL_RU_1988 .....T.....*
MH496772_1_DOG_TH_2014 .....T.....A.....*
MH496773_2_DOG_TH_2014 .....T.....*
MH496777_6_DOG_TH_2014 .....T.....*
MH496778_7_DOG_TH_2014 .....T.....*
MH496775_3_DOG_TH_2014 .....T.....*
KJ747372_2262_DOG_US_2013 .....P...T.....*
KJ747371_1941_FOX_US_2013 .....P...T.....*
KJ466106_SY_RACCOONDOGV_CN_2012 .....T.....*
MH496775_4_DOG_TH_2014 .....T.....*
JN896331_PS_DOGV_CN_2010 .....T.....*
AB753775_AC96I_DOG_JP_2004 .....T.....*
MK431532_NTU_DOG_TW_2005 .....T.....*
KC427278_HEBEI_MINK_CN_2008 .....T...V.....*
MH496776_5_DOG_TH_2014 .....T.....*
KP765764_LN1_FOX_CN_2010 .....T.....*
KX347928_AH_DOG_CN_2015 .....T.....*
MH496779_8_DOG_TH_2014 .....T.....*
JX681125_HLJ1_FOX_CN_2006 .....T.....*
KP793921_GIANTPANDASX_CN_2014 .....A...T.....*
KP677502_LOUGUANTAI1_PANDA_CN_ .....T.....*
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Figure 13 (cont.)

KP765763_SD7_FOX_CN_2014	T.....*
KP738610_SD11_RACCOONDOG_CN_20	T.....*
MH337872_SD16F_FOX_CN_2016	T.....*
KX499865_ZYL_FOX_CN_2015	T.....*
MF041963_CDV06_WOLF_ET_2016	T.....*
KJ848781_RDJL_RACCOONDOG_CN_20	T.....*
KX709880_HL001_DOG_CN_2012	T.....*
LC159587_HCM33_DOG_VN_2014	T.....*
AB687720_CYN07DV_MACAQUE_JP_20	T.....*
KF856711_BJ01_MONKEY_CN_2006	T.....*
HM852904_MKYKM08_MACAQUE_CN_20	T.....*
LC342298_RC13_RACCOON_JP_2016	P.....T.....*
KJ994343_ZC_RACCOONDOGV_CN_201	A.....T.....*
KY971532_WT02_HYENA_SA_2017	T.....*
KY971528_WT01_DOG_SA_2016	T.....*
PC0046_SEAL_KZ_2000	A..N.....*
PC0020_SEAL_KZ_2000	A..N.....*
PC0021_SEAL_AZ_2000	A..N.....*
MH316137_1747_DOG_IT_2018	T.....*

