

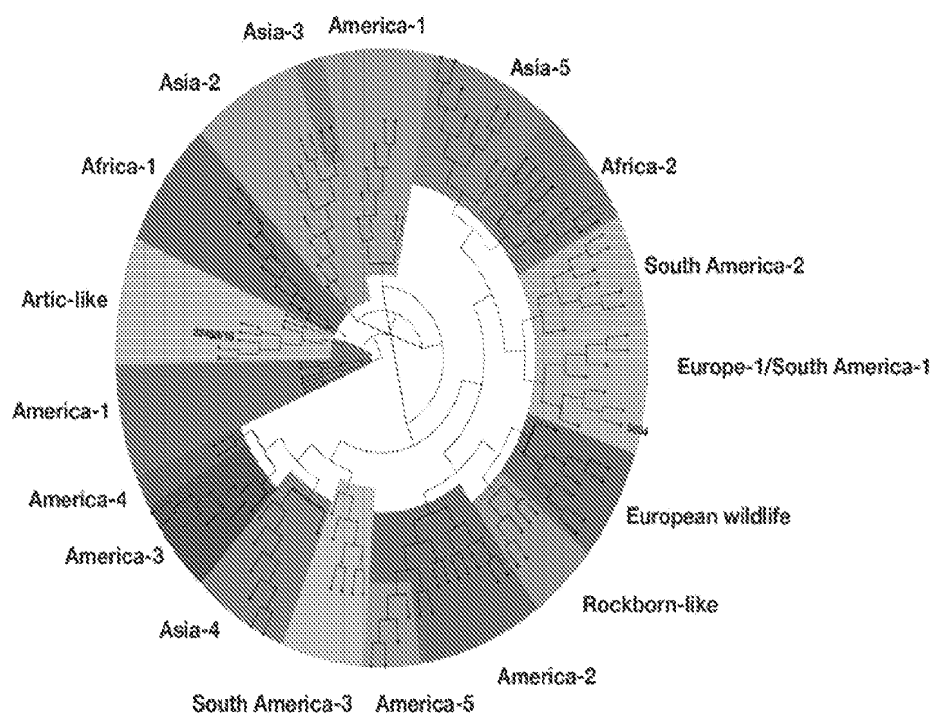


FIG. 1

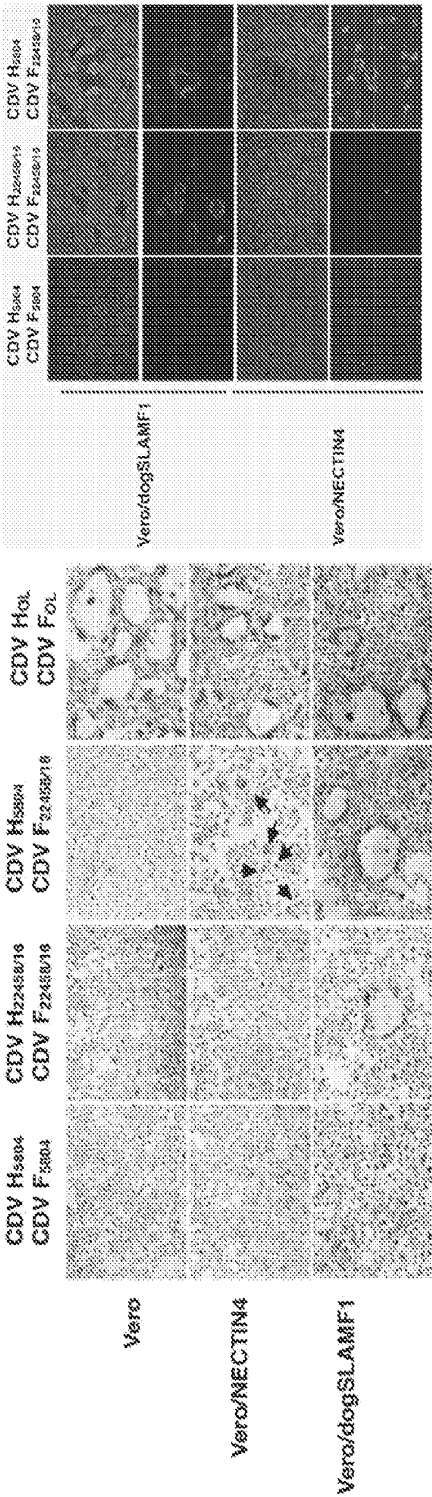


FIG. 2B

FIG. 2A



FIG. 2C

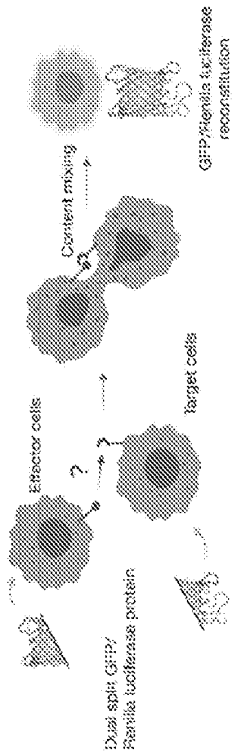


FIG. 2E

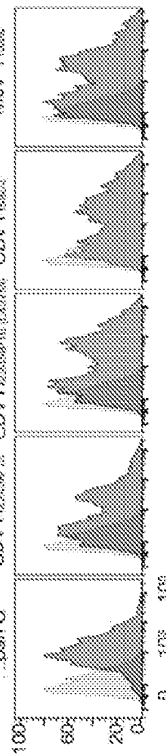


FIG. 2D

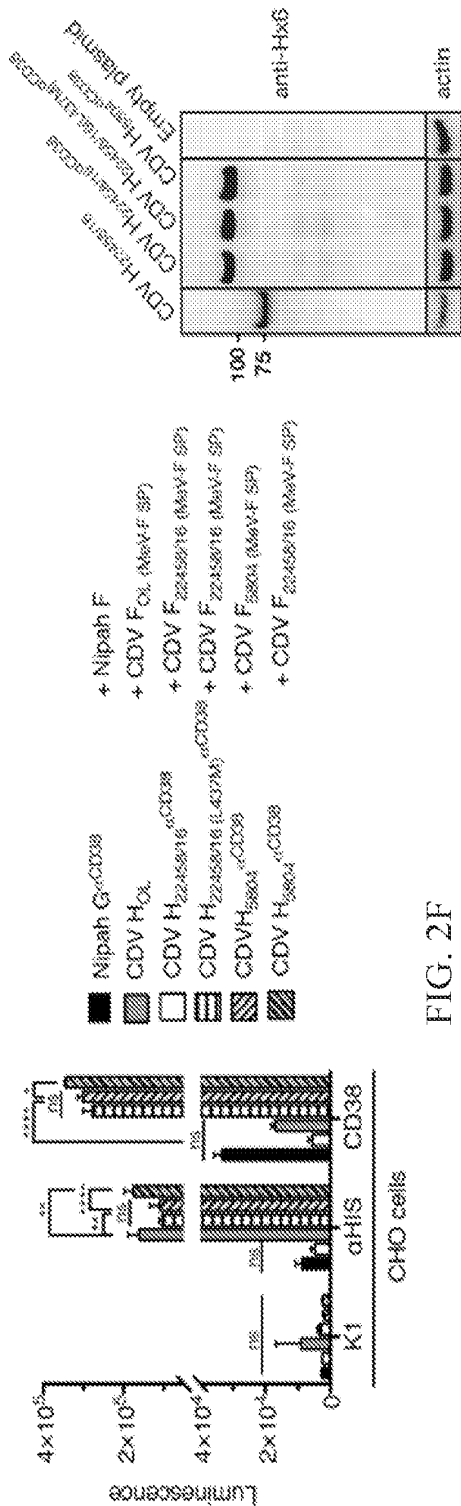


FIG. 2F

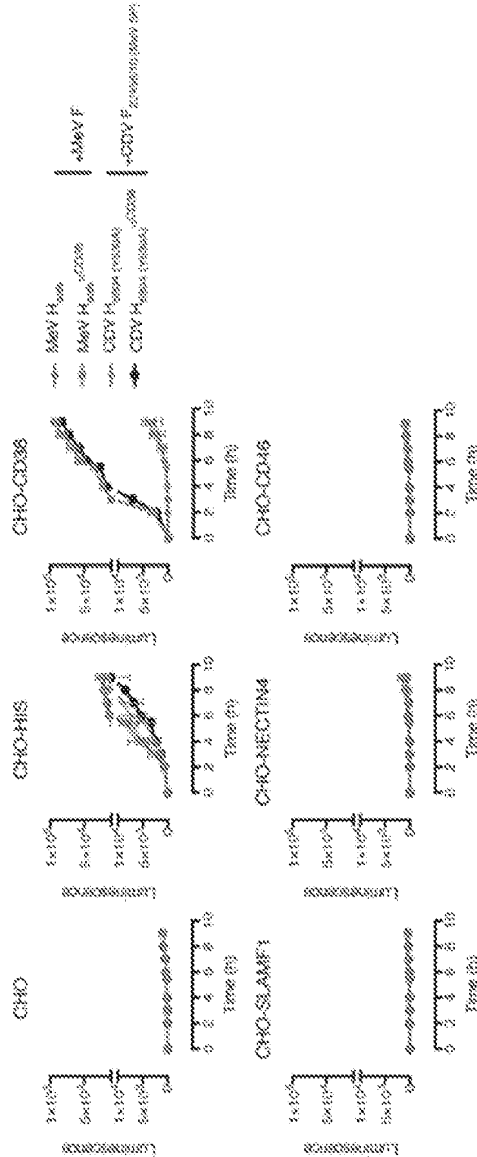
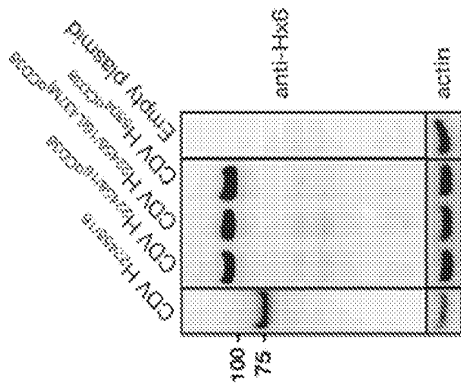


FIG. 2H

FIG. 2G



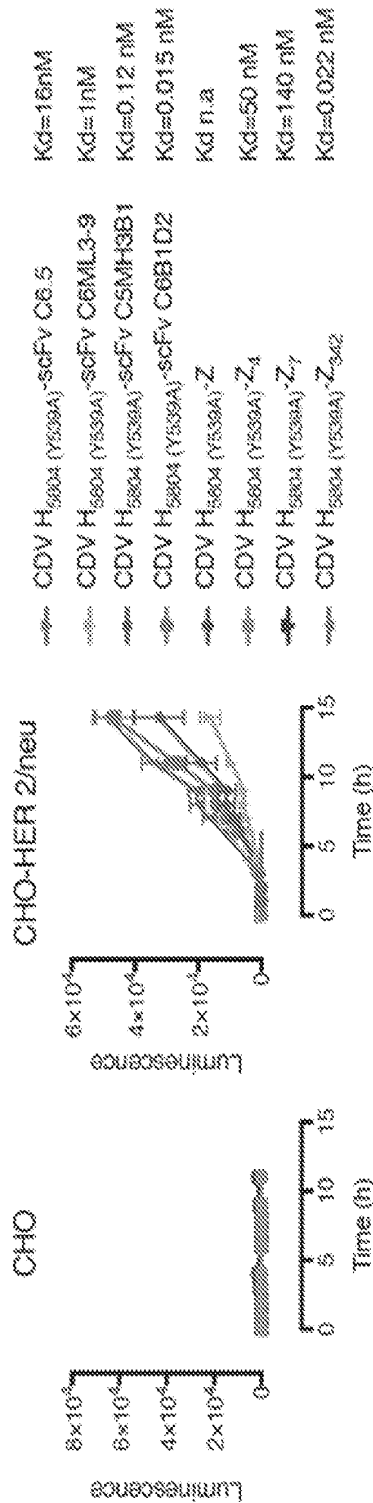


FIG. 2I

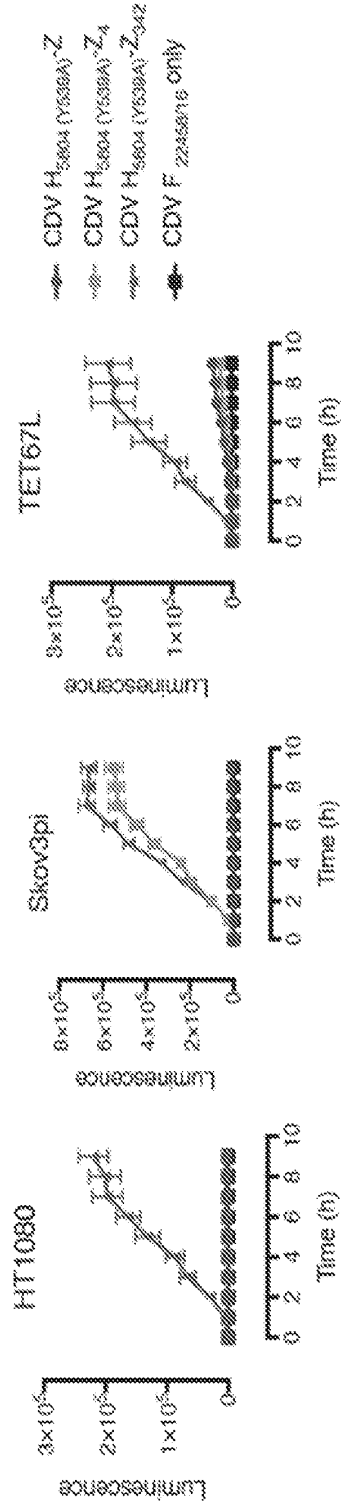


FIG. 2J

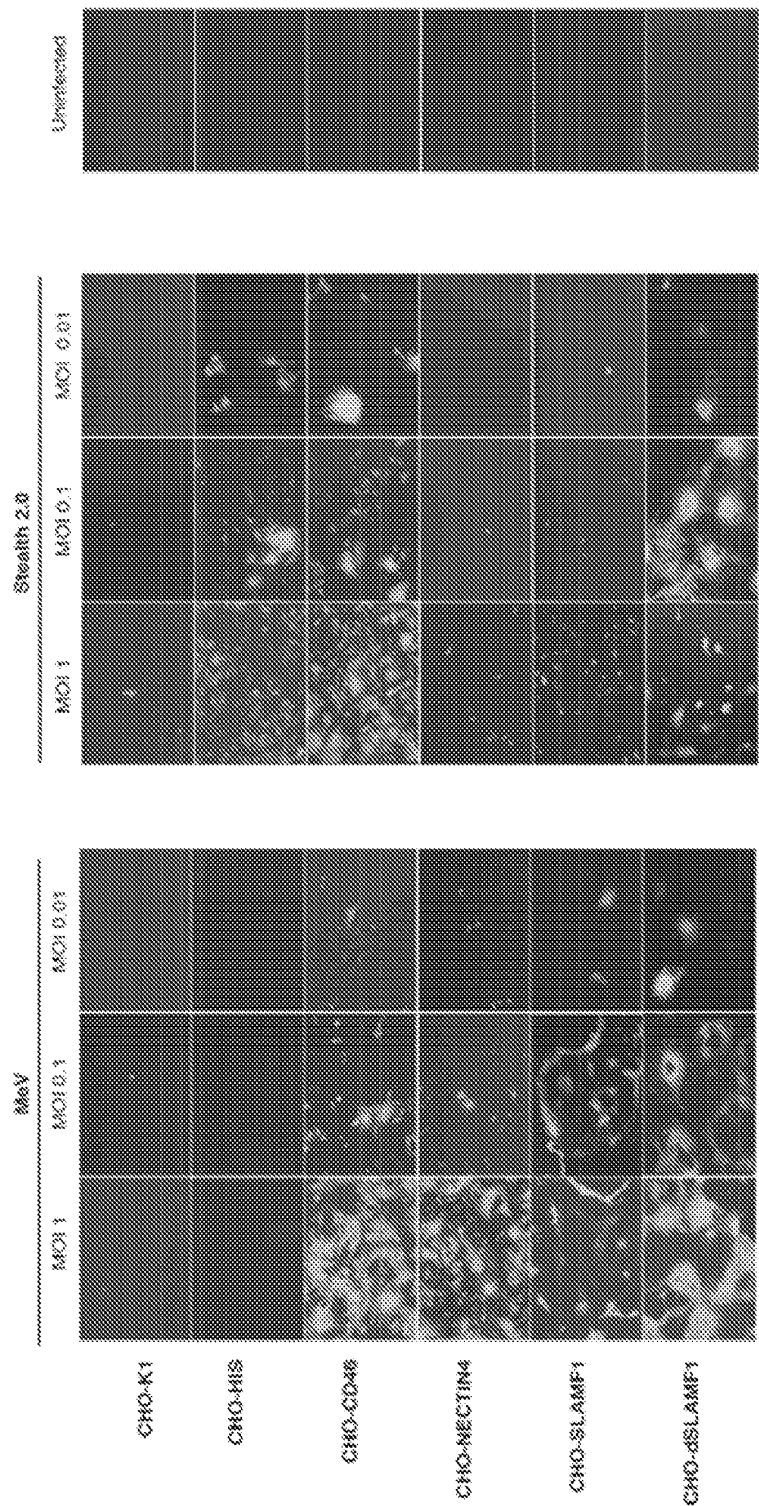


FIG. 3F

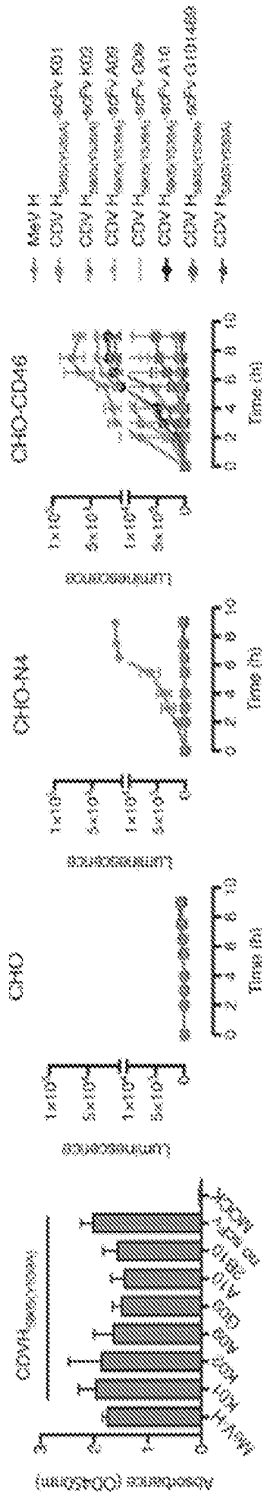


FIG. 3A

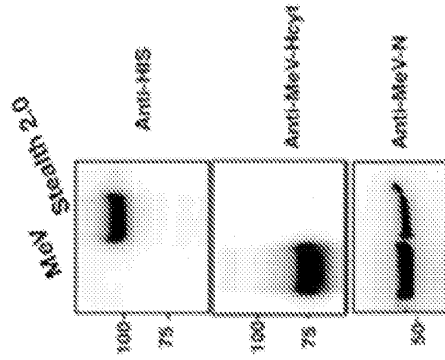


FIG. 3C

FIG. 3B

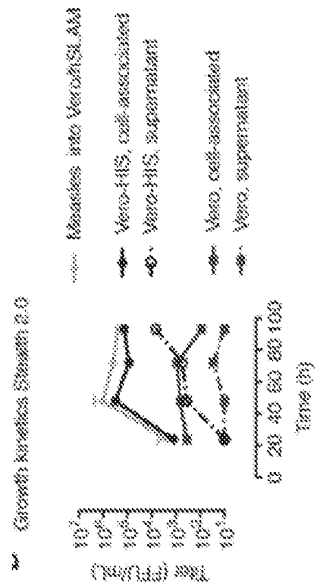


FIG. 3D

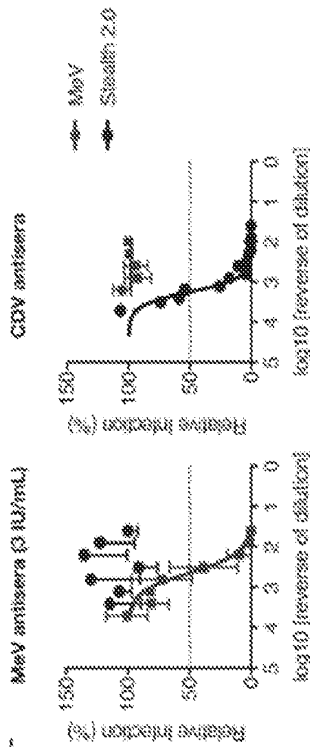


FIG. 3E

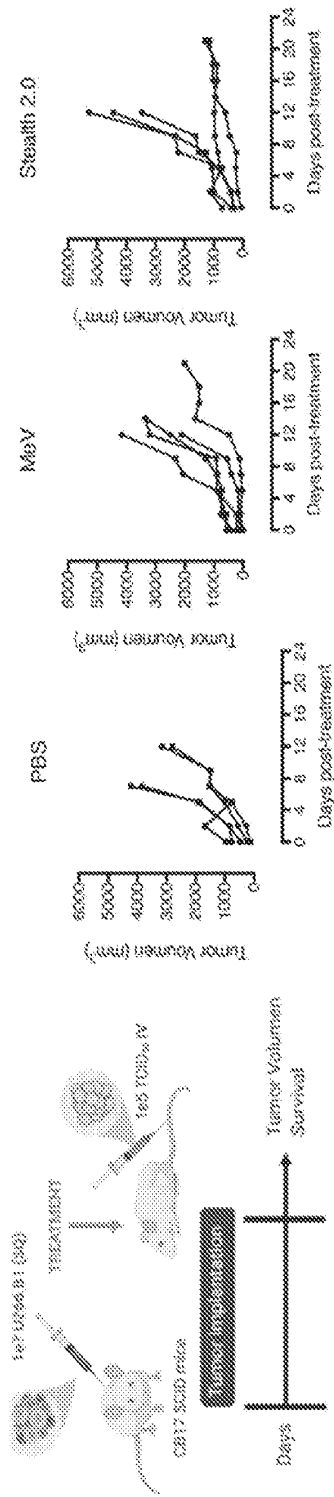


FIG. 4B

FIG. 4A

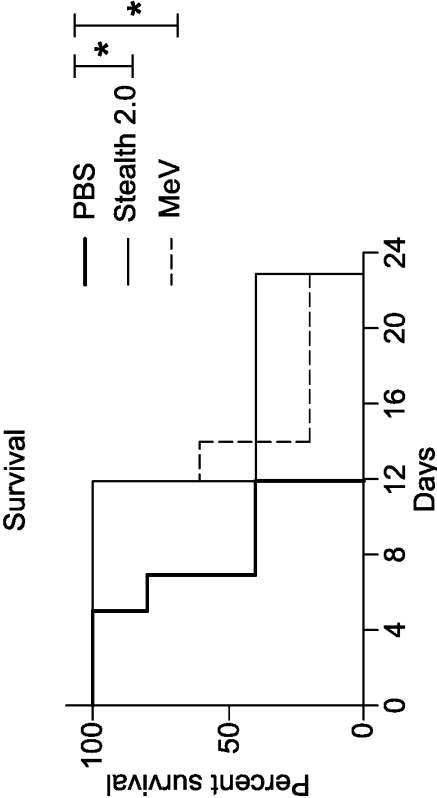


FIG. 4C

Virus	Construct						Titer
VSV-IFNβ-NIS	N	P	M	IFNβ	G	NIS	1.7e10 TCID50/mL (clinical stock)
VSV-CDV-FH-GFP	N	P	M	CDV-F	CDV-H	GFP	1.9e6 TCID50/mL
VSV-CDV-FHαα-αEGFR-GFP	N	P	M	CDV-F	CDV-Hαα	αEGFR	1.0e7 TCID50/mL
VSV-CDV-FHαα-αCD38-GFP	N	P	M	CDV-F	CDV-Hαα	αCD38	1.0e6 TCID50/mL

FIG. 5

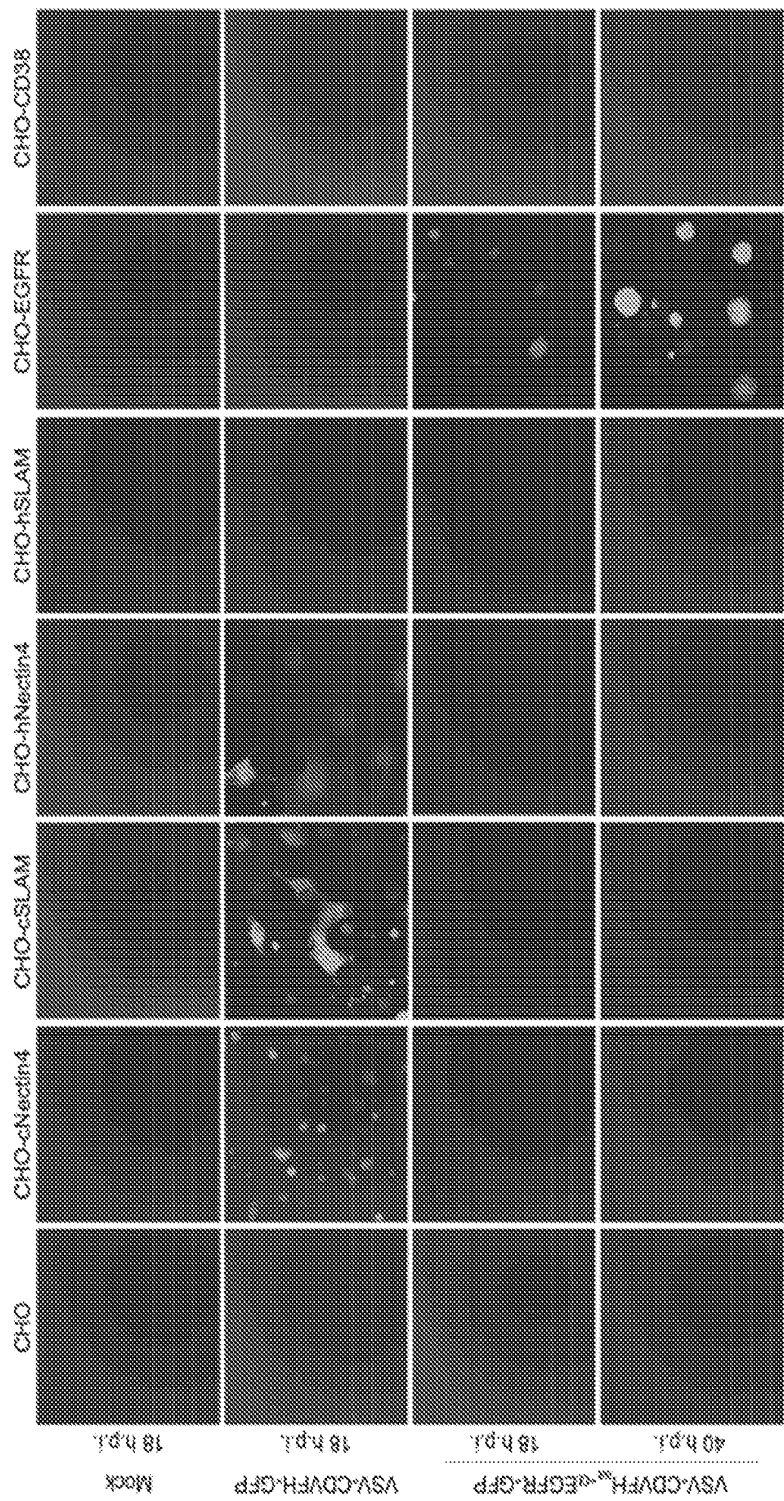


FIG. 6

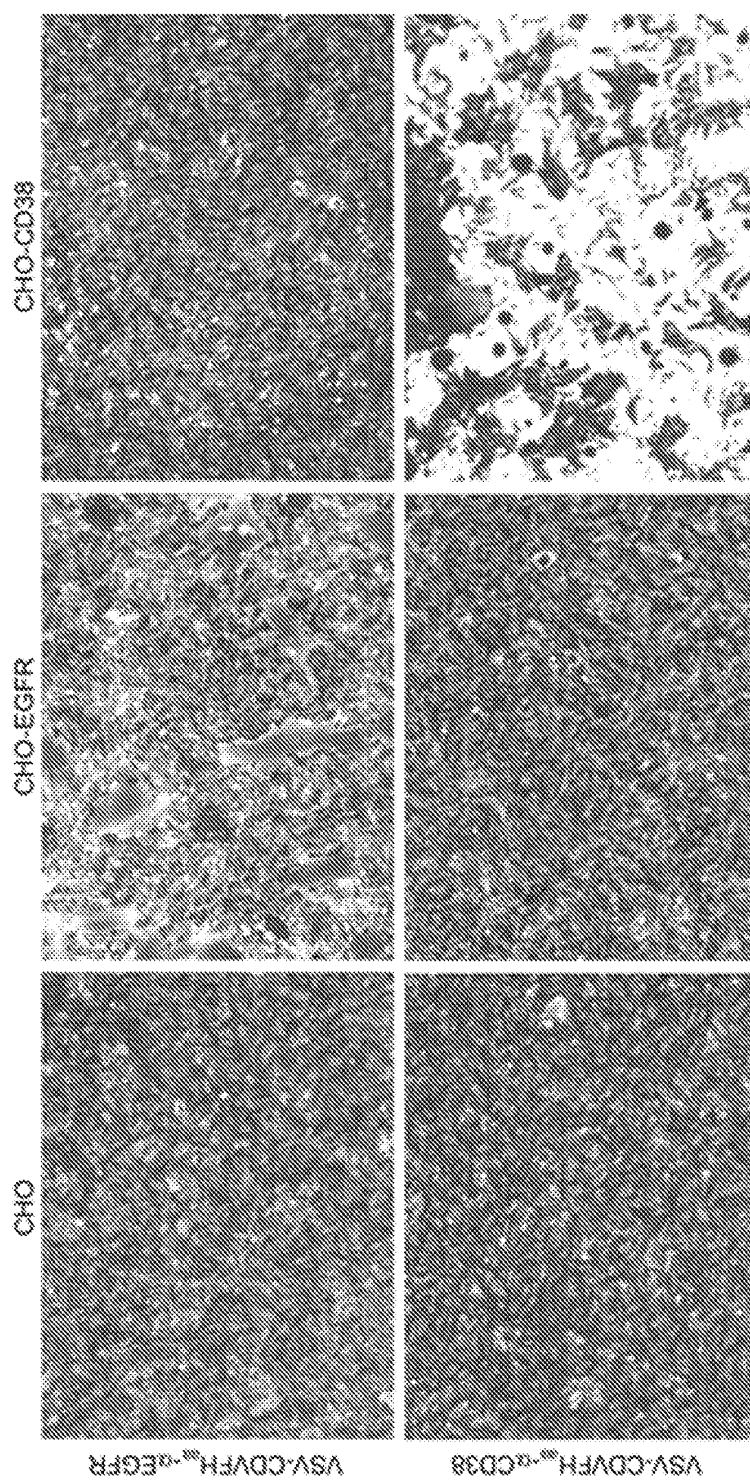
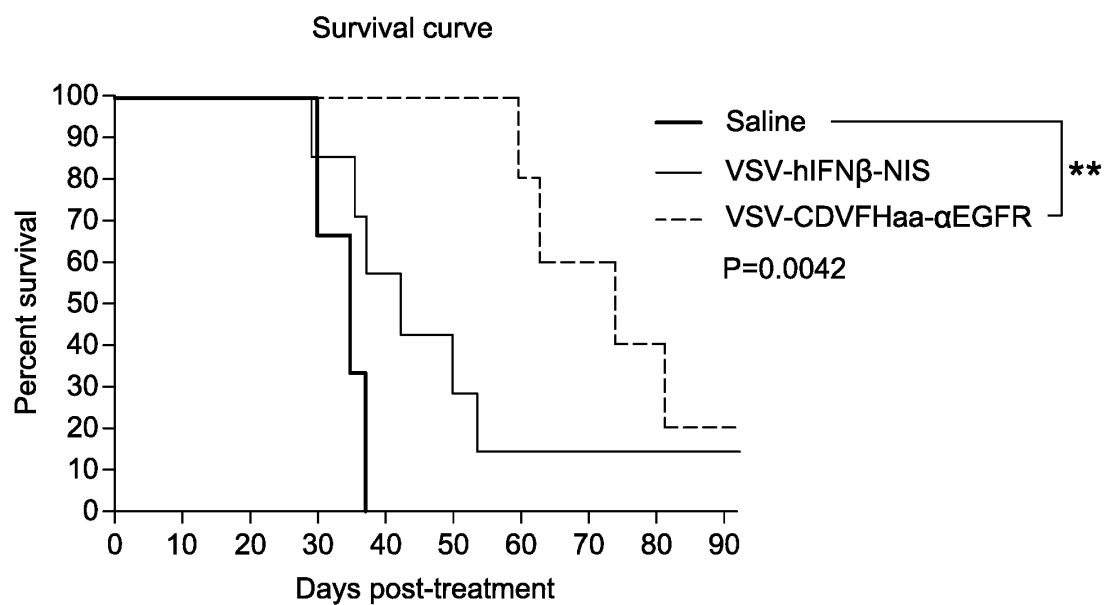


FIG. 7



Treatment	Dose TCID ₅₀ /ms	#animals/gr	Median survival
Saline	-	3	35
VSV-hIFNb-NIS	1e7	7	42
VSV-CDVFHaa-IEGS-aEGFR-dG	1e7	5	74

FIG. 8

FIG. 9

ATGCTCTCCTACCAAGACAAGGTGGGTGCCTTCTACAAGGATAATGCAAGAGCTAAT
TTGTCCAAGCTGTCCTTAGTGACAGAAGAGCAAGGGGGCAGGAGACCACCCTATTT
GCTGTTTGTCTTCTCATCCTACTGGTTGGAATCCTGGCCTTGCTTGCTATCACTGGA
GTTTCGATTTACCAAGGTATCAATTAGCAATATGGAATTTAGCAGATTGTTGAAAGAG
GATATGGAGAAGTCAGATGCCGTACATCACCAAGTCATAGATGTCTTGACACCGCTC
TTCAAAATTATTGGAGATGAGATTGGGTACGGTTGCCACAAAACTAAACGAGAT
CAAACAATTTATCCTTCAAAAGACTAACTTCTTCAATCCGAACAGGGAATTCGACTT
CCGCGATCTCCACTGGTGCATTAATCCGCCTAGTAAGATCAAAGTGAATTTTACTAG
TACTGTGATAACAATTGGGATCAGAAAATCCATTGCATTGGCAGCAAAATCCCATCCT
TTTTTCAGCACTCTCCGGAGGCAGAGGTGACATATTCCCACCATAACAGATGCAGTGG
AGCTACTACTTCAGTTGGCAAATCTTTCCCCCTATCAGTATCATTATCCATGTCTTTG
ATCTCAAGAACATCAGAGATAATCAATATGCTGACCTCTATCTCAGACGGAGTGTAT
GGTAAACTTATTGTAGTGCCTGATTATATTGAAGGGGAGTTCGACACGCAAAAG
ATTCGAGTCTTTGAGATAGGGTTCATCAAAAGGTGGCTGAATGACATGCCATTATTC
CAGACAACCAACTATATGATCCTCCCGGAGAATTCTAAAACCAAAGTATGTACTATA
GCAGTGGGCGAGTTGACACTGGCTTCCTTGTGTGTAGATGAGAGCACTGTATTATTA
TATCATGACAGCAATGATTCACAAGATGGTATTCTAGTAGTGACGCTGGGAATCTTT
GGGGCAACACCTATGGATCAAGTCGAAGAGGTGATACCTGTGCTCACCCATCAGT
AGAAAAAATACATATAACAAATCACCGTGGTTTCATAAAAGATTTCGGTAGCAACCT
GGATGGTGCCTGCATTGGTCTCTGAGAACCTAGAGGAACAAAAAATTGTCTGGAG
TCGGCTTGTCAAAGAAAATCCTACCTATGTGCAACCAAACATCATGGGAACCCCTT
GGAGGAGGACAGTTGCCATCTTATGGGCGGTTGACGTTACATCTAGATGCAAGCACT
GACCGTCAACTTAACATATCATTTACGTACGGTCCGGTTATACTGAATGGAAATGGT
ATGGATTATTATGAAAGCCCACTTTTGGACTCCGGATGGCTTACCATTCTCCTAAG
AATGGAACAATTCTTGGATTGATAAAACAAAGCAAGTAGAGGAGACCAGTTCAGTGT
GATCCCTCATGTGTTGTCATTTGCGCCCAGGGAATCAAGTGGAAACTGTTATTTACC
TATTCAAACATCCCAGATTATGGATAAAGATGTCCTTACTGAGTCTAATTTAGTTGT
GTTGCCTACACAGAATTTTAGATATGTCATAGCAACATATGATATATCCCGAAACGA
TCATGCGATTGTTTATTATGTTTATGACCCAATCCGGACGATTTCTTATACGTACCCA
TTTAGACTAACTACCAAGGGTAGATCTGATTTCCCTAAGGATTGAATGTTTTGTGTGG
GATGACGACCTGTGGTGTACCAATTTTACAGGTTTCGAGGCTGACATCACCAACTCT
ACAACCAGTGTGAGAATTTAGTCCGTATAAGATTCTCCTGTAACCGTTCAAAACCT
TGA (SEQ ID NO:1)

FIG. 9 (con't)

MLSYQDKVGAFYKDNARANLSKLSLVTEEQGRRPPYLLFVLLILLVGILALLAITGVRF
HQVSISNMEFSRLLKEDMEKSDAVHHQVIDVLTPLFKIIGDEIGLRLPQKLNEIKQFILQK
TNFFNPNNREFDFRDLHWCINPPSKIKVNFTSYCDTIGIRKSIALAANPILFSALSGGRGDIFP
PYRCSGATTSVGKSFPLSVSLSMSLISRTSEIHMLTSISDGVYGKTYLLVPDYIEGEFDTQ
KIRVFEIGFIKRWLNDMPLFQTTNYMILPENSKTKVCTIAVGELTLASLCVDESTVLLYH
DSNDSQDGILVVTLGIFGATPMDQVEEVIPVAHPSVEKIHITNHRGFIKDSVATWMVPAL
VSENLEEQKNCLESACQRKSYPMCQNQTSWEPFGGGQLPSYGRLTLHLDASTDRQLNISF
TYGPVILNGNGMDYYESPLLD SGWLTIPPKNGTILGLINKASRGDQFTVIPHVLSFAPRES
SGNCYLP IQTSQIMDKDVLTESNLVVLPTQNFRYVIATYDISRNDHAIVYYVYDPIRTISY
TYPFRLTTKGRSDFLRIECFVWDDDLWCHQFYRFEADITNSTTSVENLVRIRFSCNRSKP
(SEQ ID NO:2)

FIG. 10

ATGCACAAGGAAATCCCCGAAAAATCCAGAACCCGAACACACACCCCAACAAGACCT
CCCCCAACAAAAAAGCACCGAATACACCGAGATCAAGACCTCCCGAGCACGACACG
GCATAACGCCAGCTCAGCGATCCACGCACTATGGTCCTCGAACATTGGACAGGCTC
GTCTGCTACATTATGAACAGAGCCATGTCTTGCAAGCAAGCCAGCTACAGATCGGAT
AACATCCCAGCTCACGGAGACCACGAGGGTGTGTCCATCACACACCAGAGAGTGT
CTCCCAAGGAGCGAGATCCCAGCTCAAGAGGCGGACTTCCAATGCAATCAACTCAG
GATTTCAGTACATCTGGTTAGTCCTGTGGTGCATCGGAATAGCCAGTCTCTTCTTTG
TTCTAAGGCTCAGATACATTGGAATAATTTATCAACTATTGGGATCATCGGGACTGA
CAGTGTCCATTATAAGATCATGACTAGGCCAGCCACCAGTACTTGGTCATAAACT
AATGCCTAATGTTTCACTCATAGATAATTGTACCAAAGCAGAATTAGGTGAGTATGA
GAAATTATTAAATTCAGTCCTCGAACCAATCAACCAAGCTTTGACTCTAATGACCAA
GAATGTGAAGCCTCTACAGTCAGTAGGGTCAGGTAGGAGACAGAGGCGTTTTGTCAG
GAGTGGTGTCTGCAGGTGCAGCTTTAGGAGTGGCCACTGCTGCACAAATCACTGCAG
GGATAGCTTTACATCAATCCAACCTCAATGCTCAAGCAATCCAATCTCTGAGAACTA
GCCTTGAACAGTCCAACAAGGCTATAGAAGAAATTAGGGAGGCAACCCAGGAAACC
GTCATTGCCGTTCAAGGAGTCCAGGATTACGTCAATAATGAACTCGTCCCTGCTATA
CAACATATGTCGTGTGAATTAGTTGGGCAGAGATTAGGGTTAAAATTGCTTAGGTAT
TATACCGAGTTGTTGTCAATATTTGGCCCGAGTTTACGTGATCCTATTTACGCCGAGA
TATCAATTCAAGCACTGAGTTATGCTCTTGGGGGAGAAATTCATAAGATACTTGAGA
CGTTGGGGTATTCTGGAAATGATATGATTGCAATTTTGGAGAGTCGGGGGATAAAA
ACAAGAATAACTCATGTTGATCTCCCCGGGAAATTTATCATCTTAAGTATCTCATAC
CCAACTTTATCAGAAGTCAAGGGGGTTATAGTCCACAGACTGGAAGCAGTTTCTTAT
AACATAGGGTCACAAGAGTGGTACACCACTGTCCCGAGGTATGTTGCAACTAATGG
TTACTTAATATCCAATTTTCGATGAGTCATCCTGTGTATTTCGTCTCAGAATCAGCCATT
TGTAGCCAGAACTCCCTATACCCCATGAGCCCACTTCTACAACAATGCATTAGGGGC
GACACTTCATCTTGTGCTCGGACCTTGGTGTCTGGAACCATGGGCAATAAATTTATT
CTGTCAAAAGGCAATATCATCGCAAATTGTGCTTCTATACTATGTAAGTGTTATAGC
ACAAGCACAATTATCAATCAGAGTCCTGATAAGTTGCTGACCTTIATTGCCTCCGAT
ACATGCCCCTAGTTGAAATAGATGGTGTAAACCATCCAGGTTGGAGGCAGGCAATA
CCCTGATATGGTATACGAAAGCAAAGTTGCCCTAGGCCCTGCTATATCACTTGAGAG
GCTAGATGTAGGTACAAATTTAGGGAACGCCCTTAAGAACTGGATGATGCTAAGG
TACTGATAGACTCATCTAATCAGATCCTTGAGACGGTTAGGCGCTCTTCTTTAATTT
TGGCAGTCTCCTCAGCGTTCCTATATTAAGCTGTGCAGCCCTGGCTTTGTTATTGCTG
ATTTACTGCTGTAAAAGACGCTATCAACAGACACTCAAGCGGAATACTAAGGTCTGA
TCCGACATTTAAACCTGATCTGACTGGGACTTCTAAATCCTATGTAAGATCACTCTG
A (SEQ ID NO:3)

FIG. 10 (con't)

MHKEIPEKSRTRTHTQQDLPQQKSTEYTEIKTSRARHGITPAQRSTHYGPRTLDR LVCYI
MNRAMSCKQASYRSDNIPAHGDHEGVVHHTPESVSQGARSQ LKRRTSNAINSGFQYIW
LVLWCIGIASLFLCSKAQIHWNNLSTIGHIGTDSVHYKIMTRPSHQYLVIKLMPNVSLIDN
CTKAELGEYEKLLNSVLEPINQALTLMTKNVKPLQSVGSGRRQRRFAGVVLAGAALGV
ATAAQITAGIALHQSNLNAQAIQSLRTSLEQSNKAIEEIREATQETVIAVQGVQDYVNNE
LVPAIQHMSCELVGQRLGLKLLRYYTELLSIFGPSLRDPISAEISIQALS YALGGEIHKILET
LGYSGNDMIAILES RGIKTRITHVDLP GKFIILSISYPTLSEVKGVIVHRLEAVSYNIGSQE
WYTTVP RYVATNGYLISNFDDESSCVFVSESAICSQNSLYPMSPLLQQCIRGDTSSCARTL
VSGTMGNKFILSKGNIIANCASILCKCYSTSTIINQSPDKLLTFIASDTCPLVEIDGVTIQVG
GRQYPDMVYESKVALGPAISLERLDVGTNLGNALKKLDDAKVLIDSSNQILETVRRSSF
NFGSLLSVPILSCAALALLLIYCCKRRYQQTLKRNTKVDPTFKPDLTGTSKSYVRSL
(SEQ ID NO:4)