Figure 14

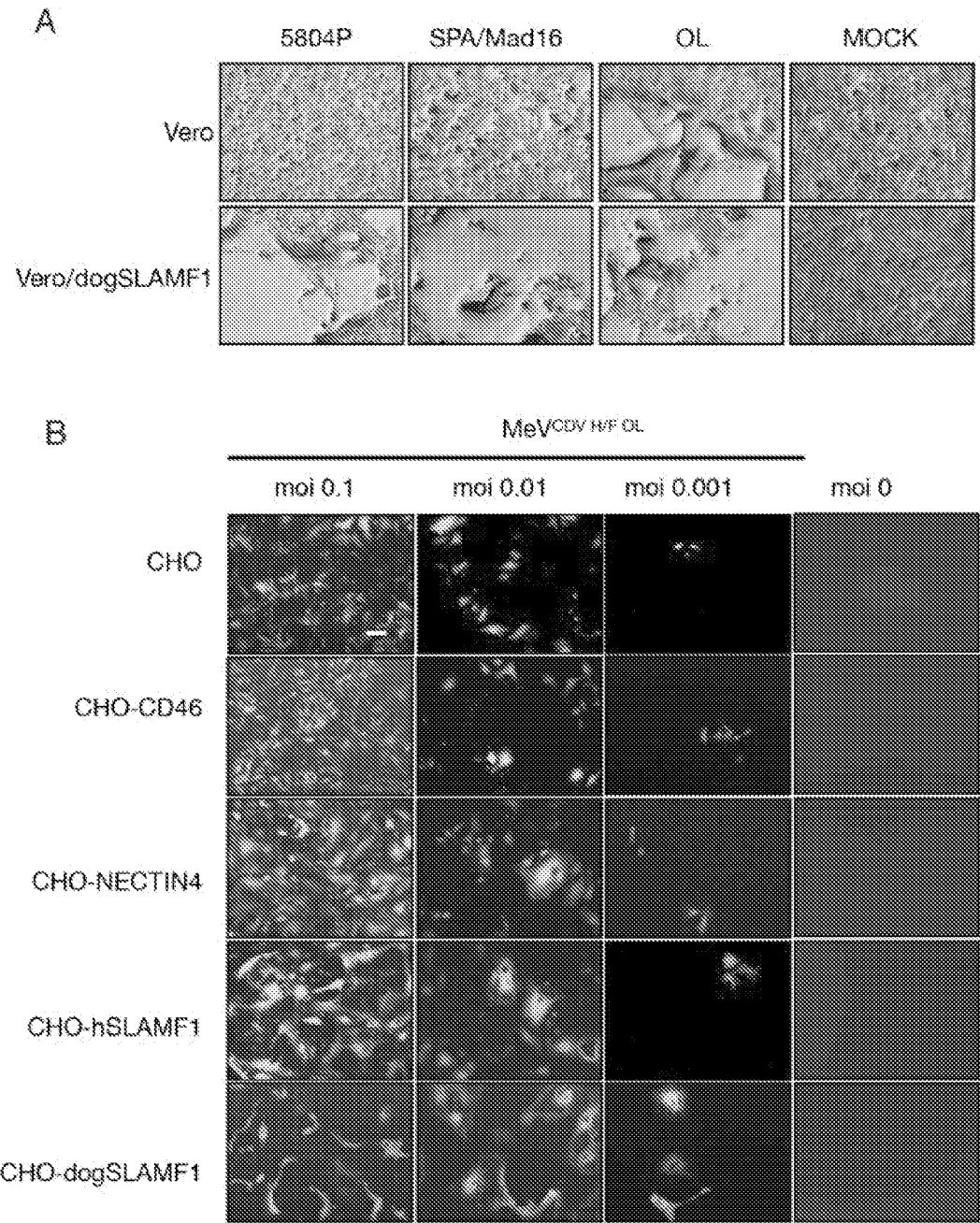
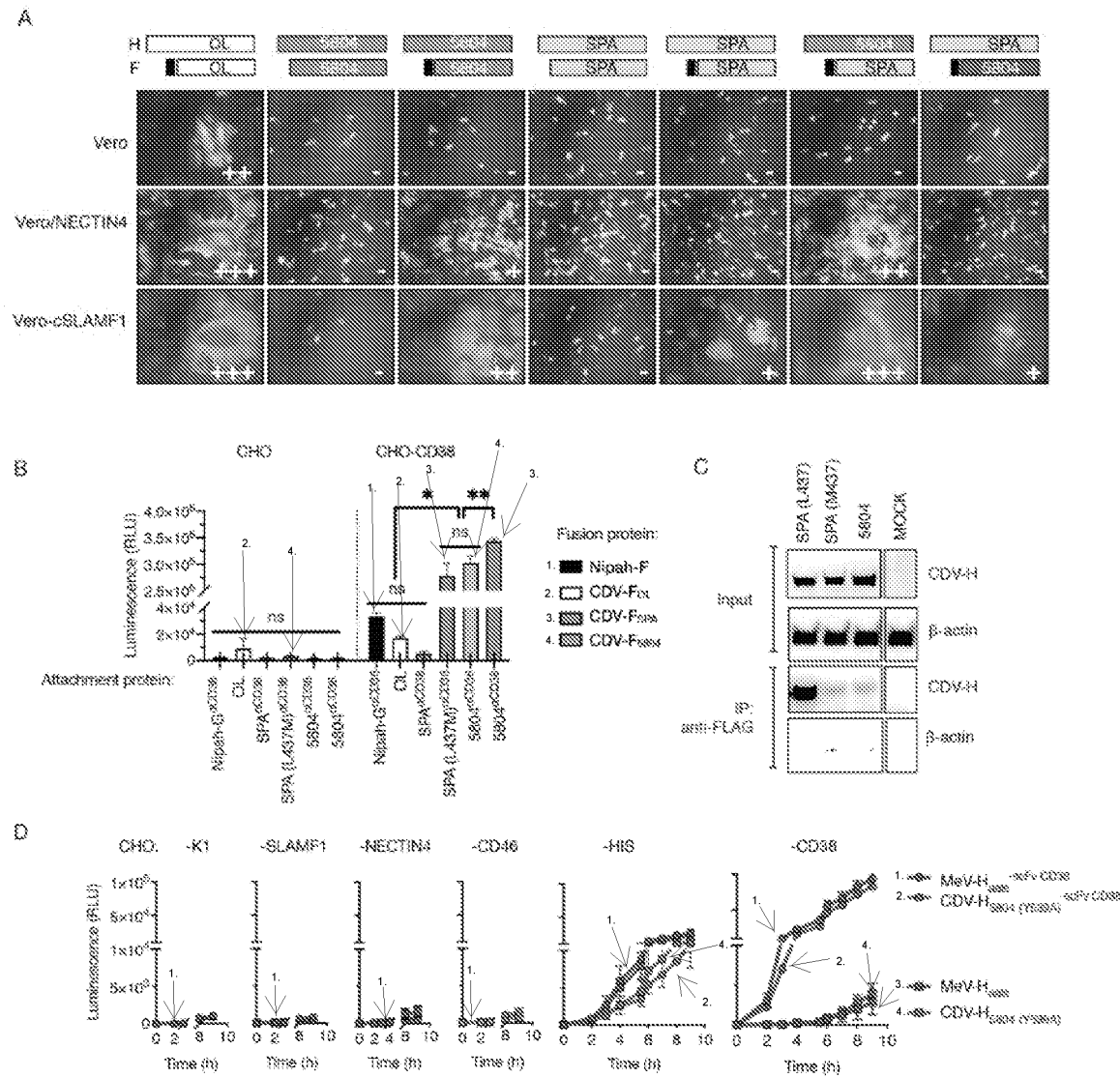


Figure 15



	430	435	440	445	450	455	460	470	480	
AF378708.1	GCGTGGGCTTGAGACVGLALISPTTGVYINAGCGGTSTGSLSSQRLTIPTGGCTTGTGLNNKSGDQGYTLHVVVT									
X55493.1	S.....									
KF256592.1	S.....									
DG0003954.1	S.....									America-1
KX546109.1	S.....									
K09545466.1	S.....									
KX542332.2	S.....									
AF112189.1	S.....P..L.....A.....							VL.....S.....R...Y...F...		
Z47764.1	S.....P...Y.....							VL.....S.....I...H....		
Z47765.1	S.....AP..L...A.....							VL.....S.....Y.....		America-2
Z47763.1	S.....P...Y.....							VL.....S.....I.....		
Z54166.1	S.....S..L.....R.....							VL.....S.....Y.....		
Z54158.1	S.....P...Y.....							VL.....S.....I.....		
K0256736.Y	S.....PRV.....							VY.....S.....Y..I....		America-3
KY964130.1	S.....P..T.....							VL.....S.....I..Y....		
KJ787371.1	S.....P..L.....Y.....							VL.....S.....Y.....		
KJ747372.1	S.....P..Y.....E.....							VY.....S.....I.....		America-4
Z54156.1	S.....P..Y.....							VY.....S.....I.....		
NH473366.1	S.....P..L.....							VY.....S.....Y.....		America-5
AF164997.1	S.....P..Y.....							VY.....S.....I.....		
K2024708.Y	S.....N.....T..R.....W.....M.....							L.....S.....I.....S.....		
Z47780.1	S.....Z..R.....							L.....S.....I.....S.....		
KC966928.X	S.....N.....T..R.....W.....M.....							L.....S.....I.....S.....		
KP172411.1	S.....Z.....							L.....S.....I.....S.....		
AS964198.1	S.....N.....Y..R.....							L.....S.....I.....S.....		Artic-like
DG228087.1	S.....R.....Z..R.....							L.....S.....Y.....S.....		
NH430949.1	S.....V..I.....							L.....S.....Y.....S.....		
SDS_Med/22456/16	S.....T..R.....							L.....S.....I.....S.....		
G0298280.1	S.....P..L.....							VY.....S.....I.....		
F3461702.1	S.....P..L.....							VY.....S.....I.....		Rockborn-like
KY964114.1	S.....K..P..L.....							VY.....S.....I.....		
M0816939.1	S.....P..L.....							VY.....S.....I.....		
Z47759.1	S.....PGI.....							VY.....S.....R...S.....		
cg214374.2	S.....PGT.....							VY.....S.....Q.....I.....		
JN653933.1	S.....PGI.....							VY.....S.....S.....S.....		European Wildlife
Eg089167.1	S.....PGT.....L.....L.....							L.....S.....I.....S.....		
FW328931.1	S.....P..L.....							S.....W.....S.....S.....		
Eg089168.1	S.....PGT.....							L.....S.....I.....S.....		
JN153920.1	S.....PGI.....							VY.....S.....I.....		
KY386316.1_28049	S.....P..L.....							VY.....S.....Y.....		
KY386315.1	S.....P..Y.....							VY.....S.....I.....		
JN153924.1	S.....P..L.....							VY.....S.....Y.....		
FF418338.1	S.....P..Y.....Y.....							VY.....S.....I.....		Europe1/South America-1
GUUG1869.1	S.....P..M.....							VY.....S.....Y.....		
X65020.1	S.....S..Y.....							VY.....S.....I.....		

Figure 16 (cont.)