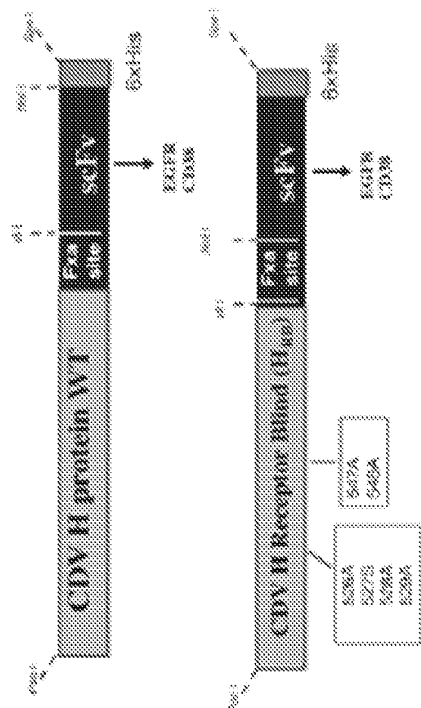


FIG. 11A

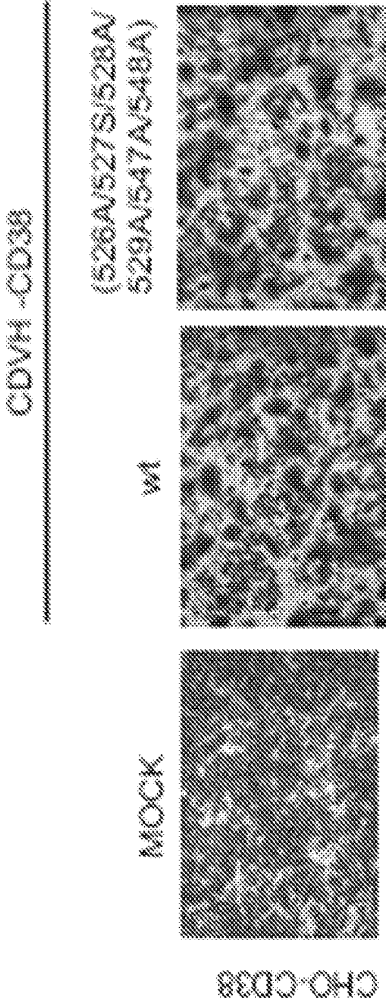


FIG. 11B

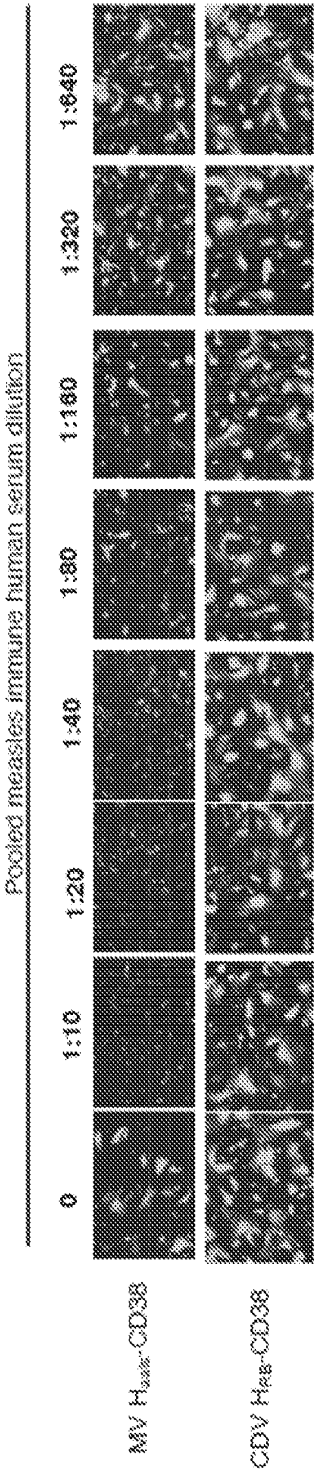


FIG. 11C

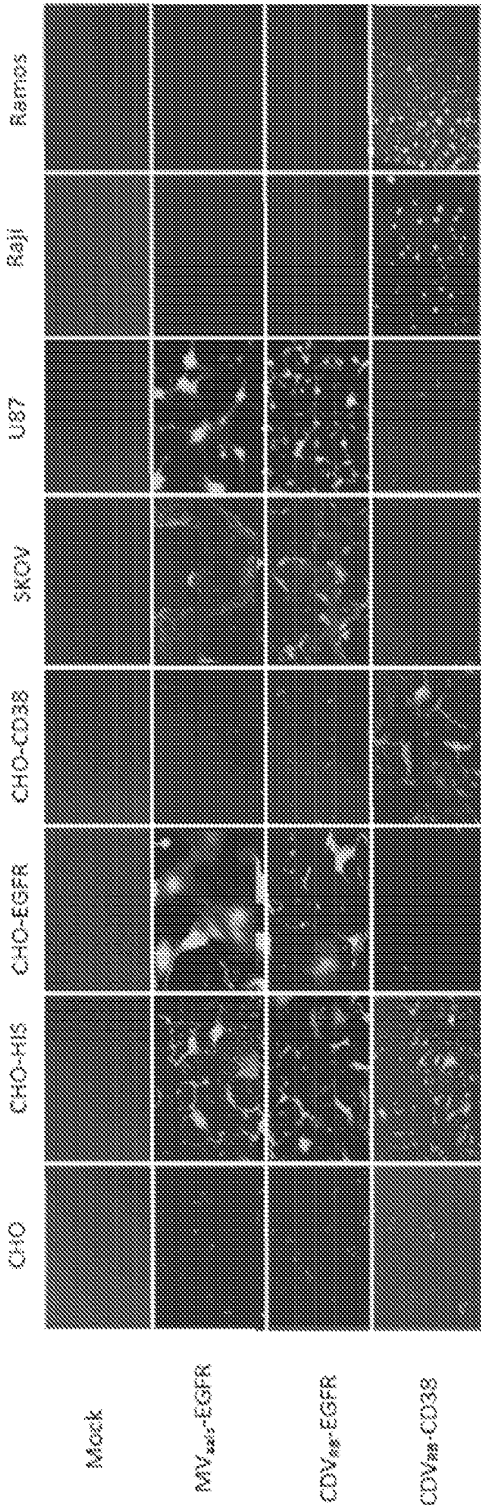


FIG. 11D

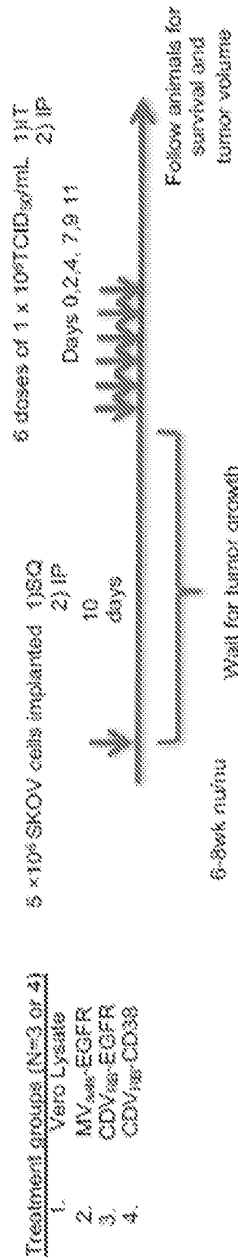
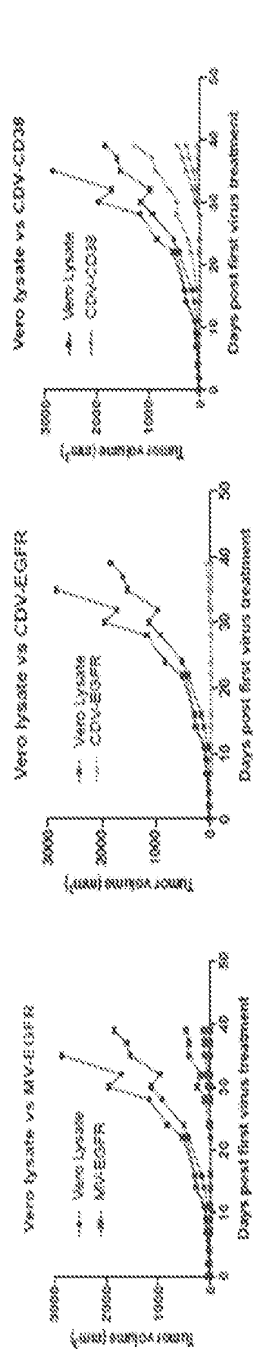


FIG. 1IE



2) ip implantation+ip treatment

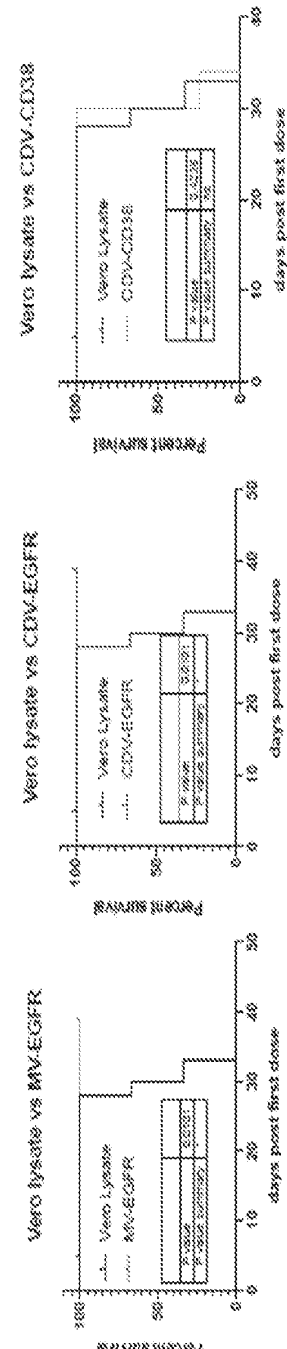


FIG. 1IF

AF378705.1_America1
Z35493.1_America1
DQ29552.1_America1
DQ903954.1_America1
AF548109.1_America1
HM045486.1_America1
AY542312.2_America1
AF112189.1_America2
Z47764.1_America2
Z47765.1_America2
Z47763.1_America2
Z54166.1_America2
Z54156.1_America2
KKT266736.1_America3
AF964110.1_America3
MF953474.1_America3
MF953470.1_America3
JN836734.1_America3
JN953472.1_America3
KJ747371.1_America4
JF283477.1_America5
Z54156.1_America5
MK473365.1_America5
MK473365.1_America5
MK487379.1_America5
AF164967.1_A75/17
Z47764.1
KKX027409.1_ArticleLike
Z47760.1_ArticleLike
KKC96928.1_ArticleLike
AF172411.1_ArticleLike
AF964108.1_ArticleLike
DQ226087.1_ArticleLike
MH430949.1_ArticleLike
22458.16
GU266280.1_Rockbornil
FJ461702.1_Rockbornil
AF964114.1_Rockbornil
GU810819.1_Rockbornil
Z47759.1_EuropeanWill
GGQ214374.2_EuropeanWill

SUBSTITUTE SHEET (RULE 26)

FIG. 12 (cont.)

JN153023.1_EuropeanWildlife	S.....S.....Q.....F.....V.....M.....
DQ889187.1_EuropeanWildlife	S.....S.....I.....M.....A.....
FJ392651.1_EuropeanWildlife	S.....Q.....MT.....
DQ889188.1_EuropeanWildlife	S.....I.....M.....A.....
JN153020.1_EuropeanWildlife	S.....Q.....F.....V.....M.....
AY386316.1_5804P	S.....Q.....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.....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.....M.....
KF835411.1_SA3	SR.....Q.....I.....M.....
FJ461693.1_Africa1	S.....Q.....V.....
FJ461704.1_Africa1	S.....Q.....V.....
FJ461722.1_Africa1	S.....Q.....V.....
FJ461716.1_Africa1	S.....Q.....V.....
KY971528.1_Africa1	S.....Q.....V.....N.....
FJ461719.1_Africa1	S.....Q.....V.....
FJ461696.1_Africa1	S.....Q.....V.....

FIG. 12 (cont.)

KY971532.1_Africa1	S	Q	I	V	
JN812976.1_Africa2	S	M	R	D	
KU578254.1_Africa2	S	M	Q	D	
KC916716.1_Africa2	S	M	R	D	
KU578256.1_Africa2	S	M	R	D	
KU578255.1_Africa2	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		
D85755.1_Asia1	S	Q	I		
AB687720.2_Asia1	S	F	I		
EU564813.1_Asia1	S	Q	I	N	
JQ732176.1_Asia1	S	Q	I		
EU296484.1_Asia1	S	Q	I		
KJ994343.1_Asia1	S	Q	I	T	
MH337872.1_Asia1	S	Q	I	T	
EU716073.1_Asia2	S	Q	A	R	V
AB475099.1_Asia2	S	Q	A	R	V
FJ868161.1_Asia2	S	Q	A	R	V
JQ732170.1_Asia2	S	Q	A	R	V
AY297453.1_Asia2	S	Q	A	R	V
AB025270.1_Asia2	S	Q	A	R	V
AB212730.1_Asia2	S	Q	A	R	V
EU743934.1_Asia3	M	QRS	A	R	V
EU743935.1_Asia3	M	QRS	A	R	V
AY297454.1	S	Q	A	R	V
KJ489381.1_Asia4	S	P	M		
KJ437596.1_Asia4	K	Q	M		
MH496773.1_Asia4	S	Q	M		
MH496772.1_Asia4	S	Q	M		
MH496777.1_Asia4	S	Q	M		
MH496778.1_Asia4	S	Q	M		
MH496774.1_Asia4	S	Q	M		
MF964178.1_Asia5	S	Q			
MF964179.1_Asia5	S	Q			
MF964182.1_Asia5	V	Q			
MF964183.1_Asia5	T	Q			
MF964180.1_Asia5	S	Q	I		

FIG. 12 (cont.)

MF964187.1_Asia5	S.....Q.....
MF964181.1_Asia5	S.....Q.....
MF964185.1_Asia5	S.....Q.R.....
MF964186.1_Asia5	S.....Q.....

FIG. 12 (cont.)

Z47759.1_EuropeanWildlife	.....	.....	.....	I.....DT...
GQ214374.2_EuropeanWildlife	.....	.....	.....	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	.....	.....	.....	I.....S...DT...
JN153020.1_EuropeanWildlife	D...Y..R.....	.....	K.....	I.....S...DT...
AY386316.1_5804P	.....	.....	V...Q.....	I.....S...DT...
AY386315.1_Europe1_SA1	.....	.....	V.....	I.....S...DT...
JN153024.1_Europesa1	.....	.....	V.....	I.....S...DT...
FJ416338.1_Europesa1	.....	.....	V.....	I.....S...DT...
GU001863.1_Europesa1	.....	.....	V.....	I.....S...DT...
HM120874.1_Europesa1	.....	.....	V.....	I.....S...DT...
X85000.1_Europesa1	.....	.....	V.....	I.....S...DT...
KJ865300.1_SA2	.....	.....	V.....	I.....S...DT...
FJ392652.1_SA2	.....	.....	V.....	I.....S...DT...
JN215477.1_SA2	.....	.....	V.....	I.....S...DT...
JN215473.1_SA2	.....	.....	V.....	I.....S...DT...
EU098102.1_SA2	.....	.....	V.....	I.....S...DT...
MH362795.1_SA2	.....	.....	V.....	I.....S...DT...
JN215476.1_SA2	.....	.....	V.....	I.....S...DT...
KF835412.1_SA3	.....	.....	V.....	I.....S...DT...
KF835425.1_SA3	.....	.....	V.....	I.....S...DT...
KF835414.1_SA3	.....	.....	V.....	I.....S...DT...
KF835413.1_SA3	.....	.....	V.....	I.....S...DT...
KF835422.1_SA3	.....	.....	V.....	I.....S...DT...
KF835411.1_SA3	.....	.....	V.....	I.....S...DT...
FJ461693.1_Africa1	.....	.....	V.....	I.....S...DT...
FJ461704.1_Africa1	.....	.....	V.....	I.....S...DT...
FJ461722.1_Africa1	.....	.....	V.....	I.....S...DT...
FJ461716.1_Africa1	.....	.....	V.....	I.....S...DT...
KY971528.1_Africa1	.....	.....	V.....	I.....S...DT...
FJ461719.1_Africa1	.....	.....	V.....	I.....S...DT...
FJ461696.1_Africa1	.....	.....	V.....	I.....S...DT...
KY971532.1_Africa1	.....	.....	V.....	I.....S...DT...
JN812976.1_Africa2	.....	.....	V.....	I.....S...DT...
KU578254.1_Africa2	.....	.....	V.....	I.....S...DT...
KC916716.1_Africa2	.....	.....	V.....	I.....S...DT...
KU578256.1_Africa2	.....	.....	V.....	I.....S...DT...
KU578255.1_Africa2	.....	.....	V.....	I.....S...DT...
KU578253.1_Africa2	.....	.....	V.....	I.....S...DT...
KU578254.1_Africa2	.....	.....	V.....	I.....S...DT...

FIG. 12 (cont.)

KC916714.1_Africaa2	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	I.....DTV.VK
AB475099.1_Asia2	I.....DT..V.
FJ868161.1_Asia2	I.....DTV.VK
JQ732170.1_Asia2	I.....DT...
AY297453.1_Asia2	I.....DA..V.
AB025270.1_Asia2	I.....DA..V.
AB212730.1_Asia2	I.....DA..V.
EU743934.1_Asia3	I.....DA..V.
EU743935.1_Asia3	NF.....DA..V.
AY297454.1	NF.....DA..V.
KJ489381.1_Asia4	I.....DT...
KJ437596.1_Asia4	I.....DT...
MH496773.1_Asia4	I.....DT...
MH496772.1_Asia4	IR.....DT...
MH496777.1_Asia4	I.....DT...
MH496778.1_Asia4	I.....DT...
MH496774.1_Asia4	I.....DT...
MF964178.1_Asia5	V.....DI...K
MF964179.1_Asia5	V.....DI...K
MF964182.1_Asia5	V.....DI...K
MF964183.1_Asia5	V.....DI...K
MF964180.1_Asia5	H.....DI...K
MF964187.1_Asia5	V.....DI...K
MF964181.1_Asia5	V.....DI...K
MF964185.1_Asia5	I.....DM...K
MF964186.1_Asia5	I.....DI...K

SUBSTITUTE SHEET (RULE 26)

[illegible]

JN812976.1_Africa2
KU578254.1_Africa2
KC916716.1_Africa2
KU578256.1_Africa2
KU578255.1_Africa2
KU578253.1_Africa2
KU578254.1_Africa2
KC916714.1_Africa2
AB025271.2_Asia1
D85755.1_Asia1
AB687720.2_Asia1
EU564813.1_Asia1
JQ732176.1_Asia1
EU296484.1_Asia1
KJ2994343.1_Asia1
MH337872.1_Asia1
EU176073.1_Asia2
AB475099.1_Asia2
FJ868161.1_Asia2
JQ732170.1_Asia2
AY297453.1_Asia2
AB025270.1_Asia2
AB212730.1_Asia2
EU743934.1_Asia3
EU743935.1_Asia3
AY297454.1_Asia3
KJ489381.1_Asia4
KJ7437596.1_Asia4
MH496773.1_Asia4
MH496772.1_Asia4
MH496777.1_Asia4
MH496778.1_Asia4
MH496774.1_Asia4
MF964178.1_Asia5
MF964179.1_Asia5
MF964182.1_Asia5
MF964183.1_Asia5
MF964180.1_Asia5
MF964187.1_Asia5
MF964181.1_Asia5
MF964185.1_Asia5
MF964186.1_Asia5

[illegible]

AF378705.1_America1
Z235493.1_America1
AF259552.1_America1
OQ9303854.1_America1
AY548109.1_America1
MHM046486.1_America1
AY542312.2_America1
AF112189.1_America2
Z47764.1_America2
Z47765.1_America2
Z47763.1_America2
Z254166.1_America2
Z254156.1_America2
KKT266736.1_America3
AY964110.1_America3
MF953474.1_America3
MF953470.1_America3
JUN836734.1_America3
MF953472.1_America3
KJ747371.1_America4
KJ747372.1_America4
Z254156.1_America5
MK473366.1_America5
MK473365.1_America5
MK487379.1_America5
AF164967.1_A75/17
Z47764.1
KXX024709.1_ArticLike
Z47760.1_ArticLike
K665928.1_ArticLike
AF172411.1_ArticLike
AY964108.1_ArticLike
QZ26087.1_ArticLike
MH430949.1_ArticLike
Z2458.16
GGU266280.1_RockbornH
FJ461702.1_RockbornH
AY964114.1_RockbornH
ZU810819.1_RockbornH
Z47759.1_EuropeaNW
GQ214374.2_EuropeaNW

[illegible]

FIG. 12 (cont.)

JN153023.1_EuropeanWildlife	G....K.....N.....D.....N...G..I....
DQ889187.1_EuropeanWildlife	G....K.....S.....D.....N.....
FJ392651.1_EuropeanWildlife	G..E..K.....S.....D.....N.....
DQ889188.1_EuropeanWildlife	G....K.....D.....N.....
JN153020.1_EuropeanWildlife	G....K.....D.....N...G..I....
AY386316.1_5804P	G....K.....D.....N.....
AY386315.1_Europe1_SA1	G....K.....D.....N.....
JN153024.1_Europesa1	G....K.....F.....N.P.G.V....
FJ416338.1_Europesa1	G....K.....F.....N...G..V....
GU001863.1_Europesa1	G.V...K.....D.....ND.....
HM120874.1_Europesa1	G....K.....I.....D.....N...G..V....
X85000.1_Europesa1	G....K.....D.....N.....
KJ865300.1_SA2	G....K.....F.....M.....S...G....
FJ392652.1_SA2	G....K.....D.....S...G....
JN215477.1_SA2	G....K.....D.....I.....N.....
JN215473.1_SA2	G....K.....D.....I.....N.....
EU098102.1_SA2	G....K.....AD.....
MH362795.1_SA2	G....K.....M.....S...N.....
JN215476.1_SA2	G....K.....D.....I.....N.....
KF835412.1_SA3	G....K.....R.....D.....N...SV....
KF835425.1_SA3	G....K.....R.....D.....N...SV....
KF835414.1_SA3	G....K.....R.....D.....N...SV....
KF835413.1_SA3	G....K.....R.....D.....N...SV....
KF835422.1_SA3	G....K.....G.....D.....N...SV....
KF835411.1_SA3	G....K.....R.....D.....N...SV....
FJ461693.1_Africa1	G....K.....DD.....N.....
FJ461704.1_Africa1	G....K.....DD.....N.....
FJ461722.1_Africa1	G....K.....DD.....N...G....
FJ461716.1_Africa1	G....K.....I.....N.....
KY971528.1_Africa1	G....K.....DD.....
FJ461719.1_Africa1	G....K.....DD.....N.....
FJ461696.1_Africa1	G....K.....G.....N.....
KY971532.1_Africa1	G....K.....D.....N.....
JN812976.1_Africa2	G....K.....D.....S...N.....
KU578254.1_Africa2	G....K.....D.....S...N.....
KU578256.1_Africa2	G....K.....DK.....S...N.....
KU578255.1_Africa2	G....K.....D.....S...N.....
KU578253.1_Africa2	G....K.....A.....S...N.....
KU578254.1_Africa2	G....K.....I.....D.....S...N.....
KC916714.1_Africa2	G....K.....I.....D.....S...N.....
AB025271.2_Asia1	G...S.K.....T.....D...W....N.....

SUBSTITUTE SHEET (RULE 26)

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

SUBSTITUTE SHEET (RULE 26)

[illegible]

FIG. 12 (cont.)

AY964114.1_RockbornLike	...	G	...	QV	...	V	...	V	...	V	...	NL	...	EN	...	S
GU810819.1_RockbornLike	...	G	...	QV	...	V	...	V	...	V	...	N	...	N	...	S
Z47759.1_EuropeanWildlife	...	G	...	QV	...	V	...	V	...	V	...	N	...	N	...	S
GQ214374.2_EuropeanWildlife	...	G	...	QV	...	V	...	V	...	I	...	GE	...	N	...	L
JN153023.1_EuropeanWildlife	...	G	...	QV	...	V	...	V	...	I	...	GE	...	N	...	S
DQ889187.1_EuropeanWildlife	...	G	...	QV	...	V	...	V	...	V	...	V	...	N	...	S
FJ392651.1_EuropeanWildlife	...	G	...	QV	...	V	...	K	...	I	...	V	...	N	...	S
DQ889188.1_EuropeanWildlife	...	G	...	QV	...	V	...	V	...	V	...	V	...	N	...	S
JN153020.1_EuropeanWildlife	...	G	...	QV	...	V	...	V	...	I	...	GE	...	N	...	S
AY386316.1_5804P	...	G	...	QV	...	V	...	V	...	V	...	V	...	N	...	S
AY386315.1_Europel_SA1	...	G	...	QV	...	V	...	V	...	V	...	V	...	N	...	S
JN153024.1_Europesa1	...	G	...	QV	...	M	...	V	...	V	...	V	...	N	...	S
FJ416338.1_Europesa1	...	G	...	QV	...	M	...	V	...	V	...	V	...	N	...	S
GU001863.1_Europesa1	...	G	...	L	...	QV	...	K	...	N	...	V	...	N	...	S
HM120874.1_Europesa1	...	G	...	QV	...	M	...	V	...	V	...	V	...	N	...	S
X85000.1_Europesa1	...	G	...	QV	...	V	...	V	...	V	...	V	...	N	...	S
KJ865300.1_SA2	...	G	...	QV	...	V	...	V	...	V	...	VF	...	N	...	S
FJ392652.1_SA2	...	G	...	QV	...	V	...	V	...	V	...	V	...	N	...	S
JN215477.1_SA2	...	G	...	QV	...	V	...	V	...	V	...	V	...	N	...	S
JN215473.1_SA2	...	G	...	QV	...	V	...	V	...	V	...	V	...	N	...	S
EU098102.1_SA2	...	G	...	QV	...	V	...	V	...	A	...	N	...	N	...	T
MH362795.1_SA2	...	G	...	QV	...	V	...	V	...	V	...	VF	...	N	...	S
JN215476.1_SA2	...	G	...	QV	...	V	...	V	...	V	...	V	...	N	...	S
KF835412.1_SA3	...	G	...	QV	...	I	...	V	...	L	...	V	...	N	...	S
KF835425.1_SA3	...	G	...	QV	...	I	...	V	...	L	...	V	...	N	...	S
KF835414.1_SA3	...	G	...	QV	...	I	...	V	...	L	...	V	...	N	...	K
KF835413.1_SA3	...	G	...	QV	...	I	...	V	...	L	...	V	...	N	...	S
KF835422.1_SA3	...	G	...	QV	...	V	...	V	...	L	...	V	...	N	...	S
KF835411.1_SA3	...	G	...	QV	...	I	...	V	...	L	...	V	...	N	...	S
FJ461693.1_Africa1	...	G	...	QV	...	I	...	V	...	V	...	V	...	R	...	I
FJ461704.1_Africa1	...	G	...	QV	...	I	...	V	...	V	...	V	...	R	...	I
FJ461722.1_Africa1	...	G	...	QV	...	I	...	V	...	V	...	V	...	R	...	I
FJ461716.1_Africa1	...	G	...	QV	...	I	...	V	...	V	...	V	...	R	...	I
KY971528.1_Africa1	...	G	...	QV	...	I	...	V	...	V	...	V	...	R	...	I
FJ461719.1_Africa1	...	G	...	QV	...	I	...	V	...	V	...	V	...	R	...	I
FJ461696.1_Africa1	...	G	...	QV	...	V	...	V	...	V	...	V	...	R	...	I
KY971532.1_Africa1	...	G	...	QV	...	V	...	V	...	V	...	V	...	R	...	I
JN812976.1_Africa2	...	G	...	L	...	QV	...	V	...	V	...	V	...	R	...	Q
KU578254.1_Africa2	...	G	...	LV	...	QV	...	V	...	R	...	V	...	Q	...	N
KC916716.1_Africa2	...	G	...	L	...	QV	...	V	...	V	...	V	...	Q	...	N
KU578256.1_Africa2	...	G	...	L	...	QV	...	V	...	V	...	V	...	Q	...	N
KU578255.1_Africa2	...	G	...	L	...	QV	...	V	...	V	...	V	...	Q	...	N

FIG. 12 (cont.)

KU578253.1_Africa2	...	G..L..QV.....V.....	.....	.....	.....	QV.....	RS.....
KU578254.1_Africa2	...	G..LV.QV.....V.....	.....	.....	.....	QV.....	RS.....
KC916714.1_Africa2	...	G..LV.QV.....V.....	.....	.....	.....	QV.....	RS.....
AB025271.2_Asia1	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
D85755.1_Asia1	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
AB687720.2_Asia1	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
EU5564813.1_Asia1	...	G.....QV.....V.....	.....	.....	.....	N.....	HI.S.....
JQ732176.1_Asia1	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
EU296484.1_Asia1	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
KJ994343.1_Asia1	...	G.....QV.....V.....	.....	.....	.....	N.....	SC.....
MH337872.1_Asia1	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
EU716073.1_Asia2	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
AB475099.1_Asia2	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
FJ868161.1_Asia2	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
JQ732170.1_Asia2	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
AY297453.1_Asia2	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
AB025270.1_Asia2	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
AB212730.1_Asia2	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
EU743934.1_Asia3	...	E.S.NQV.....N.V.R.....	.....	.....	.....	RL.G.EN.....	R.ES.....K..C.....
EU743935.1_Asia3	...	E.S.NQV.....N.V.R.....	.....	.....	.....	RL.G.EN.....	R.ES.....K..C.....
AY297454.1	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
KJ489381.1_Asia4	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
KJ437596.1_Asia4	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MH496773.1_Asia4	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MH496772.1_Asia4	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MH496777.1_Asia4	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MH496778.1_Asia4	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MH496774.1_Asia4	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MF964178.1_Asia5	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MF964179.1_Asia5	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MF964182.1_Asia5	...	A..L..QV.K.....V.....	.....	.....	.....	QT.....	.....
MF964183.1_Asia5	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MF964180.1_Asia5	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MF964187.1_Asia5	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MF964181.1_Asia5	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MF964185.1_Asia5	...	G.....QV.....V.....	.....	.....	.....	N.....	S.....
MF964186.1_Asia5	...	M.G..L..QV.K.....V.....	.....	.....	.....	QN.....	.....