KJ3869500.1	G.....G.I.....T.SD.....L.....S.....I.....	South America-2
FJ3552652.1	G.....W.....F.I.....V.....SD.....L.....S.....I.....	
MM999502.1	G.....P.I.....SD.....L.....S.....I.....	
MM362798.1	G.....S.I.....T.SD.....L.....S.....I.....	
JM215476.1	G.....GRI.....SD.....L.....S.....I.....	
MP935412.1	G.....F.I.....R.....S.SD.....G.....VL.....S.....I.....	South America-3
MP925422.1	G.....P.I.....R.....SD.....VL.....S.....I.....	
MP935433.1	G.....P.I.....R.....S.SD.....VL.....S.....I.....	
MP971528.1	G.....S.I.....N.....L.....S.....I.....	Africa-1
FJ461739.1	G.....I.....D.....L.....S.....I.....	
FJ461696.1	G.....L.....VL.....S.....I.....	
MP971532.1	G.....I.....P.PP.....L.....S.....I.....	
KU578254.1	A..I..P.IH.....D.....N.....VL.....S.....I.....	Africa-2
MM9878255.1	I..P..I.....B.....D.....VL.....S.....I.....	
KU578252.1	Y..E..IR.....D.....VL.....S.....I.....	
KU578254.1	K..I..P.YM.....D.....VL.....S.....I.....	
KB025273.2	G.....S.I.....SD.....VL.....S.....T.....	Asia-1
DB5755.1	G.....D.....P.I.....D.....V.....VL.....S.....T.....	
AB687720.2	G.....P.I.....N.....D.....VL.....S.....T.....	
EU644823.1	G.....P.I.....D.....VL.....S.....T.....	
YQ732376.1	G.....P.I.....K.....D.....VL.....S.....H.....T.....	
KU596864.1	G.....S.I.....K.....D.....VL.....S.....T.....	
KJ994343.1	G.....P..H.....D.....S.....VL.....S.....T.....	
MM337872.1	G.....S.....K.....V.....VL.....S.....Y.....	
EU714873.1	V.....I.....D.....L.....S.....T.....	Asia-2
AB475098.1	V.....I.....M.....D.....S.....K.....T.....	
FJ566162.1	V.....H.....I.....D.....S.....T.....	
YQ732376.1	V.....I.....D.....L.....S.....T.....	
KX297453.12	V.....I.....B.....D.....S.....T.....	
AB025279.1	V.....I.....M.....D.....L.....S.....T.....	
AB212750.1	V.....I.....H.....D.....L.....S.....T.....	
EU743934.1	V..V.....GRI.....M.....D.S.....L.....S.E.....TS.....	Asia-3
EU743935.1	V..V.....GRI.....M.....D.K.....L.....S.K.....TS.....	
KJ488381.1	G.....P.I.....M.....S.N.....VL.....S.....V.....	Asia-4
KJ437586.1	G.....S.I.....D.....VL.....S.....V.....	
MM98773.1	G.....F.I.....N.....T.B.....VL.....S.....V.....	
MP964378.1	P.I.....G.....DY.....VL.....S.....E.....I.....	Asia-5
MP964182.1	P.I.....G.....DY.....VL.....S.....E.....I.....	
MP964387.1	P.I.....G.....DY.....VL.....S.....I.....	
MP964385.1	S.I.....G.....DY.....VL.....S.....I.....	
MP964185.1	GRI.....P.I.....S.....I.....VL.....S.....I.....	
MP964386.1	S.....P.I.....G.....DY.....VL.....S.....I.....	

Figure 17

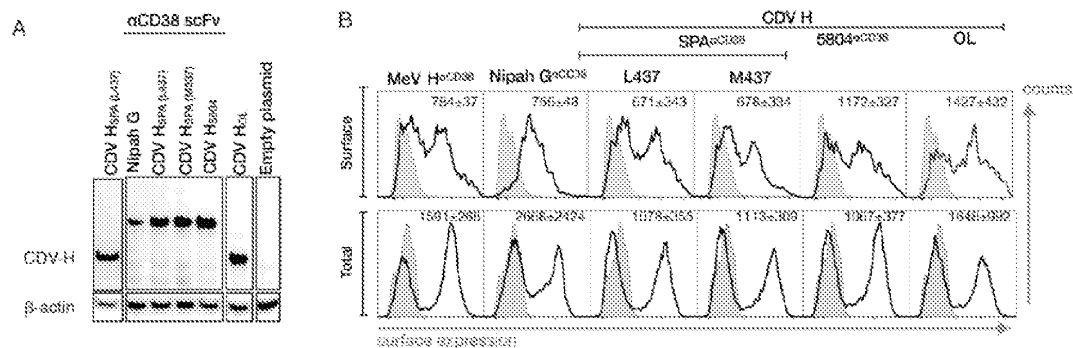


Figure 18

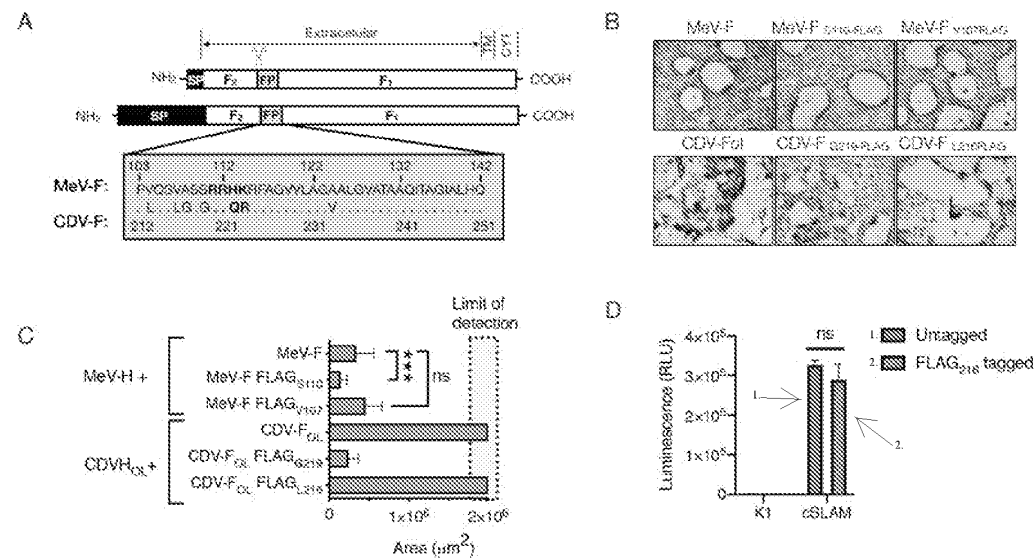


Figure 19

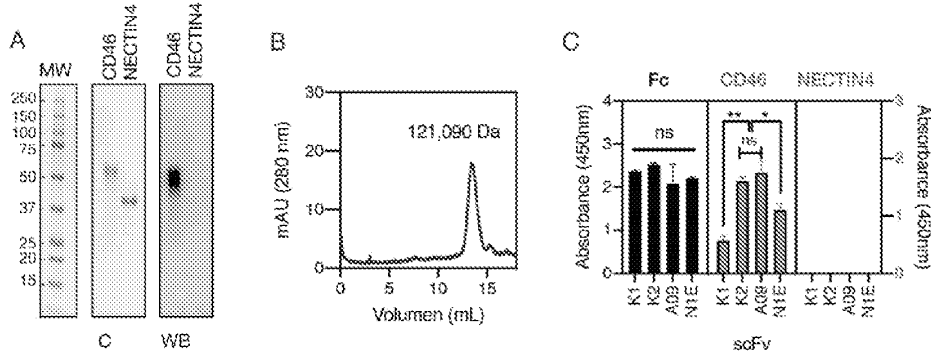