AF378705.1_America1
Z235493.1_America1
AF259552.1_America1
OQ9303854.1_America1
AY548109.1_America1
MHM046486.1_America1
AY542312.2_America1
AF112189.1_America2
Z47764.1_America2
Z47765.1_America2
Z47763.1_America2
Z254166.1_America2
Z254156.1_America2
KKT266736.1_America3
AY964110.1_America3
MF953474.1_America3
MF953470.1_America3
JUN836734.1_America3
MF953472.1_America3
KJ747371.1_America4
KJ747372.1_America4
Z254156.1_America5
MK473366.1_America5
MK473365.1_America5
MK487379.1_America5
AF164967.1_A75/17
Z47764.1
KXX024709.1_ArticLike
Z47760.1_ArticLike
K669628.1_ArticLike
AF172411.1_ArticLike
AY964108.1_ArticLike
QZ26087.1_ArticLike
MH430949.1_ArticLike
Z2458.16
GGU266280.1_RockbornH
FJ461702.1_RockbornH
AY964114.1_RockbornH
ZU810819.1_RockbornH
Z47759.1_EuropeaNW
GQ214374.2_EuropeaNW

[illegible]

FIG. 12 (cont.)

JN153023.1_EuropeanWildlife	G.....PGI.....D.....VL.....S.....I.....
DQ889187.1_EuropeanWildlife	G.....PGI.....L.....I.....VL.....L.....S.....T.....
FJ392651.1_EuropeanWildlife	G.....P.I.....D.....VL.M.....S.....I.....
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.....I.....
AY386315.1_Europe1_SA1	G.....P.I.....SD.....R.....VL.....S.....I.....
JN153024.1_Europesa1	G.....P.I.....D.....VL.....S.....I.....
FJ416338.1_Europesa1	G.....P.I.....V.....D.....VL.....S.....I.....
GU001863.1_Europesa1	G.....P.M.....PD.....VL.....S.....I.....
HM120874.1_Europesa1	G.....P.I.....V.....D.....VL.....S.....I.....
X85000.1_Europesa1	G.....P.I.....SD.....R.....VL.....S.....I.....
KJ865300.1_SA2	G.....W.....V.....T.SD.....L.....S.....I.....
FJ392652.1_SA2	G.....P.I.....SD.....L.....S.....I.....
JN215477.1_SA2	G.....PNI.....SD.....L.....S.....I.....
JN215473.1_SA2	G.....PNI.....SD.....L.....S.....I.....
EU098102.1_SA2	G.....P.I.....SD.....L.....S.....I.....
MH362795.1_SA2	G.....P.I.....T.SD.....L.....S.....I.....
JN215476.1_SA2	G.....PNI.....SD.....L.....S.....I.....
KF835412.1_SA3	G.....P.I.....H.....S.SD.....S.....I.....
KF835425.1_SA3	E.....P.I.....H.....S.SD.....S.....I.....
KF835414.1_SA3	E.....P.I.....H.....S.SD.....S.....I.....
KF835413.1_SA3	E.....P.I.....H.....S.SD.....S.....I.....
KF835422.1_SA3	G.....P.I.....H.....S.SD.....S.....I.....
KF835411.1_SA3	G.....P.I.....H.....S.SD.....S.....I.....
FJ461693.1_Africa1	G.....I.....D.....L.....S.....I.....
FJ461704.1_Africa1	G.....I.....D.....L.....S.....I.....
FJ461722.1_Africa1	G.....I.....D.....L.....S.....I.....
FJ461716.1_Africa1	G.....I.....D.....L.....S.....I.....
KY971528.1_Africa1	G.....S.I.....D.....L.....S.....I.....
FJ461719.1_Africa1	G.....I.....D.....L.....S.....I.....
FJ461696.1_Africa1	G.....I.....D.....L.....S.....I.....
KY971532.1_Africa1	G.....I.....F.DP.....L.....S.....I.....
JN812976.1_Africa2	I.P.I.....D.....VL.....S.....I.....
KU578254.1_Africa2	A.I.P.IH.....D.....VL.....S.....I.....
KC916716.1_Africa2	I.P.I.....D.....VL.....S.....I.....
KU578256.1_Africa2	I.P.I.....D.....VL.....S.....I.....
KU578255.1_Africa2	I.P.I.....H.....D.....VL.....S.....I.....
KU578253.1_Africa2	I.P.IH.....D.....VL.....S.....I.....
KU578254.1_Africa2	A.I.P.IH.....D.....VL.....S.....I.....
KC916714.1_Africa2	A.I.P.IH.....D.....VL.....S.....I.....
AB025271.2_Asia1	G.....P.I.....SD.....VL.....S.....T.....

FIG. 12 (cont.)

D85755.1_Asia1	G.....L..P.I.....Y.....D.....V.....VL.....S.....T.....
AB687720.2_Asia1	G.....P.I.....Y.....D.....VL.....S.....T.....
EU564813.1_Asia1	G.....P.I.....D.....VL.....S.....T.....
JQ732176.1_Asia1	G.....P.....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.....
XJ437596.1_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.....D.....VL.....S.....I.....
MF964186.1_Asia5	S.P.I.....D.....VL.....S.....I.....

AF378705.1_America1
Z235493.1_America1
QQ259552.1_America1
OQ903854.1_America1
AY954109.1_America1
MHM045486.1_America1
AY542312.2_America1
AF112189.1_America2
Z47764.1_America2
Z47765.1_America2
Z47763.1_America2
Z254166.1_America2
Z254156.1_America2
KYT266736.1_America3
AY964110.1_America3
MF953474.1_America3
MF953470.1_America3
MF953472.1_America3
JUN836734.1_America3
KFJ747371.1_America4
KKJ747372.1_America4
Z254156.1_America5
MK473366.1_America5
MK473365.1_America5
MK487379.1_America5
A75/17
Z47767.1_America5
AF164964.1
XX024709.1_ArticleLike
Z47760.1_ArticleLike
KKC965928.1_ArticleLike
AF172411.1_ArticleLike
AY964108.1_ArticleLike
QQ25087.1_ArticleLike
MH430949.1_ArticleLike
Z22458.16
Rockbornn
FU461702.1_Rockbornn
AY964114.1_Rockbornn
GU810819.1_Rockbornn

[illegible]

Z47759.1_EuropeanWildlife	..R.....	M.....	T.L.....	N.....	N.....	D.....	Y.....
GQ214374.2_EuropeanWildlife	..R.....	MK..T.L.	L.....	N.....	N.....	D.....	Y.....
JN153023.1_EuropeanWildlife	.S.R..R...	MK..T.L.	L.....	N.....	N.....	D.....	I.....
DQ889187.1_EuropeanWildlife	..R.....	MK..T.L.	L.....	N.....	N.....	D.....	Y.....
FJ392651.1_EuropeanWildlife	..R..G...	MK..A.L.	L.....	N.....	N.....	D.....	Y.....
DQ889188.1_EuropeanWildlife	..R.....	MK..T.L.	L.....	N.....	N.....	D.....	Y.....
JN153020.1_EuropeanWildlife	.S.R..R...	MK..T.L.	L.....	N.....	N.....	D.....	I.....
AY386316.1_5804P	..R.....	MK..T.L.	L.....	N.....	N.....	G.....	Y.....
AY386315.1_Europe1_SA1	..R.....	MK..T.L.	L.....	N.....	N.....	G.....	Y.....
JN153024.1_EuropeSA1	..R.....	MK..T.L.	L.....	N.....	N.....	G.....	Y.....
FJ416338.1_EuropeSA1	..R.....	LK..T.L.	L.....	N.....	N.....	G.....	E.....
GU001863.1_EuropeSA1	..R.....	MK..T.L.	L.....	N.....	N.....	I.....	Y.....
HML20874.1_EuropeSA1	..R.....	MK..T.L.	L.....	N.....	N.....	G.....	E.....
X85000.1_EuropeSA1	..R.....	MK..T.L.	L.....	N.....	N.....	G.....	Y.....
KJ865300.1_SA2	..R.....	MK..T.L.	L.....	N.....	N.....	G.....	Y.....
FJ392652.1_SA2	..R.....	MK..T.L.	L.....	N.....	N.....	G.....	Y.....
JN215477.1_SA2	..R.....	MK..T.L.	L.....	N.....	N.....	S.....	Y.....
JN215473.1_SA2	..R.....	MK..T.L.	L.....	N.....	N.....	S.....	Y.....
EU098102.1_SA2	..R.....	MN..T.L.	L.L.....	N.....	N.....	G.....	Y.....
MH362795.1_SA2	..R.....	MK..T.L.	L.....	N.....	N.....	G.....	Y.....
JN215476.1_SA2	..R.....	MK..T.S.	L.....	N.....	N.....	S.....	Y.....
KF835412.1_SA3	..R.....	MK.....	L.....	N.....	N.....	T.....	S.....
KF835425.1_SA3	..R.....	MK.....	L.....	N.....	N.....	T.....	S.....
KF835414.1_SA3	..R.....	MK.....	L.....	N.....	N.....	T.....	S.....
KF835413.1_SA3	..R.....	MK.....	L.....	N.....	N.....	N.....	Y.....
KF835422.1_SA3	..R.....	MK.....	L.....	N.....	N.....	N.....	Y.....
KF835411.1_SA3	..R.....	MK.....	L.....	N.....	N.....	T.....	S.....
FJ461693.1_Africal1	.S.R....S.	MK..T.L.	L.....	N.....	N.....	V.....	Y.....
FJ461704.1_Africal1	.S.R....S.	MK..T.L.	L.....	N.....	N.....	V.....	Y.....
FJ461722.1_Africal1	.S.R....S.	MK..T.L.	L.....	N.....	N.....	V.....	Y.....
FJ461716.1_Africal1	.S.R....S.	MK..T.L.	L.....	N.....	N.....	V.....	Y.....
KY971528.1_Africal1	.S.R....S.	MK..T.L.	L.....	N.....	N.....	V.....	Y.....
FJ461719.1_Africal1	.S.R....S.	MK..T.L.	L.....	N.....	N.....	V.....	Y.....
FJ461696.1_Africal1	..R.....	MK..T.L.	L.....	N.....	N.....	V.....	Y.....
KY971532.1_Africal1	..R.....	S.....	VMK..T.L.	L.....	N.....	I.....	I.....
KN812976.1_Africal2	..R..K....	MK..T.L.	L.....	N.....	N.....	GV.D.....	A.....

FIG. 12 (cont.)

KU578254.1_Africa2	...	R	...	M.K.	T	L	...	N	...	V	D	...	Y
KU916716.1_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
KU916714.1_Africa2	...	R	...	M.K.	T	L	...	N	...	V	D	...	Y
AB025271.2_Asia1	...	R	...	M.K.	T	L	...	N	...	V	D	...	Y
D85755.1_Asia1	...	R	...	M.K.	T	L	...	N	...	G	...	Y	...
AB687720.2_Asia1	...	R	...	M.K.	T	L	...	N	...	G	...	MY	...
EU5564813.1_Asia1	...	R	...	M.K.	T	L	...	N	...	F	...	Y	...
JQ732176.1_Asia1	...	R	...	M.K.	T	L	...	N	...	D	...	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	...	M.K.	T	L	...	N	...	EN	...	Y	...
AB475099.1_Asia2	...	R	...	M.K.	T	L	...	N	...	EN	...	Y	...
FJ868161.1_Asia2	...	R	...	M.K.	T	L	...	N	...	V	...	MY	...
JQ732170.1_Asia2	...	R	...	M.K.	T	L	...	N	...	V	...	Y	...
AY297453.1_Asia2	...	R	...	M.K.	T	L	...	N	...	V	...	KN	...
AB025270.1_Asia2	...	R	...	M.K.	T	L	...	N.G.V	...	EN	...	Y	...
AB212730.1_Asia2	...	R	...	M.K.	T	L	...	N	...	V	...	EN	...
EU743934.1_Asia3	...	R	...	M.K.	T	L	...	F	...	N	...	RY	...
EU743935.1_Asia3	...	R	...	M.K.	T	L	...	F	...	N	...	RY	...
AY297454.1	...	R	...	M.K.	T	L	...	N	...	V	...	EN	...
KJ489381.1_Asia4	...	R	...	M.K.	T	L	...	N	...	D	...	Y	...
KJ437596.1_Asia4	...	R	...	M.K.	T	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	...	M.K.	T	L	...	N	...	D	...	Y	...
MF964179.1_Asia5	...	R	...	M.K.	T	L	...	LHN	...	V	D	...	K.Y
MF964182.1_Asia5	...	R	...	M.K.	T	L	...	LHN	...	V	D	...	Y
MF964183.1_Asia5	...	R	...	M.K.	T	L	...	LHN	...	V	D	...	Y
MF964180.1_Asia5	...	R	...	M.K.	T	L	...	LHN	...	V	D	...	Y
MF964187.1_Asia5	...	R	...	M.K.	T	L	...	LHN	...	V	D	...	Y
MF964181.1_Asia5	...	R	...	M.K.	T	L	...	LHN	...	V	D	...	C
MF964185.1_Asia5	...	R	...	M.K.	T	L	...	R.N	...	V	N	...	Y
MF964186.1_Asia5	...	R	...	M.K.	T	L	...	L.N	...	V	D	...	Y

```

AF378705.1_America1
Z35493.1_America1
AF259552.1_America1
DQ903854.1_America1
AY548109.1_America1
HM046486.1_America1
AY542312.2_America1
AF112189.1_America2
Z47764.1_America2
Z47765.1_America2
Z47763.1_America2
Z54166.1_America2
Z54156.1_America2
KT266736.1_America3
AY964110.1_America3
MF953474.1_America3
MF953470.1_America3
JN836734.1_America3
MF953472.1_America3
KJ747371.1_America4
KJ747372.1_America4
Z54156.1_America5
ZMK473366.1_America5
ZMK473365.1_America5
ZMK487379.1_America5
AF164967.1_A75/17
Z47764.1
XX024709.1_ArticLike
Z47760.1_ArticLike
KC966928.1_ArticLike
AF172411.1_ArticLike
AY964108.1_ArticLike
DQ226087.1_ArticLike
MH430949.1_ArticLike
22458.16
GU266280.1_RockbornLike
FJ461702.1_RockbornLike
AY964114.1_RockbornLike

```

FIG. 12 (cont.)

GUS10819.1_RockbornLike	D.....T.F.....SKP*
Z47759.1_EuropeanWildlife	D.....T.....SKP*
GQ214374.2_EuropeanWildlife	G.D.....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.....T.....SKP*
KF835422.1_SA3	D.....T.....SKP*
KF835411.1_SA3	D.....K.....T.....SKP*
FJ461693.1_Africal1	D.....T.T.....SKP*
FJ461704.1_Africal1	D.....T.T.....SKP*
FJ461722.1_Africal1	D.....T.T.....SKP*
FJ461716.1_Africal1	D.....T.T.....SKP*
KY971528.1_Africal1	D.....T.T.....SKP*
FJ461719.1_Africal1	D.....T.....SRP*
FJ461696.1_Africal1	D.....T.....SKP*
KY971532.1_Africal1	D.....T.T.....SKP*

FIG. 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.....SKP*
AB475099.1_Asia2	D.....S.T.....SKP*
FJ868161.1_Asia2	D.....S.T.....SKP*
JQ732170.1_Asia2	D.....T.....SKP*
AY297453.1_Asia2	D.....S.T.....SKP*
AB025270.1_Asia2	D.....S.T.....SKP*
AB212730.1_Asia2	D.....S.T.....SKP*
EU743934.1_Asia3	D.....S.T.....SEP*
EU743935.1_Asia3	D.....S.T.....SEP*
AY297454.1	D.....S.T.....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.....H.....F.SKP*
MF964185.1_Asia5	D.....VT.....SKP*
MF964186.1_Asia5	D.....VT.....SKP*

FIG. 13

	10	20	30	40	50	60	70	80
AF378705_UNDERSTEPPOORT								
KY971531_OVI SA 2017								
MF926604_BJ16C9_DOG CN 2017								
AF305419_UNDERSTEPPOORT								
AF014953_UNDERSTEPPOORT								
KY971529_EUCHAREST SA 2017								
JN896987_SNYDERHILL 1940								
XM926612_CDVL CN 1992								
HM063009_SHUSKIY_MINK KZ 1998								
HM046486_PHOCACASPAN2007 SEAL								
S460_RACCOON DE 2015								
S272_FOX DE 2016								
S466_RACCOON DE 2015								
AY386315_5804_DOGV DE 1989								
MF437053_GABON_DOG GA 2015								
XM280689_251_DOG UY 2012								
XX434626_LDMBTU2_ER 2013								
MH426739_LDMBTU1_FOX ER 2014								
MH382872_LDMBTU5_ER 2013								
MH349541_LDMBTU3_ER 2013								
AY466011_2654_RACCOON US 1998								
AY443350_2601_RACCOON US 2000								
EU716337_164071_DOG US 2004								
AY649446_2689_RACCOON US 2001								
AF164967_A7517_DOGV US 1975								
KJ123771_171391513_DOG US 2004								
KU666057_RHODEISLAND_RACCOON U								
KF640687_R252_DOGV US 1974								
KU578257_SE_DOG_TZ_1994								
KU578256_SNP_LION_TZ_1994								
KU578255_SNP_HYENA_TZ_1994								
KU578254_SE_JACKAL_TZ_2011								
KU578253_SE_DOG_TZ_2007								
AB474397_007LM_DOG JP 2004								
AB475099_551L_DOG JP 2009								
AB476401_011C_DOG JP 2004								
AB490672_009LH_DOGH JP 2004								
AB490678_50CBLH_DOGH JP 2009								
KF914669_2784_DOG IT 2013								
XX024709_12254_BADGER IT 2015								
22458_DOG_SEA 2016								
XX774415_FT61_TIGER RU 2004								
BAIKAL SEAL RU 1988								
MH496772_1_DOG_TH 2014								
MH496773_2_DOG_TH 2014								
MH496777_5_DOG_TH 2014								

AF378705_UNDERSTPOORT
 KX971531_OVI SA 2017
 MF926604_BUL6C9_DOG_CN 2017
 AF305419_UNDERSTPOORT
 AF014953_UNDERSTPOORT
 KX971529_EUCHAREST SA 2017
 JN896987_SUYDERHILL 1940
 KM926612_CDVL CN 1992
 HMO63009_SHUSKIY MINK_KZ 1998
 HMO46486_PHOCACASPAN2007_SEAL
 SA460_RACCOON DE 2015
 S272_FOX DE 2016
 SA466_RACCOON DE 2015
 AY386315_5804_DOGV DE 1989
 MMF437053_GABON_DOG GA 2015
 KM280689_251_DOG_UY 2012
 XX434626_LDMBTU2_ER 2013
 MMH426739_LDMBTU1_FOX_ER 2014
 MMH382872_LDMBTU5_ER 2013
 MMH349541_LDMBTU3_ER 2013
 AY4466011_2654_RACCOON_US 1998
 AY443350_2601_RACCOON_US 2000
 EU716337_164071_DOG_US 2004
 AY649446_2689_RACCOON_US 2001
 AF164967_A7517_DOGV_US 1975
 KXJ123771_171391513_DOG_US 2004
 XU666057_RHODEISLAND_RACCOON_U
 KKF640687_R252_DOGV_US 1974
 XU578257_SEE_DOG_TZ 1994
 XU578256_SNP_LION_TZ 1994
 XU578255_SNP_HYENA_TZ 1994
 XU578254_SEE_JACKAL_TZ 2011
 XU578253_SEE_DOG_TZ 2007
 AB474397_0071M_DOG_JP 2004
 AB475099_551L_DOG_JP 2009
 AB476401_011LC_DOG_JP 2004
 AB490672_0091L_DOGH_JP 2004
 AB480678_50CBLH_DOGH_JP 2009
 KX914669_2784_DOG_IT 2013
 XU024709_12254_BADGER_IT 2015
 22458_DOG_SPA 2016
 KX774415_FT61_TIGER_RU 2004
 BAIRAL_SEAL_RU 1988
 MH496772_1_DOG_TH 2014
 MH496773_2_DOG_TH 2014
 MH496777_6_DOG_TH 2014

FIG. 13 (cont.)

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.LSK..S.TD.F.....I..I
KJ747372_2262 DOG US 2013	.D.G.H.TL.GI.Q...REFK..ST.TSP.P.....I..E
KJ747371_1941 FOX US 2013	.D.G.H.TL.I.Q...REFK..ST.TSP.P.....I..E
KJ466106_SY RACCOONDOG_CN 2012	RD.G.H.T...TQ.S.WFK.W.S.T.A.....I..I
MH496775_4 DOG TH 2014	RD.G.H.T...TQ.S.WFK.W.S.T.A.....I..I
JN896331_PS DOGV_CN 2010	RD.G.H.T...TQ.S.WFK..S.T.A.....I..I
AB753775_AC96I DOG JP 2004	RD.G.H.T...TQ.S.WFK..S.T.A.....I..I
MK431532_NTU DOG TW 2005	RD.G.H.T...TQ.S.WFK..S.T.A.....I..I
XC427278_REBEI MINK_CN 2008	RD.G.H.T...TQ.S.WFK.W.S.T.A.....I..I
MH496776_5 DOG TH 2014	RD.G.H.T...TQ.S.WFK.W.S.T.A.....I..I
KP765764_LNI FOX_CN 2010	RD.G.H.T...TR.S.WFK..S.T.A.P.Y.....I..I
XX347928_AH DOG_CN 2015	RD.KG.H.T...TR.S.WFK..S.T.A.P.Y.....I..I
MH496779_8 DOG TH 2014	RD.G.H.T...TQ.S.WFK.W.S.T.A.....I..I
JX681125_HLJ1 FOX_CN 2006	RD.D.H.T...TQ.S.WFK.W.S.T.A.....I..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
KP765763_SD7 FOX_CN 2014	RD.G.H.T...TR.S.WFK..S.T.A.H.....I..I
KP738610_SD11_RACCOONDOG_CN 20	RD.G.H.T...TR.S.WFK..S.T.A.Y.....I..I
MH337872_SD16F_FOX_CN 2016	RD.G.H.T...TR.S.WFK..S.T.A.Y.....I..T
XX499865_ZYL FOX_CN 2015	RD.G.H.T...TQ.S.WFK.W.S.T.A.....I..I
MF041963_CDV06_WOLF_ET 2016	RD.G.H.T..N.TQ.S.WFK.W.S.T.A.....I..I
XJ848781_RDJL_RACCOONDOG_CN 20	RD.G.H.T...TR.S.WFK..Y.T.A.Y.....I..I
XX709880_HL001 DOG_CN 2012	RD.G.H.T...TR.S.WFK..S.T.A.Y.....I..I
LC159587_HCM33 DOG_VN 2014	RD.G.H.T...TQ.SS.WCK.W.S.T.A.....I..I
AE687720_CYN07DV_MACAQUE JP 20	RD.G.H.T...TQ.VGFWEK..RS.T.A.....I..I
KF856711_BJ01_MONKEY_CN 2005	RD.G.H.T...TQ.VGFWEK..RS.T.A.....I..I
HM852904_MKYM08_MACAQUE_CN 20	RD.G.H.T...TQ.VGFWEK..RS.T.A.....I..I
LC342298_RC13_RACCOON JP 2016	RD.G.H.T.G.TQ.S.WFK..S.S.P.....I..I
KJ994343_ZC_RACCOONDOG_CN 201	RD.G.H.T...TQ.S.WFK.W.S.T.A.....I..V
KY971532_WT02_HVENA_SA 2017	.D.GT.VL.T...Q.M.WEKG..S.TD.H.A.....I..I
KY971528_WT01 DOG_SA 2016	.D.GT.VL.T...Q.V.KPKG..S.IA.H.A.I.....I..I
PC0046_SEAL_KZ 2000	.D..TT.....A..K..L...SD.....F.M.
PC0020_SEAL_KZ 2000	.D..TT.....A..K..L...SD.....F.T.
PC0021_SEAL_AZ 2000	.D..TT.....A..K..L...SD.....F.T.
MH316137_1747 DOG_IT 2018	.D.G.H.T...Q..GPRKGGORY.T.....I..G

FIG. 13 (cont.)

MH496778_7 DOG TH 2014	RT.	N.	V.
MH496775_3 DOG TH 2014	RT.	N.	I.
KJ747372_2262 DOG US 2013			V.
KJ747371_1941 FOX US 2013	A	I.	V.
KJ466106_SY RACCOONDOG CN 2012		N.	V.
MH496775_4 DOG TH 2014		N.	V.
JN896331_FS DOGV CN 2010		N.	V.
AE753775_AC961 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.	V.
JX681125_HLJ1 FOX CN 2006		I.	V.
KP793921_GIANTPANDASX CN 2014		S.	AV.
KP677502_LOUGUANTAIL PANDA CN		S.	AV.
KP765763_SD7 FOX CN 2014		N.	V.
KP738610_SD11 RACCOONDOG CN 20		N.	V.
MH337872_SD16F FOX CN 2016		N.	V.
XX499865_ZYL FOX CN 2015		N.	V.
MF041963_CDV06 WOLF ET 2016		N.	V.
KJ848781_RDJL RACCOONDOG CN 20		N.	V.
XX709880_HL001 DOG CN 2012		N.	V.
LC159587_HCM33 DOG VN 2014		N.	V.
AB687720_CYN07DV MACAQUE JP 20		N.	V.
KF866711_BJ01 MONKEY CN 2006		N.	V.
HMB52904_MKYK08 MACAQUE CN 20		N.	V.
LC342296_RC13 RACCOON JP 2016		N.	V.
KJ994343_ZC RACCOONDOG CN 201		N.	V.
KY971532_WT02 HYENA SA 2017		N.	V.
KY971528_WT01 DOG SA 2016	V.	N.	V.
PC0046_SEAL KZ 2000		N.	V.
PC0020_SEAL KZ 2000		I.	K.
PC0021_SEAL AZ 2000		RS.	K.
MH316137_1747 DOG IT 2018	I.	RS.	K.
		V.	-

FIG. 13 (cont.)

AF378705_UNDERSTEEPOORT	.....	250	260	270	280	290	300	310	320
KY971531_OVI SA 2017	.....	250	260	270	280	290	300	310	320
MF926604_BJ16C9_DOG_CN 2017	.....	250	260	270	280	290	300	310	320
AF305419_UNDERSTEEPOORT	.....	250	260	270	280	290	300	310	320
AF014953_UNDERSTEEPOORT	.....	250	260	270	280	290	300	310	320
KY971529_EUCHAREST SA 2017	.....	250	260	270	280	290	300	310	320
JN896987_SNYDERHILL 1940	.....	250	260	270	280	290	300	310	320
KM926612_CDVL_CN 1992	.....	250	260	270	280	290	300	310	320
HM063009_SHUSKIY_MINK_KZ 1998	.....	250	260	270	280	290	300	310	320
HM046486_PHOCACASPIAN2007_SEAL	.....	250	260	270	280	290	300	310	320
S460_RACCOON DE 2015	.....	250	260	270	280	290	300	310	320
S272_FOX DE 2016	.....	250	260	270	280	290	300	310	320
S466_RACCOON DE 2015	.....	250	260	270	280	290	300	310	320
AY386315_5804_DOGV DE 1989	.....	250	260	270	280	290	300	310	320
MF437053_GABON_DOG GA 2015	.....	250	260	270	280	290	300	310	320
KM280689_251_DOG_UY 2012	.....	250	260	270	280	290	300	310	320
XX434626_LDMBTU2_BR 2013	.....	250	260	270	280	290	300	310	320
MH426739_LDMBTU1_FOX_BR 2014	.....	250	260	270	280	290	300	310	320
MH382872_LDMBTU5_BR 2013	.....	250	260	270	280	290	300	310	320
MH349541_LDMBTU3_BR 2013	.....	250	260	270	280	290	300	310	320
AY466011_2654_RACCOON_US 1998	.....	250	260	270	280	290	300	310	320
AY443350_2601_RACCOON_US 2000	.....	250	260	270	280	290	300	310	320
EU716337_164071_DOG_US 2004	.....	250	260	270	280	290	300	310	320
AY649446_2689_RACCOON_US 2001	.....	250	260	270	280	290	300	310	320
AF164967_A7517_DOGV_US 1975	.....	250	260	270	280	290	300	310	320
KJ123771_171391513_DOG_US 2004	.....	250	260	270	280	290	300	310	320
KU666057_RHODEISLAND_RACCOON_U	.....	250	260	270	280	290	300	310	320
KF640687_R252_DOGV_US 1974	.....	250	260	270	280	290	300	310	320
KU578257_SE_DOG_TZ 1994	.....	250	260	270	280	290	300	310	320
KU578256_SNP_LION_TZ 1994	.....	250	260	270	280	290	300	310	320
KU578255_SNP_HYENA_TZ 1994	.....	250	260	270	280	290	300	310	320
KU578254_SE_JACKAL_TZ 2011	.....	250	260	270	280	290	300	310	320
KU578253_SE_DOG_TZ 2007	.....	250	260	270	280	290	300	310	320
AB474397_007LM_DOG_JP 2004	.....	250	260	270	280	290	300	310	320
AB475099_55L_DOG_JP 2009	.....	250	260	270	280	290	300	310	320
AB476401_011C_DOG_JP 2004	.....	250	260	270	280	290	300	310	320
AB490672_009LH_DOGH_JP 2004	.....	250	260	270	280	290	300	310	320
AB490678_50CBLH_DOGH_JP 2009	.....	250	260	270	280	290	300	310	320
KF914669_2784_DOG_IT 2013	.....	250	260	270	280	290	300	310	320
XX024709_12254_RADGER_IT 2015	.....	250	260	270	280	290	300	310	320
22458_DOG_SEA 2016	.....	250	260	270	280	290	300	310	320
XX774415_FT61_TIGER_RU 2004	.....	250	260	270	280	290	300	310	320
BAIKAL_SEAL RU 1988	.....	250	260	270	280	290	300	310	320
MH496772_1_DOG_TH 2014	.....	250	260	270	280	290	300	310	320
MH496773_2_DOG_TH 2014	.....	250	260	270	280	290	300	310	320
MH496777_6_DOG_TH 2014	.....	250	260	270	280	290	300	310	320

MH496778_7_DOG_TH_2014	K.
MMH496775_3_DOG_TH_2014	K.
KJ747372_2262_DOG_US_2013	L.
KJ747371_1941_FOX_US_2013	K.
KJ466106_SY_RACCOONDOG_CN_2012	K.
MMH496775_4_DOG_TH_2014	A.
JN896331_PS_DOGV_CN_2010	K.
AB753775_AC96I_DOG_JP_2004	K.
MMK431532_NTU_DOG_TW_2005	K.
KC427278_HEEEI_MINK_CN_2008	K.
MMH496776_5_DOG_TH_2014	K.
KP765764_LN1_FOX_CN_2010	K.
XX347928_AH_DOG_CN_2015	K.
MMH496779_8_DOG_TH_2014	K.
JX681125_HLJ1_FOX_CN_2006	A.
KP793921_GLANTEPANDASK_CN_2014	K.
KP677502_LOUGUANTAIL_PANDA_CN	K.
KP785763_SD7_FOX_CN_2014	K.
KP738610_SD11_RACCOONDOG_CN_20	K.
MMH337872_SD16F_FOX_CN_2016	K.
KX499865_ZYL_FOX_CN_2015	K.
MMF041963_CDV06_WOLF_ET_2016	K.
KJ848781_RDJL_RACCOONDOG_CN_20	K.
KN709880_HL001_DOG_CN_2012	K.
LC159587_HCM33_DOG_VN_2014	F.
AE687720_CYN07DV_MACAQUE_JP_20	V.
KF856711_EJ01_MONKEY_CN_2005	K.
HM852904_MKYKM08_MACAQUE_CN_20	K.
LC342298_RC13_RACCOON_JP_2016	N.
KJ994343_ZC_RACCOONDOG_CN_201	K.
KY971532_WT02_HYENA_SA_2017	K.
KY971528_WT01_DOG_SA_2016	A.
PC0046_SEAL_KZ_2000	I.
PC0020_SEAL_KZ_2000	I.
PC0021_SEAL_AZ_2000	I.
MH316137_1747_DOG_IT_2018	S.

FIG. 13 (cont.)

MH496778_7_DOG_TH_2014	.....	N	.....	L	.....	L
MH496775_3_DOG_TH_2014	.....	V	.....	N	.....	L
KJ747372_2262_DOG_US_2013	.....	N	.....	N	.....	L
KJ747371_1941_FOX_US_2013	.....	N	.....	N	.....	L
KJ466106_SY_RACCOONDOG_CN_2012	.....	N	.....	N	.....	L
MH496775_4_DOG_TH_2014	.....	N	.....	N	.....	L
JN896331_PS_DOGV_CN_2010	.....	N	.....	N	.....	L
AB753775_AC96I_DOG_JP_2004	.....	N	.....	N	.....	L
MK431532_NTU_DOG_TW_2005	.....	N	.....	N	.....	L
XC427278_RBBEI_MINK_CN_2008	.....	N	.....	N	.....	L
MH496776_5_DOG_TH_2014	.....	N	.....	N	.....	L
KP765764_LNI_FOX_CN_2010	.....	N	.....	N	.....	L
XX347928_AH_DOG_CN_2015	.....	N	.....	N	.....	L
MH496779_8_DOG_TH_2014	.....	N	.....	N	.....	L
JX681125_HLJ1_FOX_CN_2006	.....	N	.....	N	.....	L
KP793921_GIANTPANDAX_CN_2014	.....	N	.....	N	.....	L
KP677502_LOUGUANTAIL_PANDA_CN	.....	N	.....	N	.....	L
KP765763_SD7_FOX_CN_2014	.....	N	.....	N	.....	L
KP738610_SD11_RACCOONDOG_CN_20	.....	N	.....	N	.....	L
MH37872_SD16F_FOX_CN_2016	.....	N	.....	N	.....	L
XX499865_ZYL_FOX_CN_2015	.....	N	.....	N	.....	L
MF041963_CDV06_WOLF_ET_2016	.....	N	.....	N	.....	L
XJ848781_RDJL_RACCOONDOG_CN_20	.....	N	.....	N	.....	T
KX709880_HL001_DOG_CN_2012	.....	N	.....	N	.....	L
LC159587_HCM33_DOG_VN_2014	.....	N	.....	N	.....	L
AE687720_CYN07DV_MACAQUE_JP_20	.....	N	.....	N	.....	L
KF856711_BJ01_MONKEY_CN_2005	.....	N	.....	N	.....	L
HM852904_MKYM08_MACAQUE_CN_20	.....	N	.....	N	.....	L
LC342298_RC13_RACCOON_JF_2016	.....	F.N	.....	A	.....	L
KJ994343_ZC_RACCOONDOG_CN_201	.....	N	.....	N	.....	L
KY971532_WT02_HVENA_SA_2017	.....	N	.....	N	.....	L
KY971528_WT01_DOG_SA_2016	.....	N	.....	N	.....	L
PC0046_SEAL_KZ_2000	.....	N	.....	N	.....	L
PC0020_SEAL_KZ_2000	.....	N	.....	N	.....	L
PC0021_SEAL_AZ_2000	.....	N	.....	N	.....	L
MH316137_1747_DOG_IT_2018	.....	N	.....	N	.....	L

SUBSTITUTE SHEET (RULE 26)

410	420	430	440	450	460	470	480
SEVGVIVHLEAVSNIGSQEWYTFVRIATNGYLISNFBESSCVFVTSESAICSONSLIEMSPLOOCIRGDTSSCAR							
AF378705__ONDERSTPOORT							
KY971531__CWI SA 2017							
MF926604__BJ16C9_DOG CN 2017							
AF305419__ONDERSTPOORT							
AF014953__ONDERSTPOORT							
KY971529__BUCHAREST SA 2017							
JN896987__SNYDERHILL 1940							
KM926612__CNVL CN 1992							
HM063009__SHUSKIY MINK KE 1998							
HM046486__PHOCACASPIAN2007__SEAL							
S460__RACCOON DE 2015							
S272__FOX DE 2016							
S465__RACCOON DE 2015							
AY365315__5804_DOGV DE 1989							
MMF437953__GABON DOG GA 2015							
KM280689__251 DOG UV 2012							
XX434626__LDMBTU2_ER 2013							
MMH426739__LDMBTU1_FOX BR 2014							
MH382872__LDMBTU5_ER 2013							
MMH349541__LDMBTU3_ER 2013							
AY486011__2854_RACCOON US 1998							
AY443350__2601_RACCOON US 2000							
EU716337__164071 DOG US 2004							
AY649446__2689_RACCOON US 2001							
AF164967__A7517 DOGV US 1975							
KJ123771__171391513 DOG US 2004							
KU656057__RHODEISLAND_RACCOON_U							
KF640687__R252 DOGV US 1974							
KU578257__SE DOG TZ 1994							
KU578256__SNP_LION TZ 1994							
KU578255__SNP_HYENA TZ 1994							
KU578254__SE JACKAL TZ 2011							
KU578253__SE DOG TZ 2007							
AB474397__007LM DOG JP 2004							
AB475099__55L DOG JF 2009							
AB476401__011C DOG JF 2004							
AB480672__009LH DOGH JP 2004							
AB490678__50CBLH DOGH JF 2009							
KF914669__2784 DOG IT 2013							
XX024709__12254 BADGER IT 2015							
22458 DOG SPA 2016							
XX774415__FT61_TIGER RU 2004							
BAIKAL_SEAL RU 1988							
MMH496772__1 DOG TH 2014							
MMH496773__2 DOG TH 2014							
MMH496777__6 DOG TH 2014							

FIG. 13 (cont.)

MH496778_7_DOG_TH_2014	V	
MH496775_3_DOG_TH_2014	V	
KJ747372_2362_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
XC427278_REBEI_MINK_CN_2008	K.V	I
MH496776_5_DOG_TH_2014	K.V	I
KP765764_LNI_FOX_CN_2010	K.V	I
XX347928_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
MH37872_SD16F_FOX_CN_2016	K.V	I
XX499865_ZYL_FOX_CN_2015	K.V	I
MF041963_CDV06_WOLF_ET_2016	K.V	I
XJ848781_RDJL_RACCOONDOG_CN_20	K.V	I
KX709880_HL001_DOG_CN_2012	K.V	I
LC159587_HCM33_DOG_VN_2014	K.V	I
AE687720_CYN07DV_MACAQUE_JP_20	K.V	I
KF856711_BJ01_MONKEY_CN_2005	K.V	I
HM852904_MKYM08_MACAQUE_CN_20	K.V	I
LC342298_RC13_RACCOON_JP_2016	K.V	I
KJ994343_ZC_RACCOONDOG_CN_201	E.V I L P S F RST	R T
KY971532_WT02_HVENA_SA_2017	V	
KY971528_WT01_DOG_SA_2016	V	
PC0046_SEAL_KZ_2000		
PC0020_SEAL_KZ_2000		
PC0021_SEAL_AZ_2000		
MH316137_1747_DOG_IT_2018	V	

SUBSTITUTE SHEET (RULE 26)

[illegible]

FIG. 13 (cont.)

MH496778_7_DOG_TH_2014	.....	S.....
MH496775_3_DOG_TH_2014	.....	S.....
KJ747372_2262_DOG_US_2013	S.....	SR.....
KJ747371_1941_FOX_US_2013	.....	SR.....
KJ466106_SY_RACCOONDOG_CN_2012	.....	S.....
MH496775_4_DOG_TH_2014	.....	S.....
JN896331_PS_DOGV_CN_2010	.....	S.....
AB753775_AC96I_DOG_JP_2004	.....	S.....
MK431532_NTU_DOG_TW_2005	.....	S.....
XC427278_RBBEI_MINK_CN_2008	.....	S.....
MH496776_5_DOG_TH_2014	.....	S.....
KP765764_LNI_FOX_CN_2010	.....	S.....
XX347928_AH_DOG_CN_2015	.....	S.....
MH496779_8_DOG_TH_2014	.....	S.....
JX681125_HLJ1_FOX_CN_2006	.....	S.....
KP793921_GIANTPANDASX_CN_2014	.....	S.....
KP677502_LOUGUANTAIL_PANDA_CN	.....	S.....
KP765763_SD7_FOX_CN_2014	S.....	ST.....
KP738610_SD11_RACCOONDOG_CN_20	S.....	S.....
MH37872_SD16F_FOX_CN_2016	.....	S.....
XX499865_ZYL_FOX_CN_2015	.....	S.....
MF041963_CDV06_WOLF_ET_2016	.....	S.....
XJ848781_RDJL_RACCOONDOG_CN_20	.....	S.....
KX709880_HL001_DOG_CN_2012	.....	S.....
LC159587_HCM33_DOG_VN_2014	.....	SR.....
AE687720_CYN07DV_MACAQUE_JP_20	I.....G.....	S.....
KF856711_BJ01_MONKEY_CN_2005	I.....G.....	S.....
HM852904_MKYM08_MACAQUE_CN_20	I.....G.....	S.....
LC342298_RC13_RACCOON_JF_2016	I.....I.....	S.....
KJ994343_ZC_RACCOONDOG_CN_201	L.....G.....D.....	S.....
KY971532_WT02_HVENA_SA_2017	A.....	S.....
KY971528_WT01_DOG_SA_2016	.....	S.....
PC0046_SEAL_KZ_2000	.....	S.....
PC0020_SEAL_KZ_2000	.....	S.....
PC0021_SEAL_AZ_2000	.....	S.....
MH316137_1747_DOG_IT_2018	G.....	S.....

FIG. 13 (cont.)

AF378705_UNDERSTEPPOORT	.....	570	580	590	600	610	620	630	640
KY971531_OVI SA 2017	.....	.....	.....	.....	.....	.....	.....	.....	.....
MF926604_BJ16C9_DOG CN 2017	.....	.....	.....	.....	.....	.....	.....	.....	.....
AF305419_UNDERSTEPPOORT	.....	.....	.....	.....	.....	.....	.....	.....	.....
AF014953_UNDERSTEPPOORT	.....	.....	.....	.....	.....	.....	.....	.....	.....
KY971529_EUCHAREST SA 2017	.....	.....	.....	.....	.....	.....	.....	.....	.....
JN896987_SNYDERHILL 1940	.....	.....	.....	.....	.....	.....	.....	.....	.....
KM926612_CDVL CN 1992	.....	.....	.....	.....	.....	.....	.....	.....	.....
HM063009_SHUSKIY_MINK_KZ 1998	.....	.....	.....	.....	.....	.....	.....	.....	.....
HM046486_PHOCACASPIAN2007_SEAL	.....	.....	.....	.....	.....	.....	.....	.....	.....
S460_RACCOON DE 2015	.....	.....	.....	.....	.....	.....	.....	.....	.....
S272_FOX DE 2016	.....	.....	.....	.....	.....	.....	.....	.....	.....
S466_RACCOON DE 2015	.....	.....	.....	.....	.....	.....	.....	.....	.....
AY386315_5804_DOGV DE 1989	.....	.....	.....	.....	.....	.....	.....	.....	.....
MF437053_GABON_DOG GA 2015	.....	.....	.....	.....	.....	.....	.....	.....	.....
KM280689_251_DOG UY 2012	.....	.....	.....	.....	.....	.....	.....	.....	.....
XX434626_LDMBTU2_BR 2013	.....	.....	.....	.....	.....	.....	.....	.....	.....
MH426739_LDMBTU1_FOX BR 2014	.....	.....	.....	.....	.....	.....	.....	.....	.....
MH382872_LDMBTU5_BR 2013	.....	.....	.....	.....	.....	.....	.....	.....	.....
MH349541_LDMBTU3_BR 2013	.....	.....	.....	.....	.....	.....	.....	.....	.....
AY466011_2654_RACCOON US 1998	.....	.....	.....	.....	.....	.....	.....	.....	.....
AY443350_2601_RACCOON US 2000	.....	.....	.....	.....	.....	.....	.....	.....	.....
EU716337_164071_DOG US 2004	.....	.....	.....	.....	.....	.....	.....	.....	.....
AY649446_2689_RACCOON US 2001	.....	.....	.....	.....	.....	.....	.....	.....	.....
AF164967_A7517_DOGV US 1975	.....	.....	.....	.....	.....	.....	.....	.....	.....
KJ123771_171391513_DOG US 2004	.....	.....	.....	.....	.....	.....	.....	.....	.....
KU666057_RHODEISLAND_RACCOON U	.....	.....	.....	.....	.....	.....	.....	.....	.....
KF640687_R252_DOGV US 1974	.....	.....	.....	.....	.....	.....	.....	.....	.....
KU578257_SE_DOG_TZ_1994	.....	.....	.....	.....	.....	.....	.....	.....	.....
KU578256_SNP_LION_TZ_1994	.....	.....	.....	.....	.....	.....	.....	.....	.....
KU578255_SNP_HYENA_TZ_1994	.....	.....	.....	.....	.....	.....	.....	.....	.....
KU578254_SE_JACKAL_TZ_2011	.....	.....	.....	.....	.....	.....	.....	.....	.....
KU578253_SE_DOG_TZ_2007	.....	.....	.....	.....	.....	.....	.....	.....	.....
AB474397_007LM_DOG JP 2004	.....	.....	.....	.....	.....	.....	.....	.....	.....
AB475099_55L_DOG JP 2009	.....	.....	.....	.....	.....	.....	.....	.....	.....
AB476401_011C_DOG JP 2004	.....	.....	.....	.....	.....	.....	.....	.....	.....
AB490672_009LH_DOGH JP 2004	.....	.....	.....	.....	.....	.....	.....	.....	.....
AB490678_50CBLH_DOGH JP 2009	.....	.....	.....	.....	.....	.....	.....	.....	.....
KF914669_2784_DOG IT 2013	.....	.....	.....	.....	.....	.....	.....	.....	.....
XX024709_12254_RADGER IT 2015	.....	.....	.....	.....	.....	.....	.....	.....	.....
22458_DOG_SEA 2016	.....	.....	.....	.....	.....	.....	.....	.....	.....
XX774415_PT61_TIGER RU 2004	.....	.....	.....	.....	.....	.....	.....	.....	.....
BAIKAL_SEAL RU 1988	.....	.....	.....	.....	.....	.....	.....	.....	.....
MH496772_1_DOG_TH 2014	.....	.....	.....	.....	.....	.....	.....	.....	.....
MH496773_2_DOG_TH 2014	.....	.....	.....	.....	.....	.....	.....	.....	.....
MH496777_5_DOG_TH 2014	.....	.....	.....	.....	.....	.....	.....	.....	.....

FIG. 13 (cont.)