Figure 20

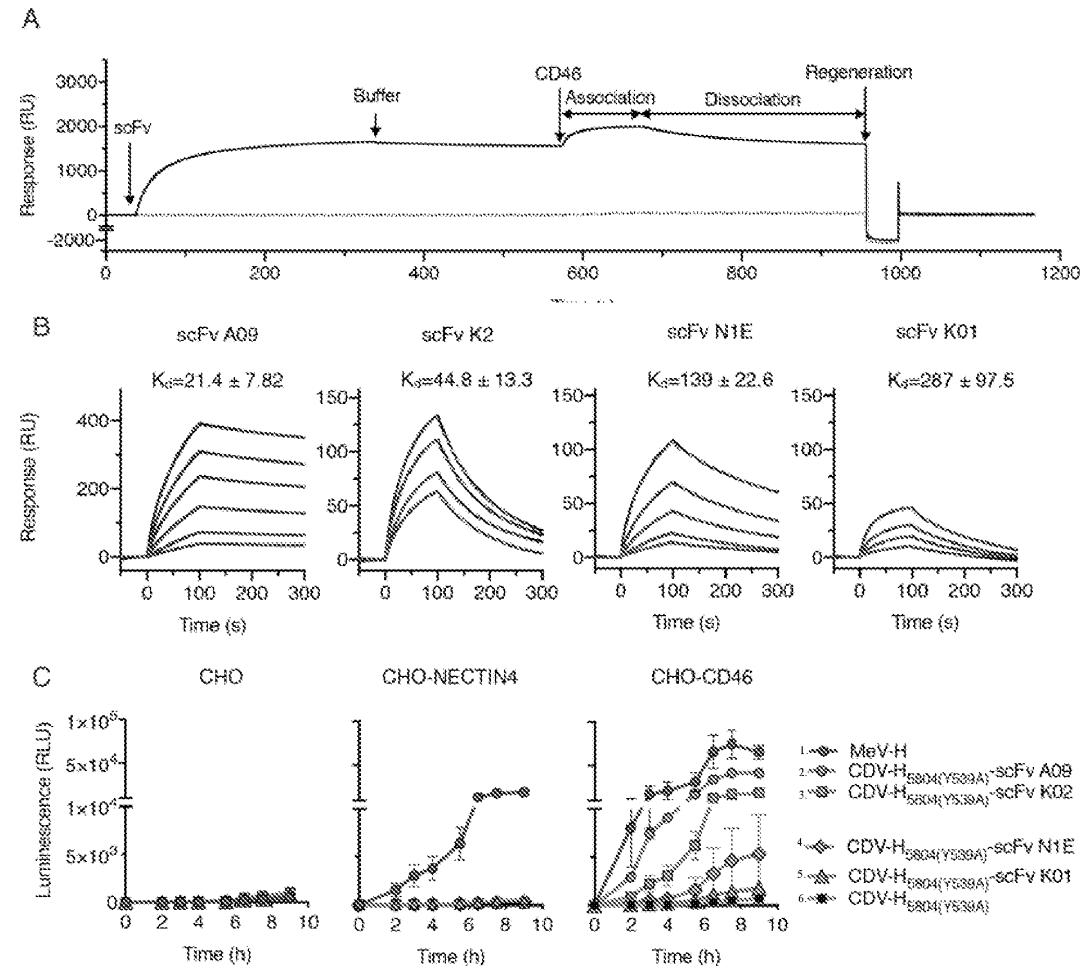


Figure 21

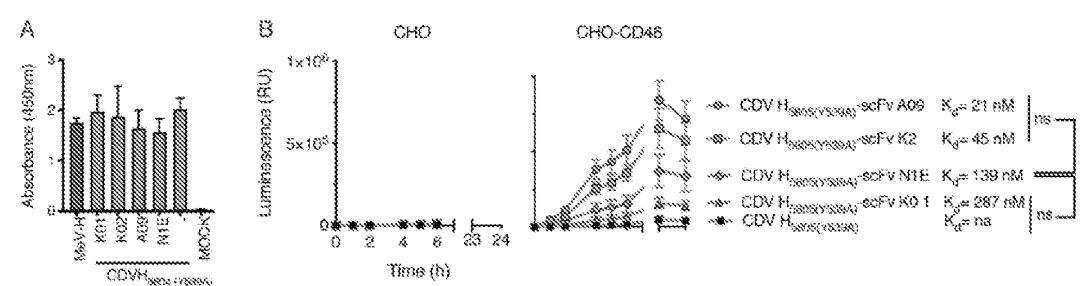


Figure 22