MH496778_7_DOG_TH_2014	.....	I	.....	C	.....	N
MH496775_3_DOG_TH_2014	.....	I	.....	C	.....	N
KJ747372_2362_DOG_US_2013	.....	I	.....	L	.....	R.N
KJ747371_1941_FOX_US_2013	.....	I	.....	L	.....	R.N
KJ466106_SY_RACCOONDOG_CN_2012	.....	I	.....	K	.....	R..F.HN
MH496775_4_DOG_TH_2014	.....	I	.....	K	.....	R..F.HN
JN896331_PS_DOGV_CN_2010	.....	I	.....	K	.....	R..F.HN
AB753775_AC96I_DOG_JP_2004	.....	I	.....	K	.....	R..F.HN
MK431532_NTU_DOG_TW_2005	.....	I	.....	K	.....	R..F.HN
XC427278_REEEI_MINK_CN_2008	.....	I	.....	K	.....	R..F.HN
MH496776_5_DOG_TH_2014	.....	I	.....	K	.....	R..F.HN
KP765764_LNI_FOX_CN_2010	.....	I	.....	K	.....	R..F.HN
XX347928_AH_DOG_CN_2015	.....	I	.....	K	.....	R..F.HN
MH496779_8_DOG_TH_2014	.....	I	.....	K	.....	R..F.HN
JX681125_HLJ1_FOX_CN_2006	.....	I	.....	K	.....	R..F.HN
KP793921_GIANTPANDASX_CN_2014	.....	I	.....	K	.....	R..F.HN
KP677502_LOUGUANTAIL_PANDA_CN	.....	I	.....	K	.....	R..F.HN
KP765763_SD7_FOX_CN_2014	.....	I	.....	K	.....	R..F.HN
KP738610_SDI1_RACCOONDOG_CN_20	.....	I	.....	K	.....	R..F.HN
MH337872_SD16F_FOX_CN_2016	.....	I	.....	K	.....	R..F.HN
XX499865_ZYL_FOX_CN_2015	.....	I	.....	K	.....	R..F.HN
MF041963_CDV06_WOLF_ET_2016	.....	I	.....	K	.....	R..F.HN
XJ848781_RDJL_RACCOONDOG_CN_20	.....	I	.....	K	.....	R..F.HN
KX709880_HL001_DOG_CN_2012	.....	I	.....	K	.....	R..F.HN
LC159587_HCM33_DOG_VN_2014	.....	I	.....	K	.....	R..F.HN
AE687720_CYN07DV_MACAQUE_JP_20	.....	I	.....	K	.....	R..F.HN
KF856711_BJ01_MONKEY_CN_2005	.....	I	.....	K	.....	R..F.HN
HM852904_MKYKM08_MACAQUE_CN_20	.....	I	.....	K	.....	R..F.HN
LC342298_RC13_RACCOON_JF_2016	.....	I	.....	K	.....	R..F.HN
KJ994343_ZC_RACCOONDOG_CN_201	.....	I	.....	K	.....	R..F.HN
KY971532_WT02_HVENA_SA_2017	.....	I	.....	DK	.....	R..F.HN
KY971528_WT01_DOG_SA_2016	.....	I	.....	S	.....	R..F.HN
PC0046_SEAL_KZ_2000	.....	I	.....	S	.....	R..F.HN
PC0020_SEAL_KZ_2000	.....	I	.....	S	.....	R..F.HN
PC0021_SEAL_AZ_2000	.....	I	.....	S	.....	R..F.HN
MH316137_1747_DOG_IT_2018	.....	I	.....	S	.....	R..F.HN

```

AF378705 ONDERSTEPOORT
KY971531_OVI SA 2017
MMFM926604_BJ15C9 DOG CN 2017
AF305419 ONDERSTEPOORT
AF014953 ONDERSTEPOORT
JN896987_SNIJDERHILL_1940
KM926612_CDVL CN 1992
HM063009_SHUSKIY_MNKK KZ 1998
HMM046486_PHOCACASPAN2007 SEAL
S460_RACCOON DE 2015
S272_FOX DE 2016
S466_RACCOON DE 2015
AY386315_5804 DOGV DE 1989
MF437053_GAEON DOG GA_2015
KM280689_251 DOG UY 2012
KKX434626_LDMETU2_BR_2013
MMH426739_LDMETU1_FOX BR 2014
MMH382872_LDMETU5_BR 2013
MMH349541_LDMETU3_BR 2013
AY466011_2654 RACCOON US 1998
AY443350_2601 RACCOON US_2000
EU7116337_164071 DOG US 2004
AY649446_2689 RACCOON US 2001
AF164967_A7517 DOGV US 1975
KKJ12371_171391513 DOG US_2004
KU666057_RHODEISLAND RACCOON U
KF640687_R252 DOGV US_1974
KU578257_SE DOG TZ_1994
KU578256_SNP LION TZ 1994
KU578255_SNP HYENA TZ 1994
KU578254_SE JACKAL TZ 2011
KU578253_SE DOG TZ_2007
AB474397_007LM DOG JP 2004
AB475099_55L DOG JP 2009
AB476401_011C DOG JP 2004
AB490672_009LH DOGH JP 2004
AB490678_50CBLH DOGH JP 2009
KF914669_2784 DOG IT_2013
KK024709_12254 RADGER IT_2015
22458 DOG SPA 2016
KKX774415_FT61 TIGER RU 2004
BAIKAL SEAL_RU 1988
MH496772_1 DOG TH 2014

```

FIG. 13 (cont.)

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_RACCOONDOG_CN_2012	T.....*
MH496775_4_DOG_TH_2014	T.....*
JN896331_FS_DOGV_CN_2010	T.....*
AE753775_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_HIJ1_FOX_CN_2006	T.....*
KP793921_GIANTPANDASX_CN_2014	..A..T.....*
KP677502_LOUGUANTAIL_PANDA_CN	T.....*
KP765763_SD7_FOX_CN_2014	T.....*
KP738610_SD11_RACCOONDOG_CN_20	T.....*
MH337872_SD16F_FOX_CN_2016	T.....*
KX499865_ZHL_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.....*
KE856711_BJ01_MONKEY_CN_2006	T.....*
HM852904_MRYKM08_MACAQUE_CN_20	T.....*
LC342298_RCI3_RACCOON_JP_2016	P.....T.....*
KJ94343_ZC_RACCOONDOG_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.....*

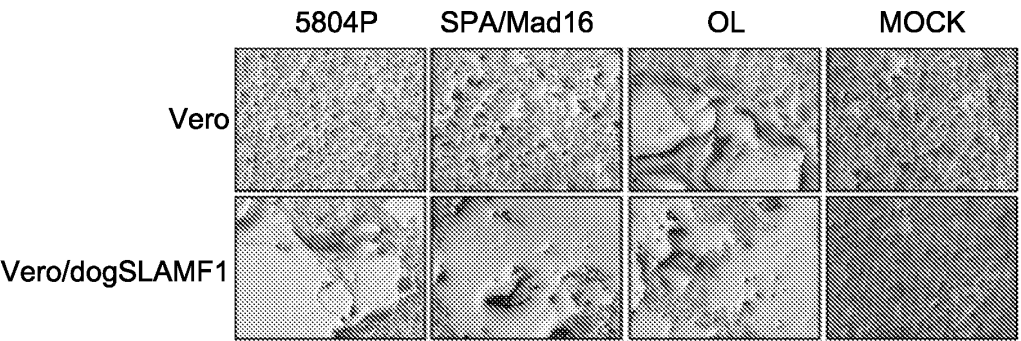


FIG. 14A

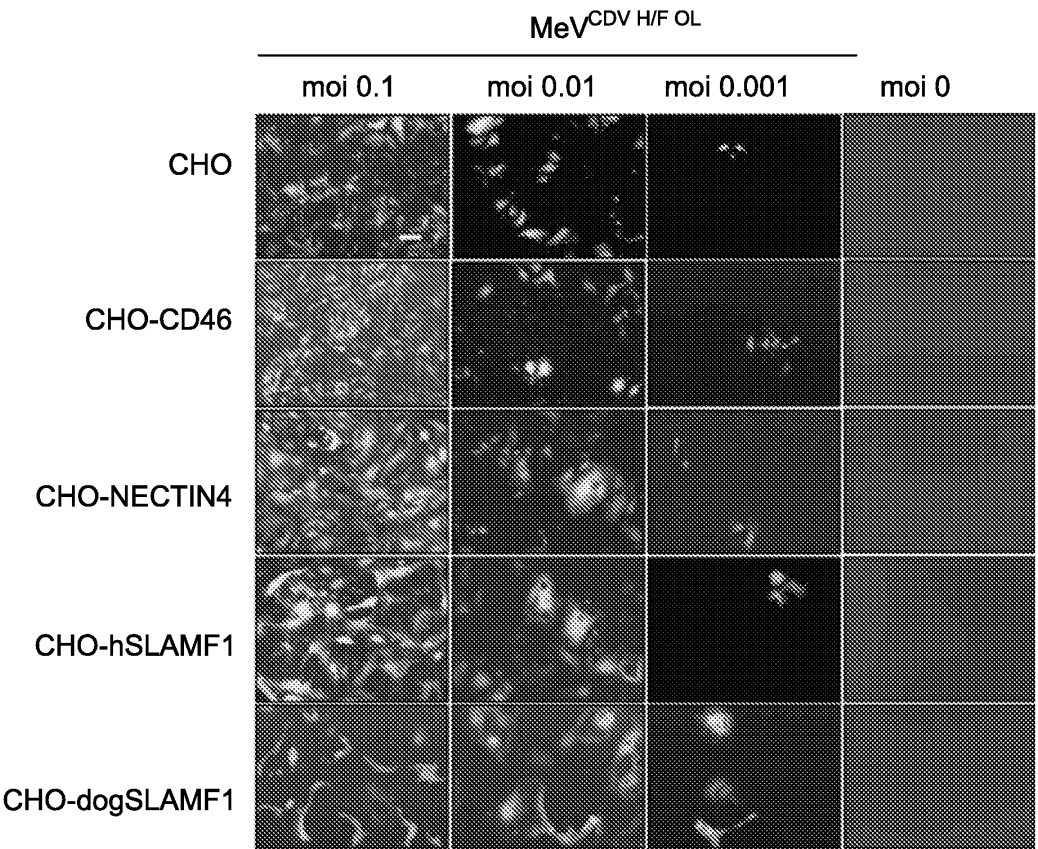


FIG. 14B

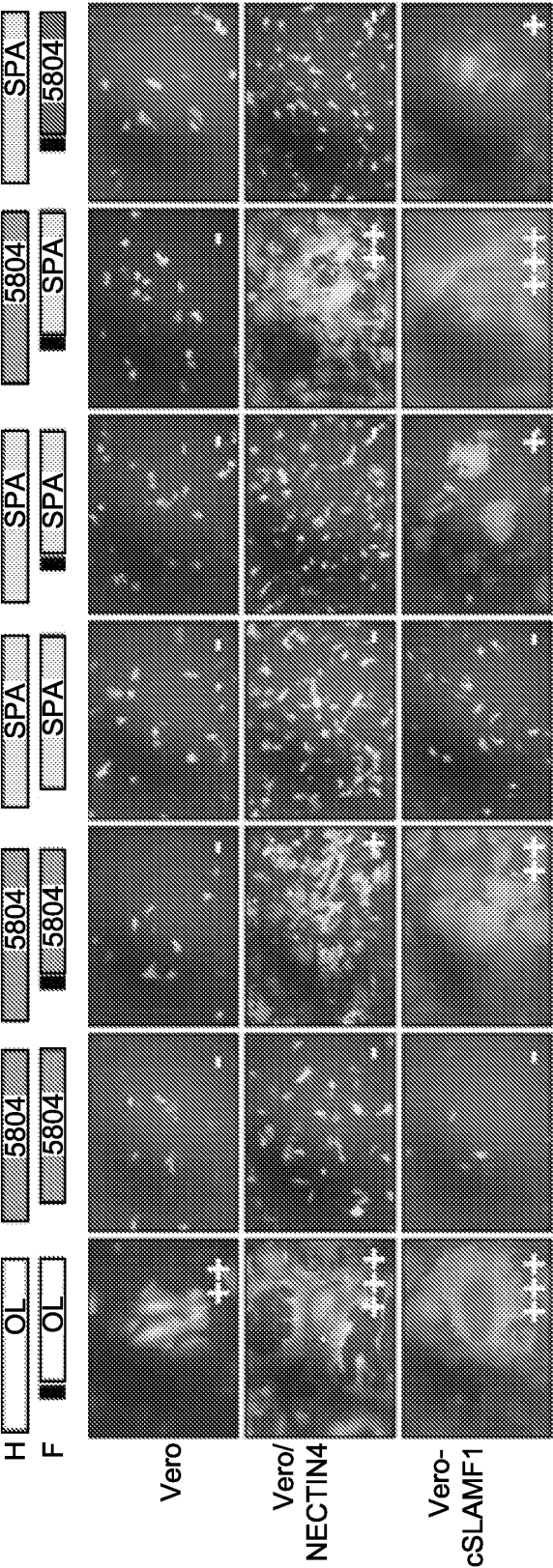


FIG. 15A

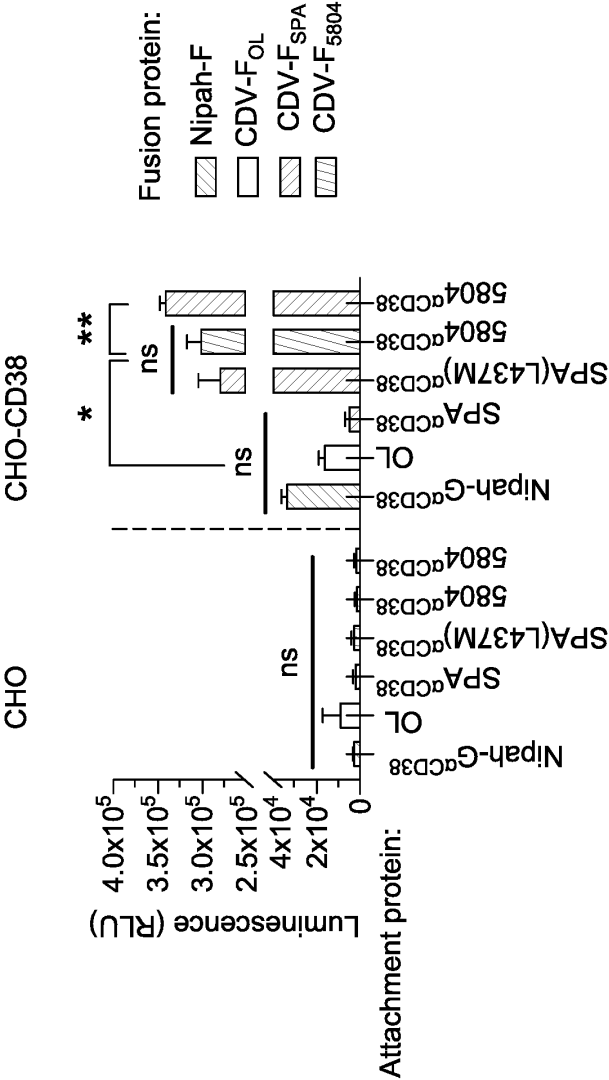


FIG. 15B

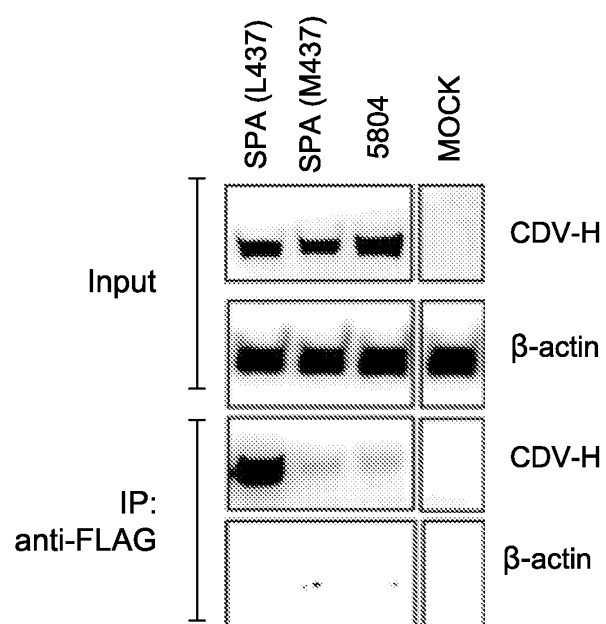


FIG. 15C

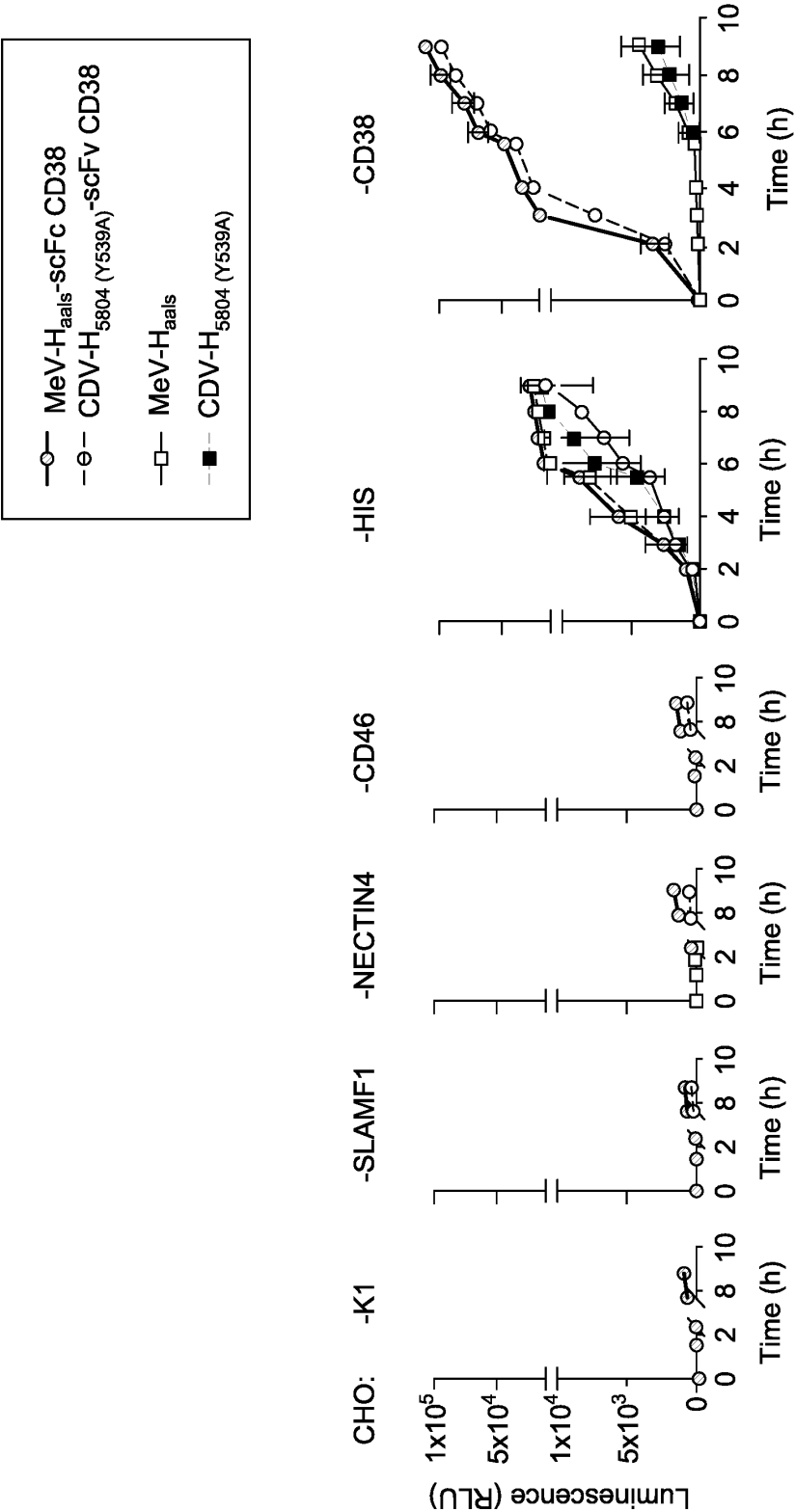


FIG. 15D

FIG. 16

KX024709.1	G.....H.....T.R.....N.....MD.....	L.....	S.....	I.....	S.....
Z47760.1	G.....I.R.....D.....	L.....	S.....	I.....	S.....
KC966928.1	G.....H.....T.R.....N.....MD.....	L.....	S.....	I.....	S.....
AF172411.1	G.....I.R.....D.....	L.....	S.....	I.....	S.....
AY964108.1	G.....H.....I.R.....D.....	L.....	S.....	I.....	S.....
DQ226087.1	G.....H.....I.R.I.....D.....	L.....	S.....	I.....	S.....
MH430949.1	G.....V.I.....D.....	L.....	S.....	I.....	S.....
SPA_Mad/22458/16	G.....H.....T.R.....N.....D.....	L.....	S.....	I.....	S.....
GU266280.1	G.....P.I.....D.....	VL.....	S.....	I.....	S.....
FJ461702.1	G.....P.I.....D.....	VL.....	S.....	I.....	S.....
AY964114.1	G.....H.P.I.....D.....	VL.....	S.....	I.....	S.....
GU810819.1	G.....P.I.....D.....	VL.....	S.....	I.....	S.....
Z47759.1	G.....PGI.....D.....	VL.....	S.....	R.....	T.....
GQ214374.2	G.....PDI.....DF.....	VL.....	S.....	G.....	I.....
JN153023.1	G.....PGI.....D.....	VL.....	S.....	I.....	I.....
DQ889187.1	G.....PGI.....L.....I.....	L.....	S.....	T.....	T.....
FJ392651.1	G.....P.I.....D.....	VL.M.....	S.....	I.....	I.....
DQ889188.1	G.....PGI.....I.....	L.....	S.....	T.....	T.....
JN153020.1	G.....PGI.....D.....	VL.....	S.....	I.....	I.....
AY386316.1_5804P	G.....P.I.....SD.....	R.....	S.....	I.....	I.....
AY386315.1	G.....P.I.....SD.....	R.....	S.....	I.....	I.....
JN153024.1	G.....P.I.....SD.....	VL.....	S.....	I.....	I.....
FJ416338.1	G.....P.I.....V.....D.....	VL.....	S.....	I.....	I.....
GU001863.1	G.....P.M.....PD.....	VL.....	S.....	I.....	I.....
XB5000.1	G.....P.I.....SD.....	R.....	S.....	I.....	I.....

FIG. 16(Continued)

KJ865300.1	G.....P.I.....T.SD.....L.....S.....I.....	South america-2
FJ392652.1	G.....W.....P.I.....V.....SD.....L.....S.....I.....	
EU098102.1	G.....P.I.....P.I.....SD.....L.....S.....I.....	
MH362795.1	G.....P.I.....P.I.....T.SD.....L.....S.....I.....	
JN215476.1	G.....PNI.....PNI.....SD.....L.....I.....	
KF835412.1	G.....P.I.....H.....S.SD.....S.....VL.....S.....I.....	South america-3
KF835422.	G.....P.I.....H.....SD.....VL.....S.....I.....	
KF835411.1	G.....P.I.....H.....S.SD.....VL.....S.....I.....	
KY971528.1	G.....S.I.....D.....L.....S.....I.....	Africa-1
FJ461719.1	G.....I.....D.....L.....S.....I.....	
FJ461696.1	G.....I.....D.....VL.....S.....I.....	
KY971532.1	G.....I.....F.DP.....L.....S.....I.....	
KU578254.1	A..I.P.IH.....D.....D.....VL.....S.....I.....	Africa-2
KKU578255.1	I.P.I.....H.....D.....D.....VL.....S.....I.....	
KU578253.1	I.P.IH.....D.....D.....VL.....S.....I.....	
KU578254.1	A..I.P.IH.....D.....D.....VL.....S.....I.....	
AB025271.2	G.....P.I.....SD.....VL.....S.....T.....	Asia-1
DB5755.1	G.....L..P.I.....D.....V.....VL.....S.....T.....	
AB687720.2	G.....P.I.....Y.....D.....VL.....S.....T.....	
EU564813.1	G.....P.I.....D.....VL.....S.....T.....	
JQ732176.1	G.....P.....E.....VL.....S..H..T.....	
EU296484.1	G.....P.I.....A.....D.....VL.....S.....T.....	
KJ994343.1	G.....P..N.....E.....S.VL.....S.....T.....	
MH337872.1	G.....P.....E.....V.....VL.....S.....T.Y.....	

FIG. 16(Continued)

EU716073.1	V.....I.....D.....L.....S.....T.....	Asia-2
AB475099.1	V.....I.....N..D.....L.....S..K..T.....	
FJ868161.1	V.....H..I.....N..D.....L.....S.....T.....	
JQ732170.1	V.....I.....I.....D.....L.....S.....I.....	
AY297453.12	V.....I.....I.....N..D.....L.....S.....T.....	
AB025270.1	V.....I.....I.....N..D.....L.....S.....T.....	
AB212730.1	V.....I.....I.....N..D.....L.....S.....T.....	
EU743934.1	V.V.....ERI.....N..D.R.....L.....S.E.....TS.....	Asia-3
EU743935.1	V.V.....ERI.....N..D.R.....L.....S.E.....TS.....	
KJ489381.1	G.....P.I.....N.....I.D.....VL.....S.....V.....	Asia-4
KJ437596.1	G.....P.I.....N.....D.....VL.....R.S.....V.....	
KH496773.1	G.....P.I.....N.....I.D.....VL.....S.....V.....	
MF964178.1	P.I.....G.....DY.....VL.....S.E.....I.....	Asia-5
MF964182.1	P.I.....G.....DY.....VL.....S.E.....I.....	
MF964187.1	P.I.....G.....GY.....VL.....S.....I.....	
MF964181.1	P.I.....G.....DY.....VL.....S.....I.....	
MF964185.1	GR.....P.I..I.....G.....D.....VL.....S.....I.....	
MF964186.1	S..P.I.....G.....D.....VL.....S.....I.....	

FIG. 16(Continued)

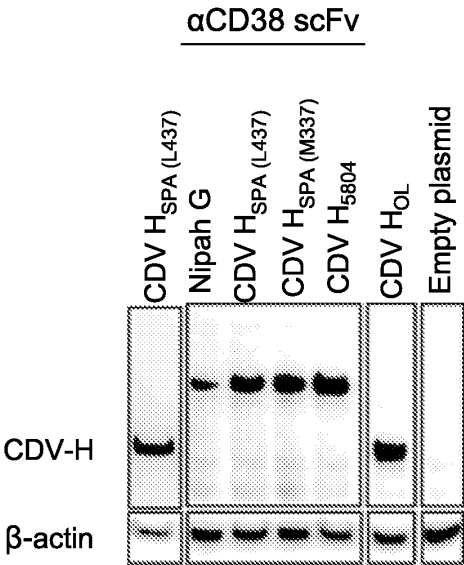


FIG. 17A

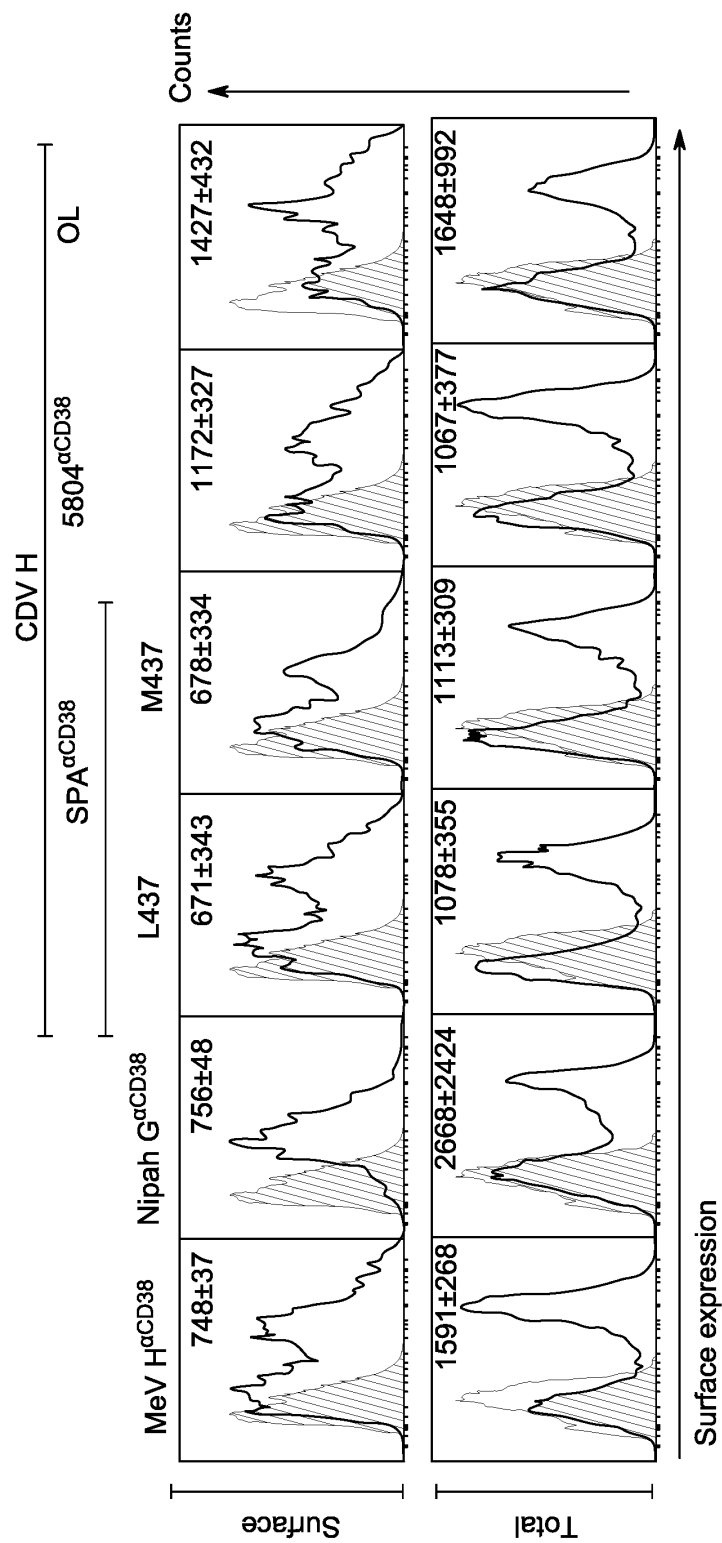


FIG. 17B

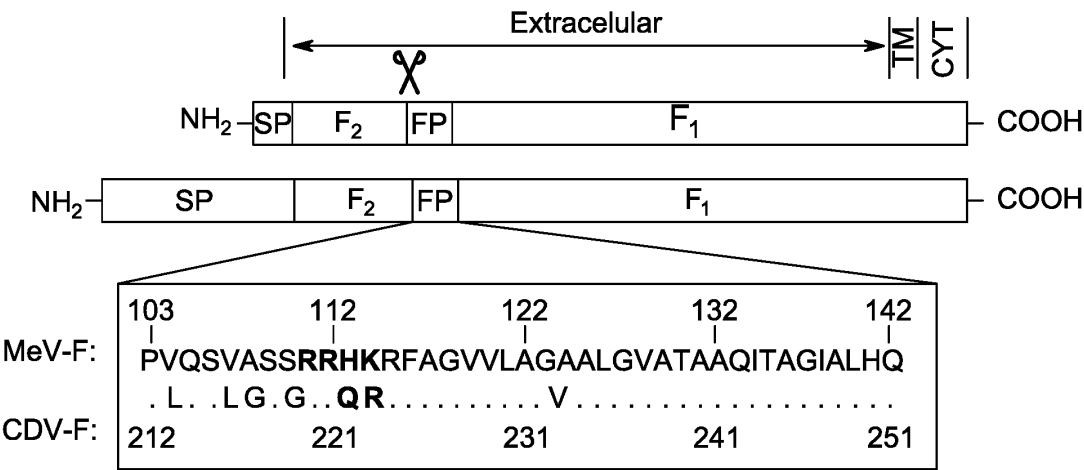


FIG. 18A

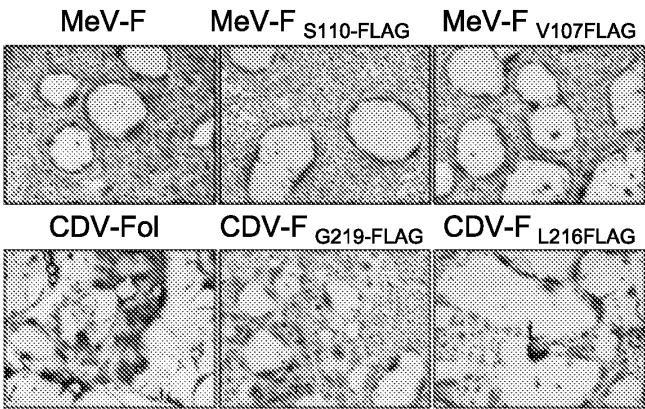


FIG. 18B

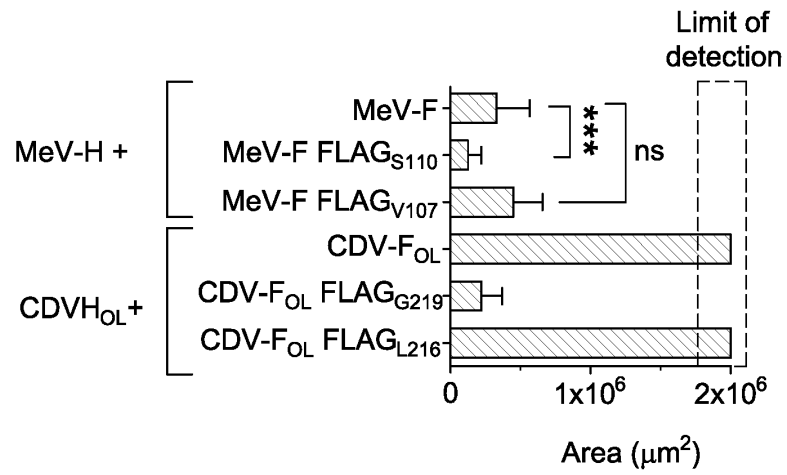


FIG. 18C

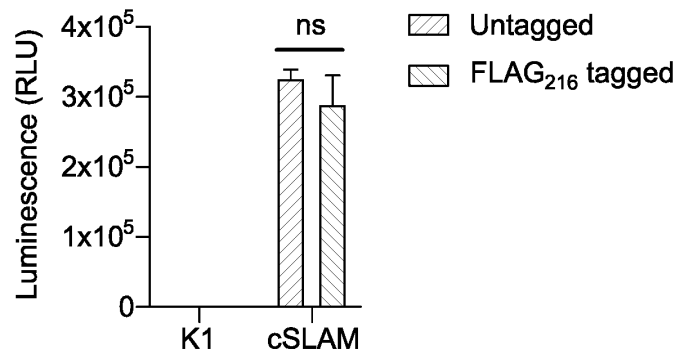


FIG. 18D

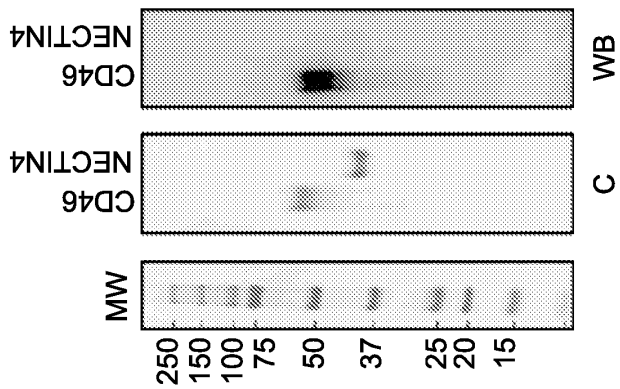


FIG. 19A

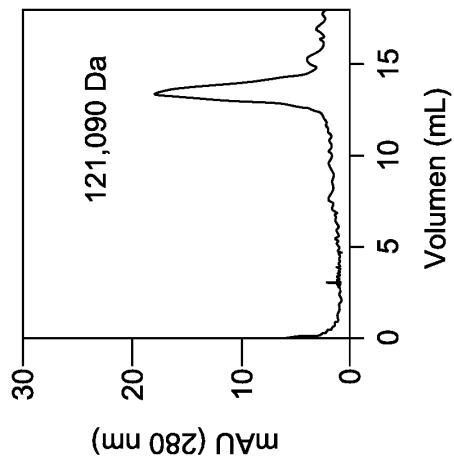


FIG. 19B

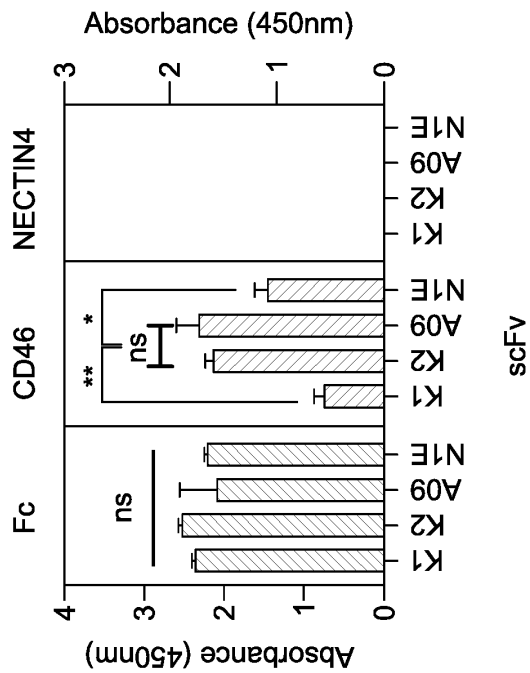


FIG. 19C

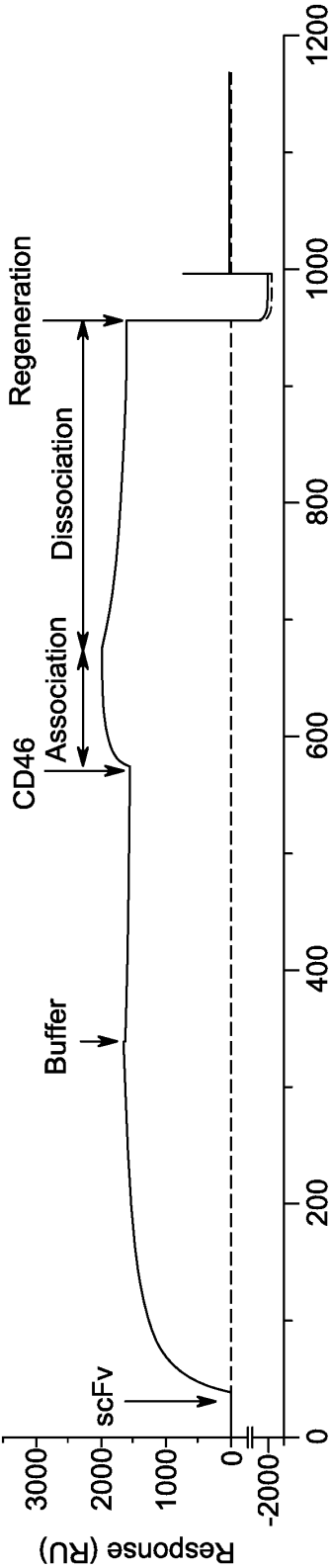


FIG. 20A

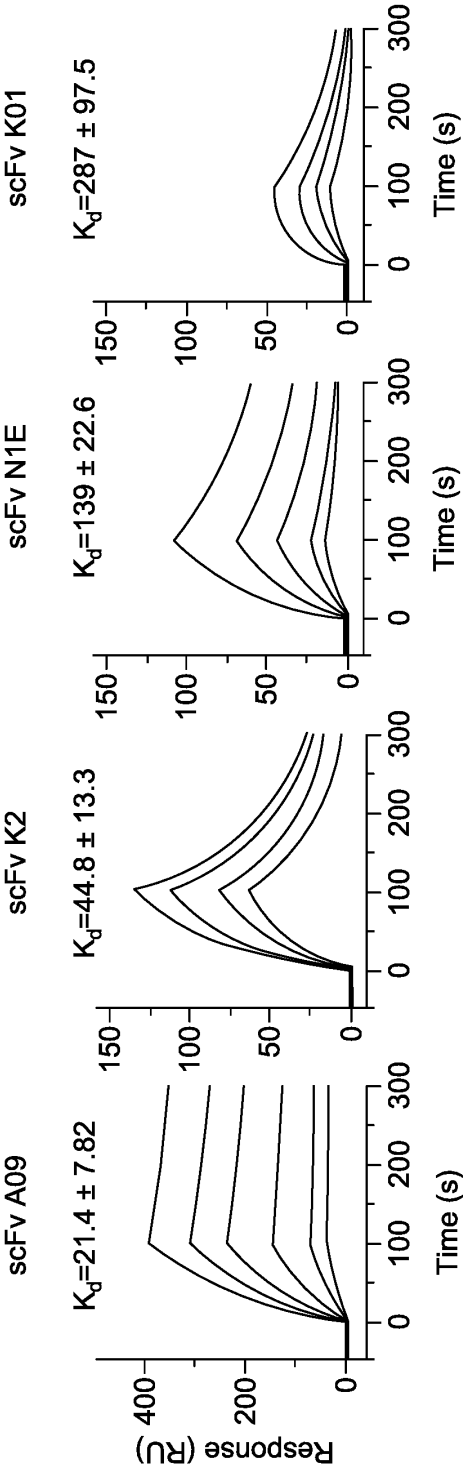


FIG. 20B

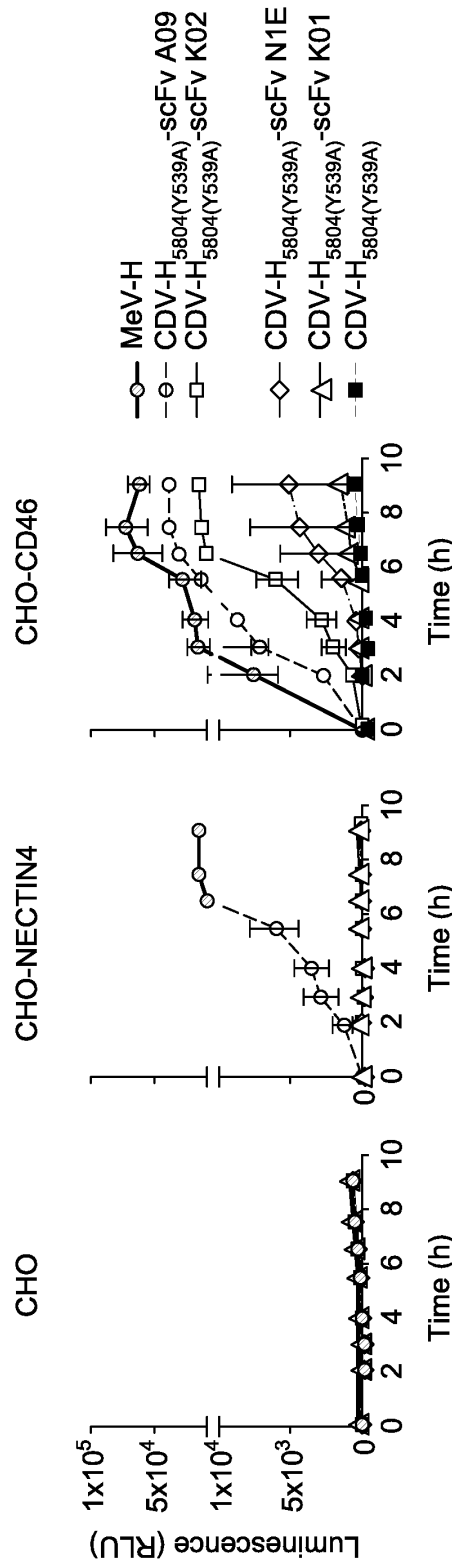


FIG. 20C

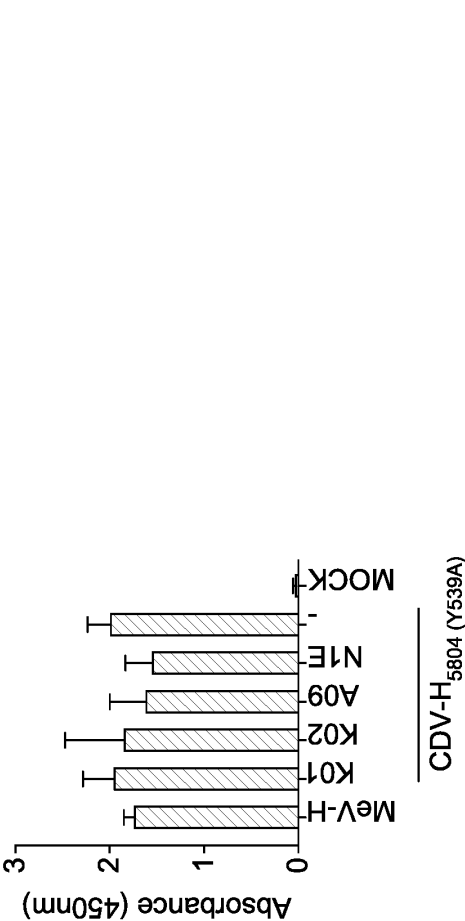


FIG. 21A

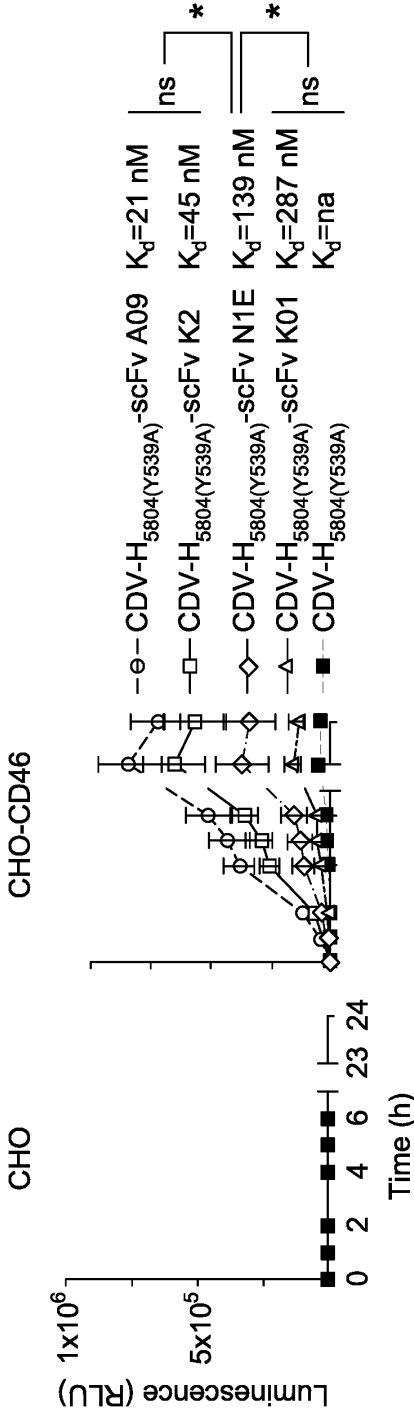


FIG. 21B

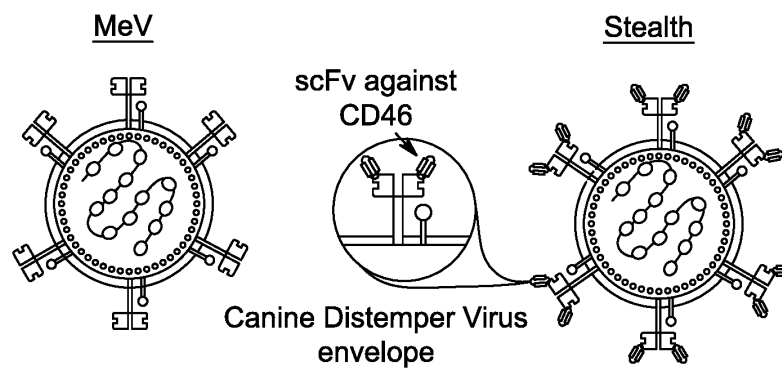


FIG. 22A

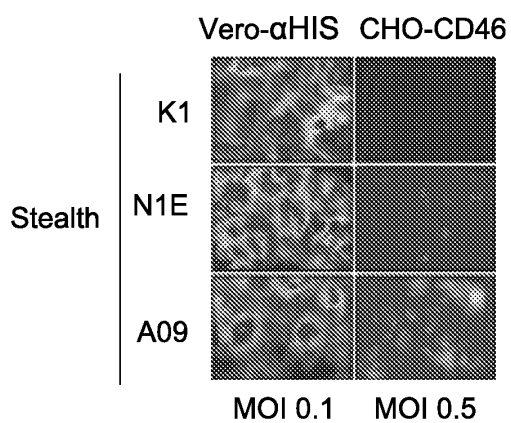


FIG. 22B

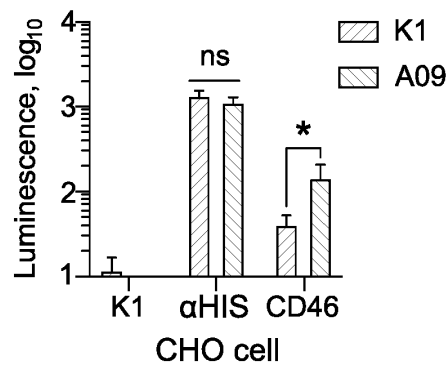


FIG. 22C

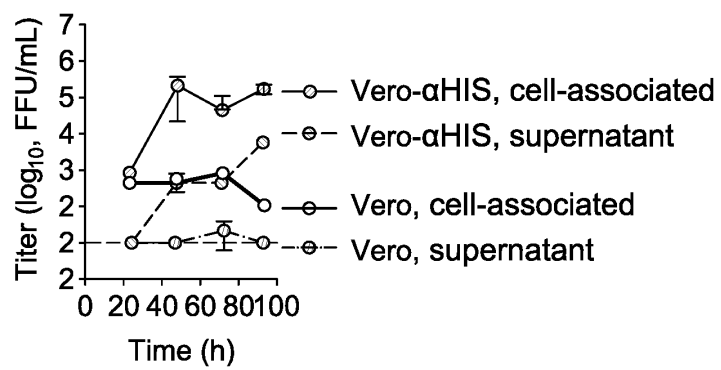