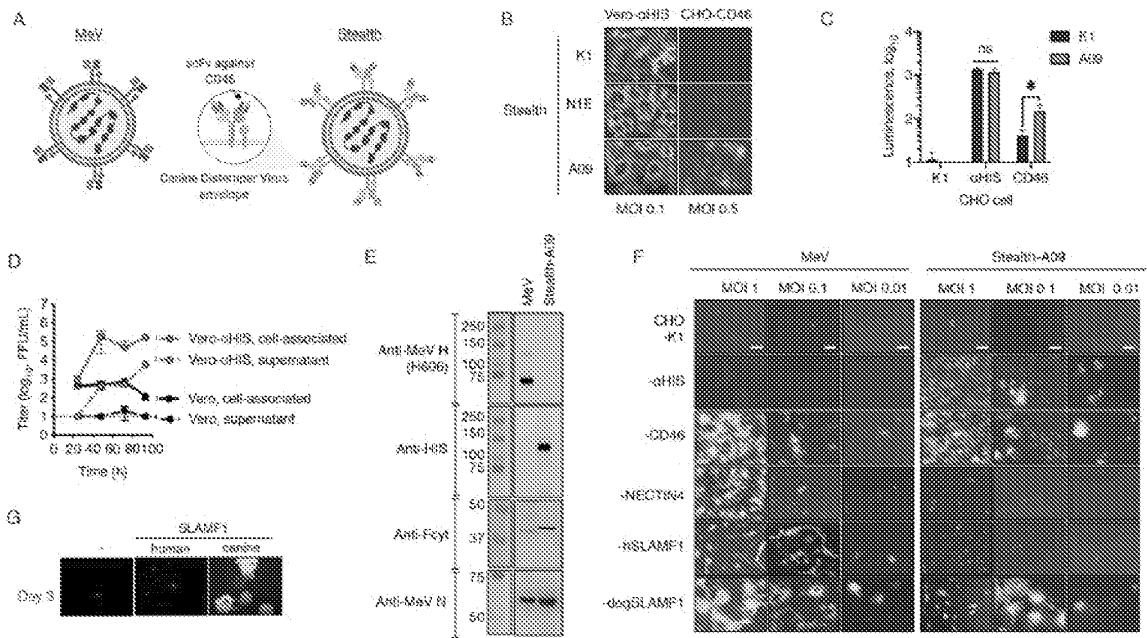


Figure 23

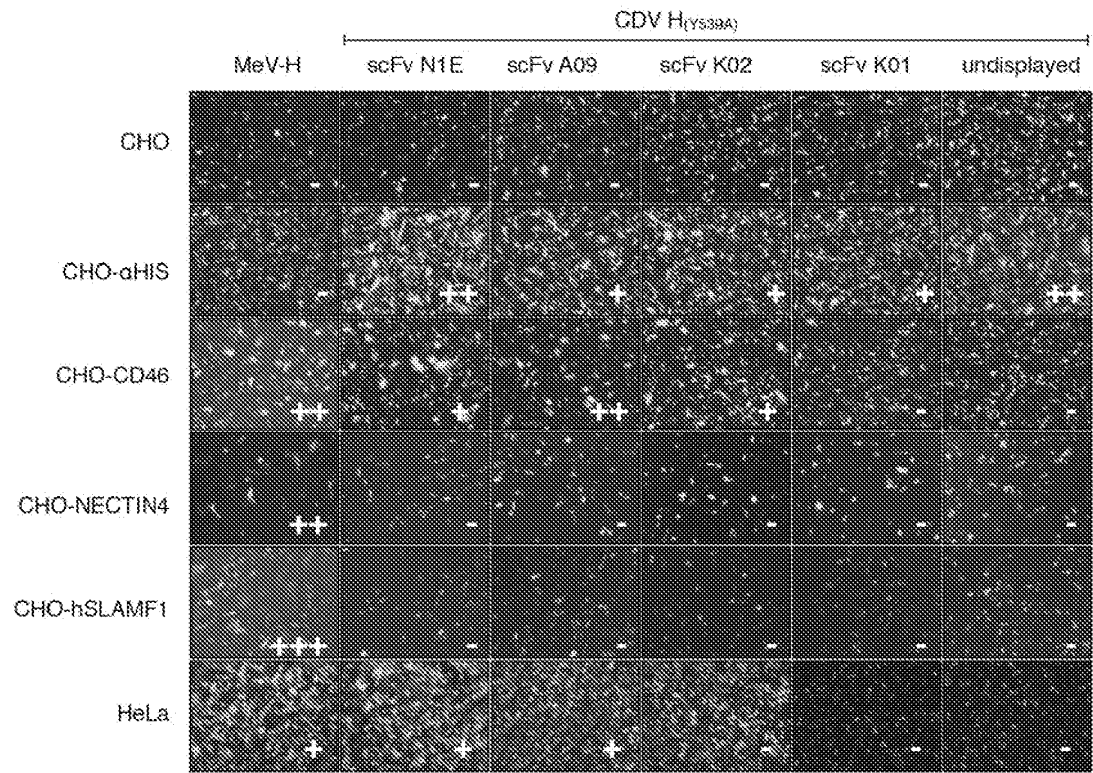


Figure 24

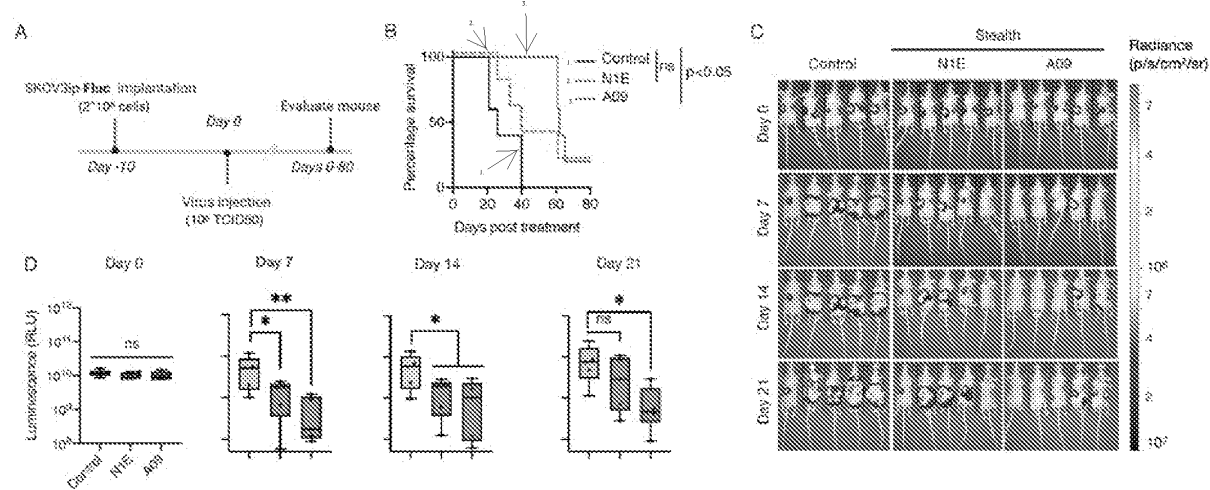


Figure 25