FIG. 22D

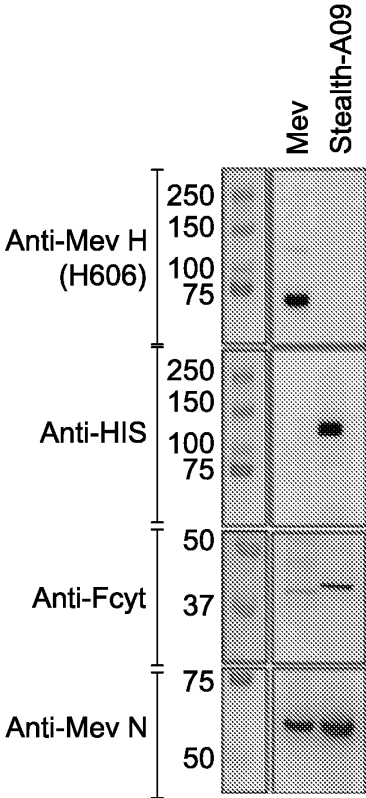


FIG. 22E

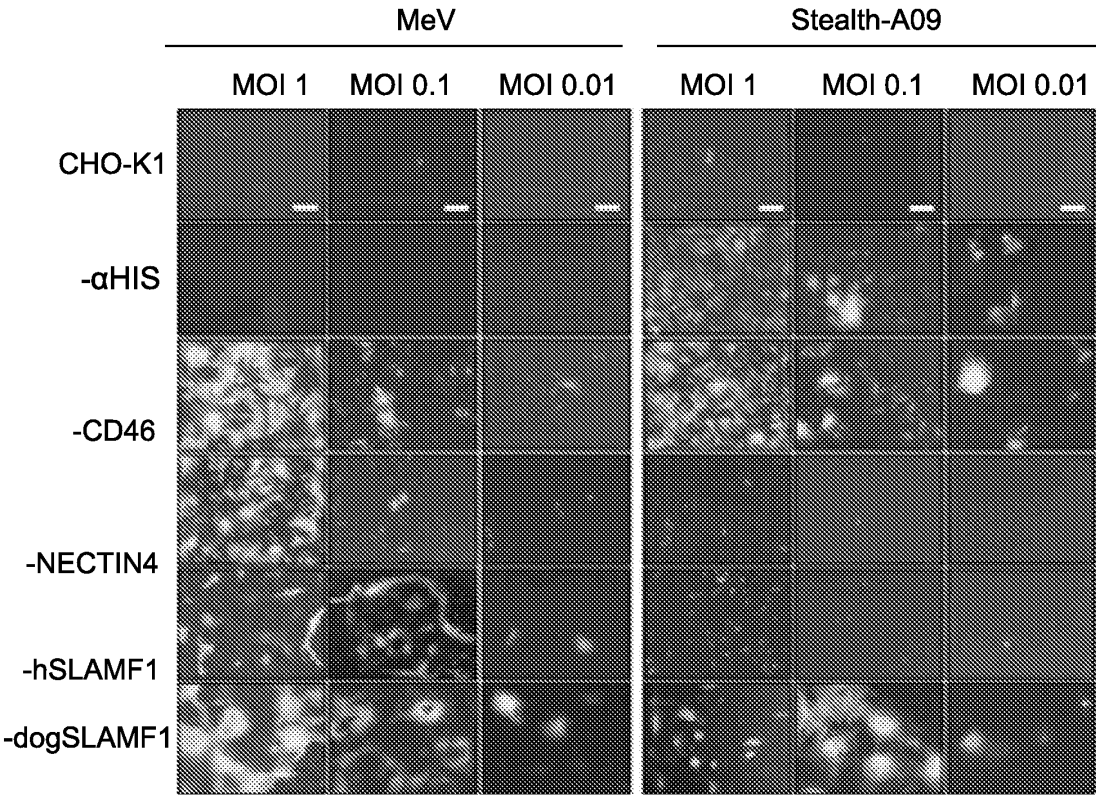


FIG. 22F

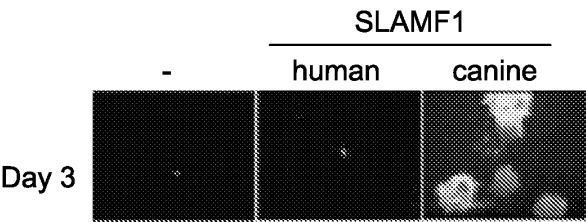


FIG. 22G

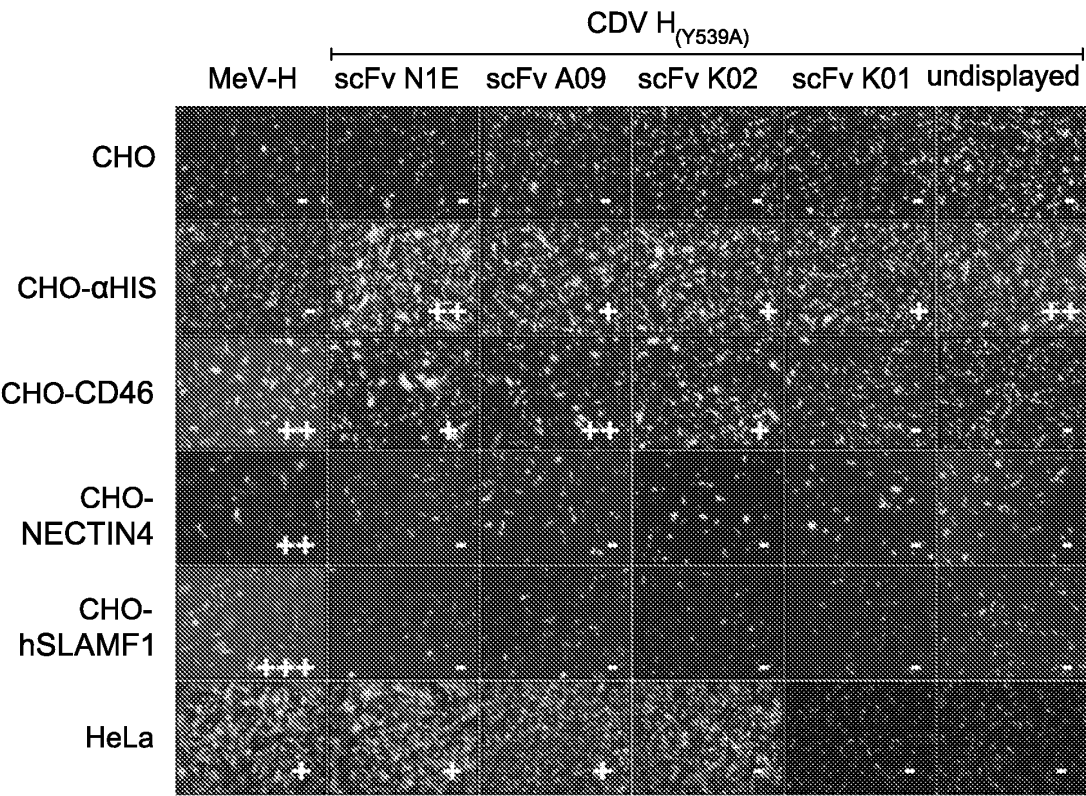


FIG. 23

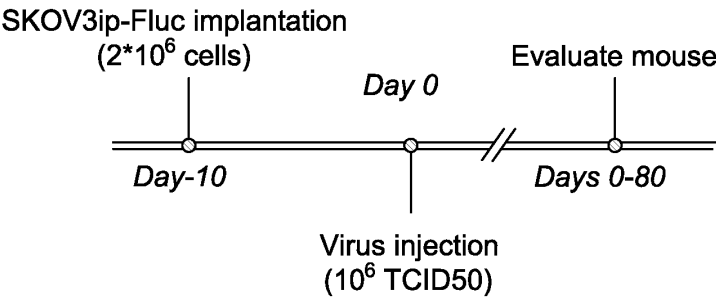


FIG. 24A

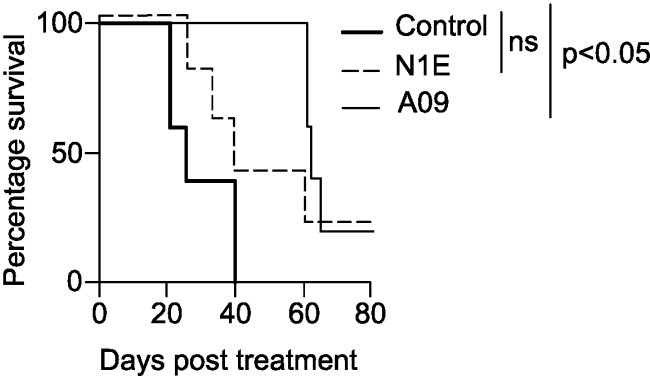


FIG. 24B

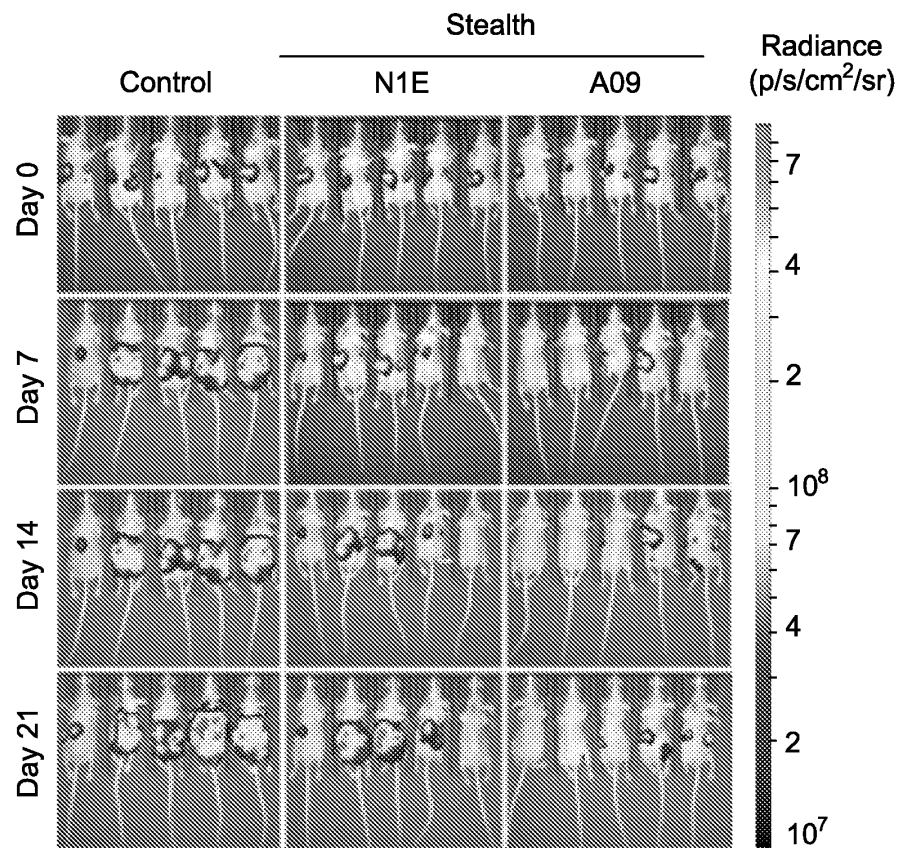


FIG. 24C

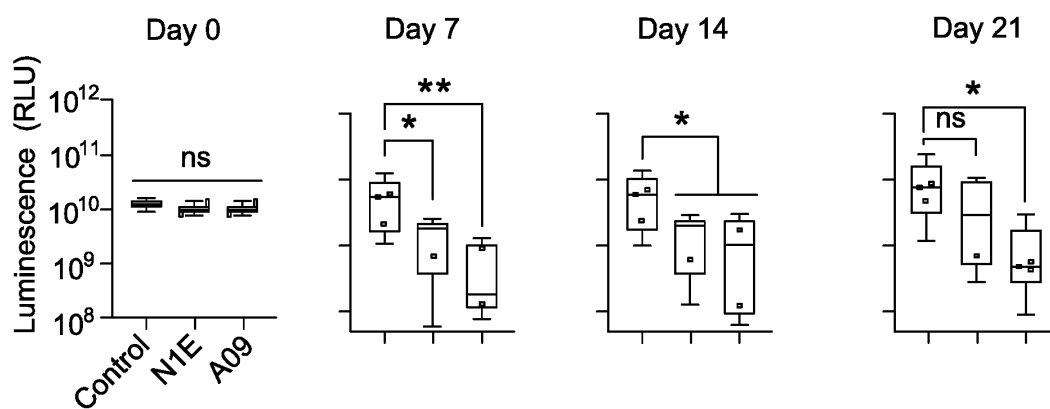


FIG. 24D

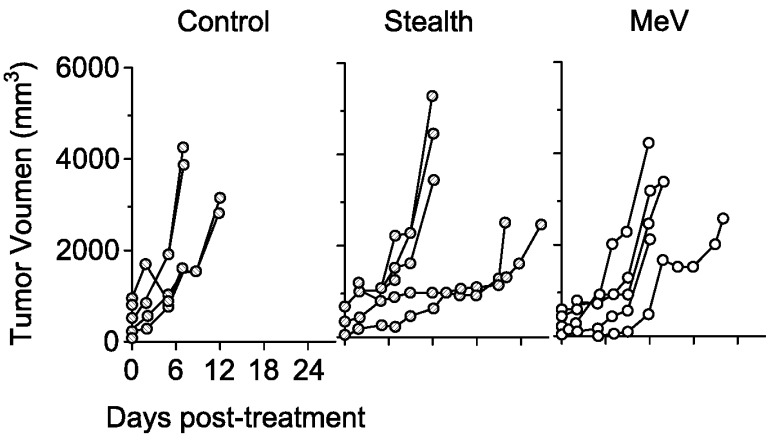


FIG. 25A

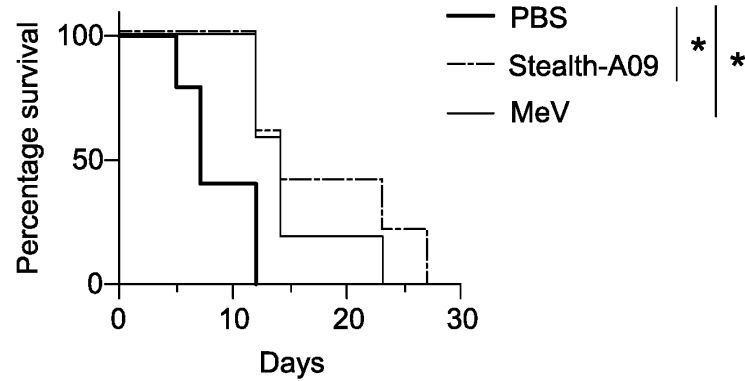


FIG. 25B

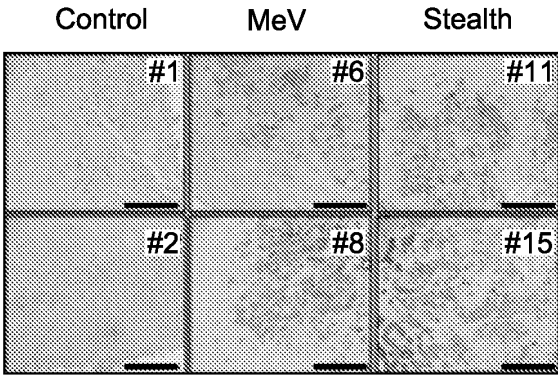


FIG. 25C

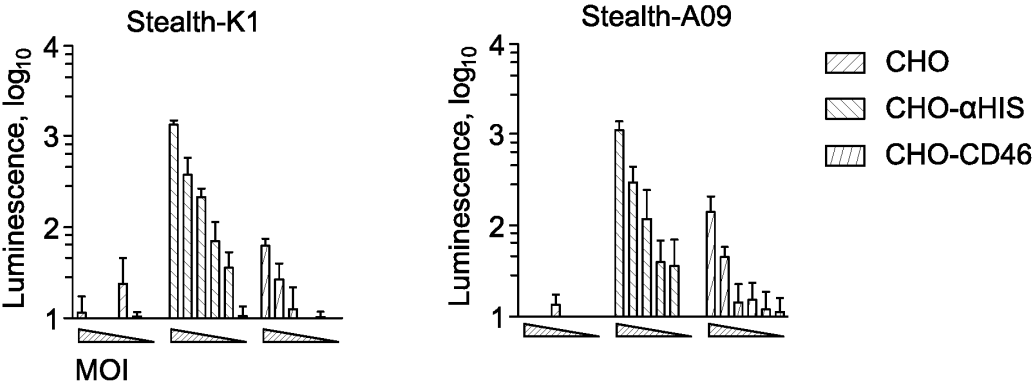


FIG. 26

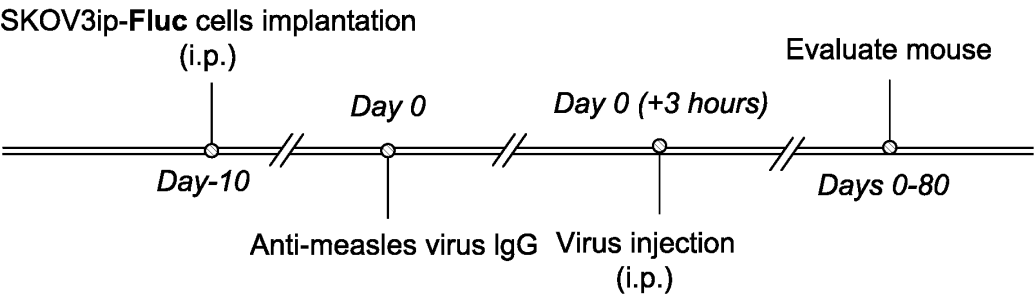


FIG. 27A

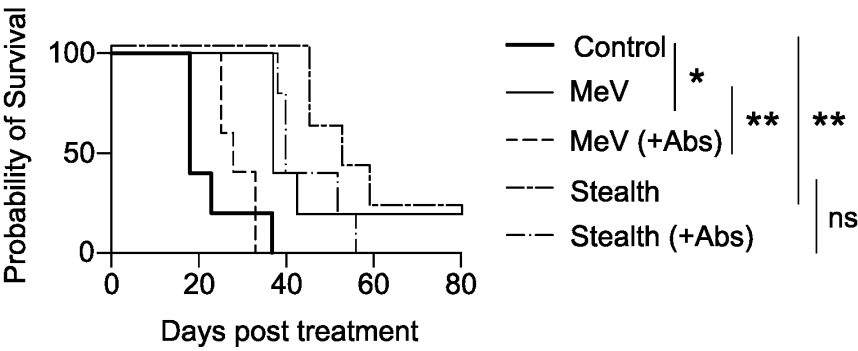


FIG. 27B

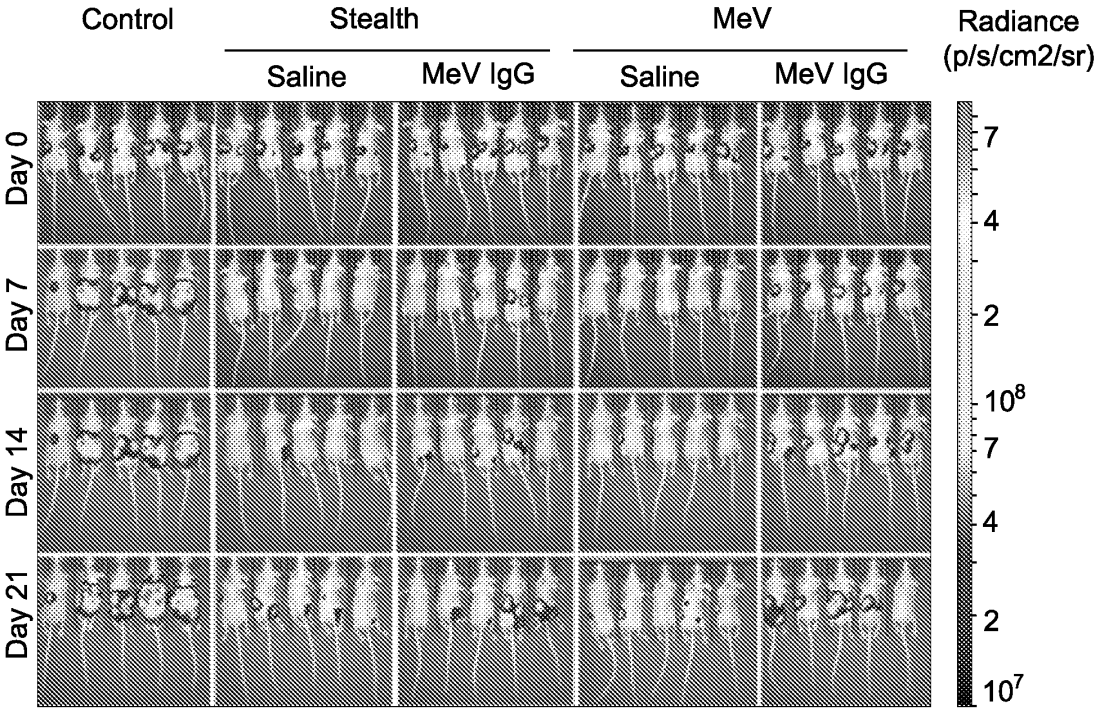


FIG. 27C

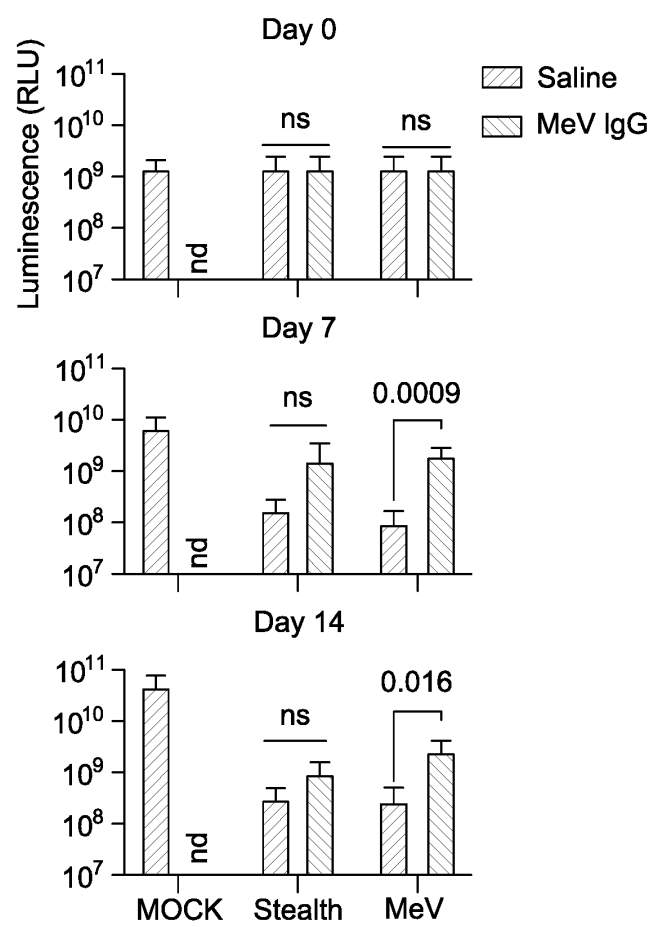


FIG. 27D

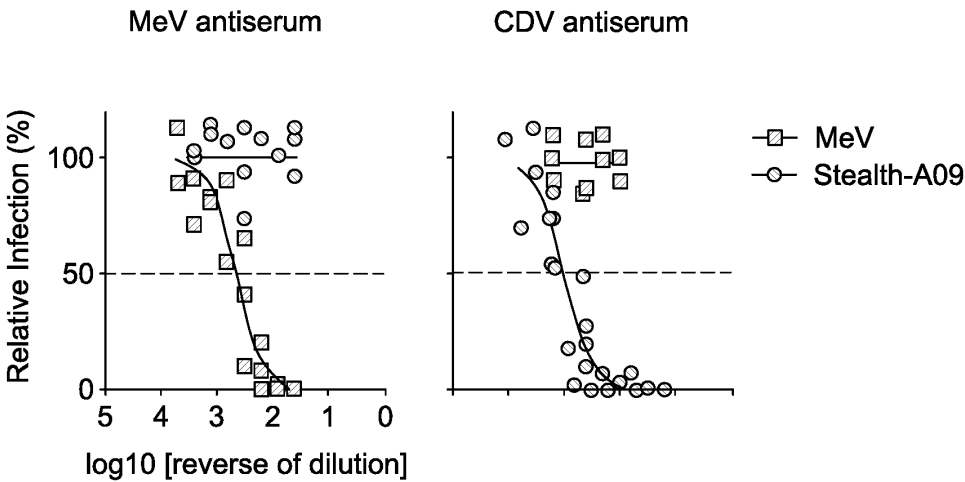


FIG. 28A

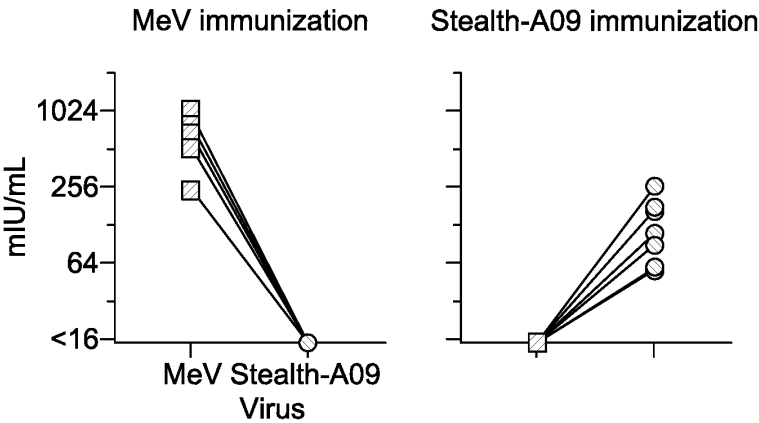


FIG. 28B