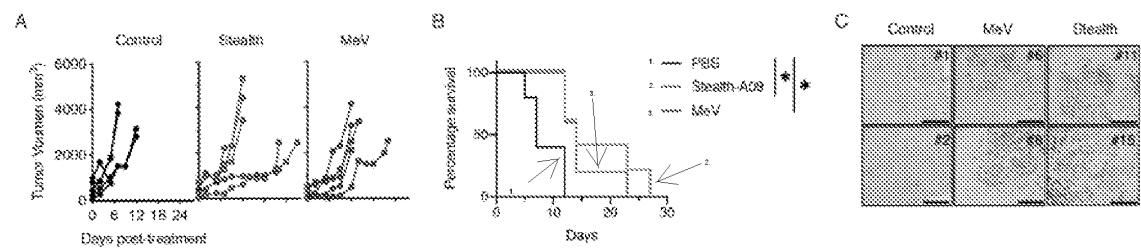


Figure 26

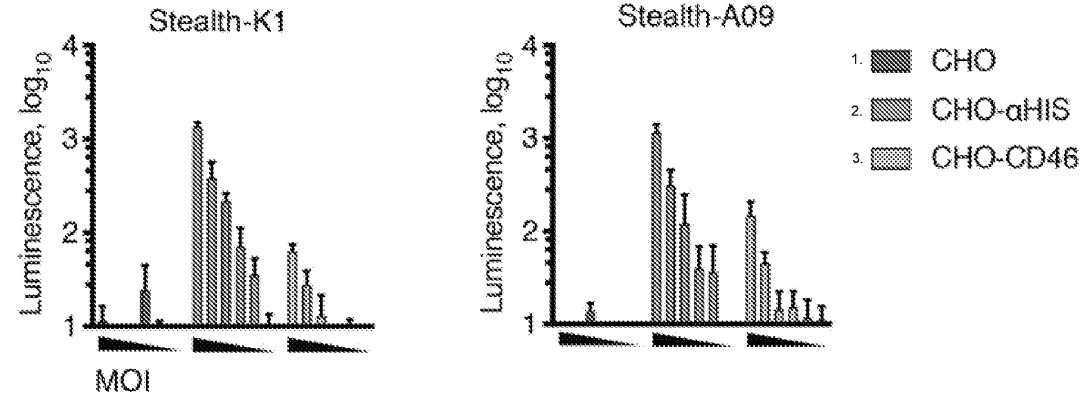


Figure 27

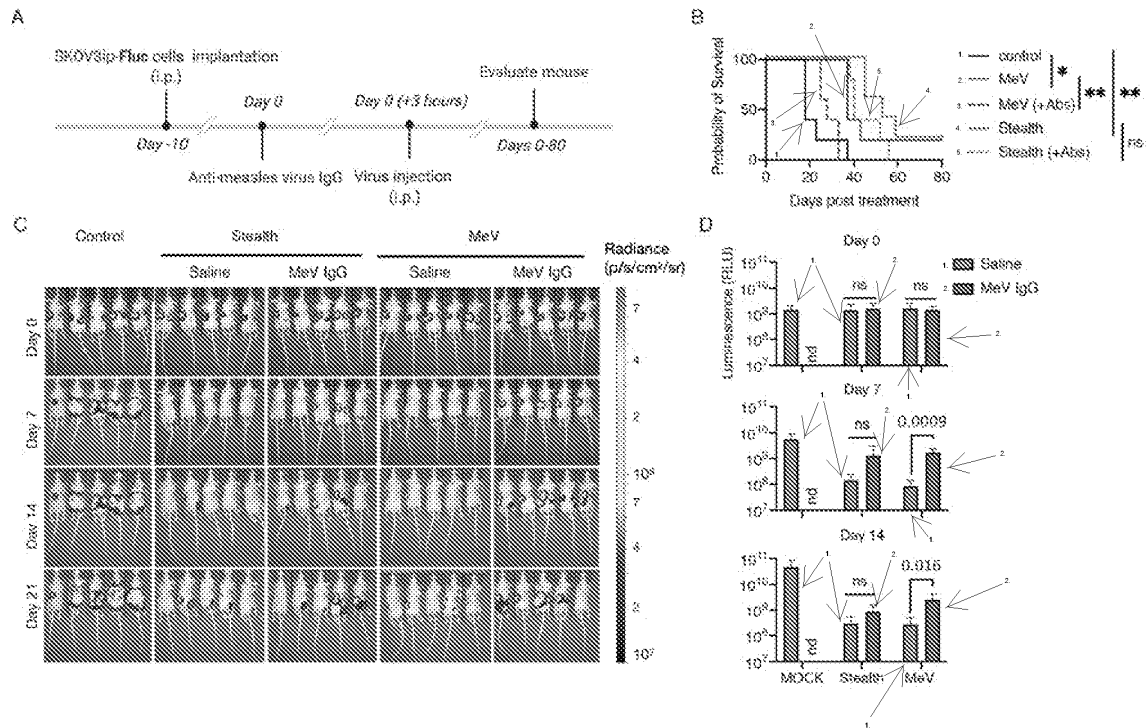


Figure 28

