

Figure 1

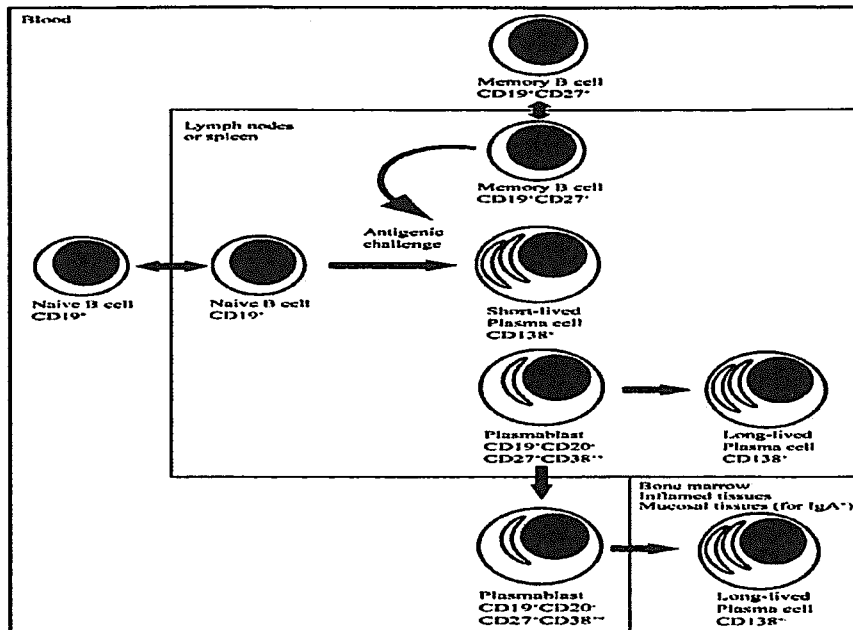


Figure 2

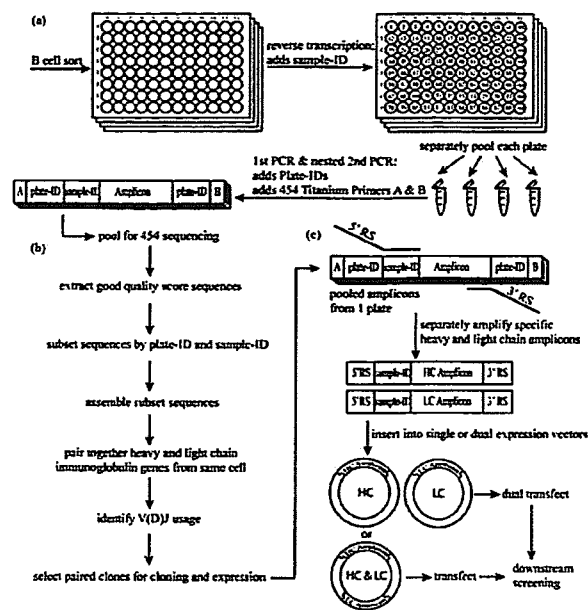


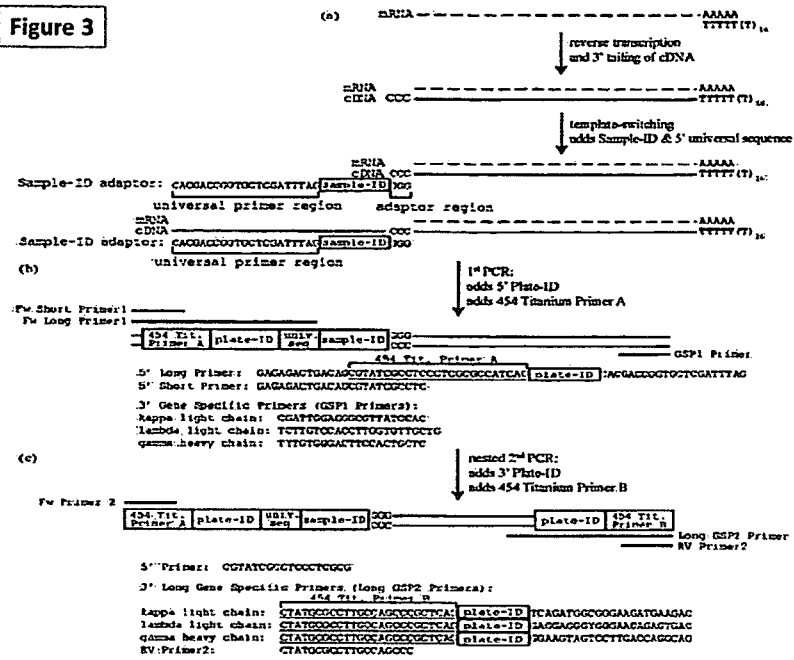
Figure 3

Figure 4

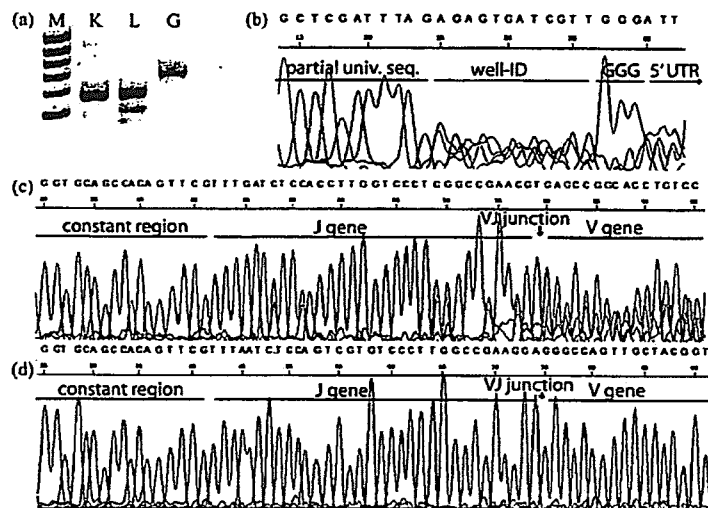


Figure 5

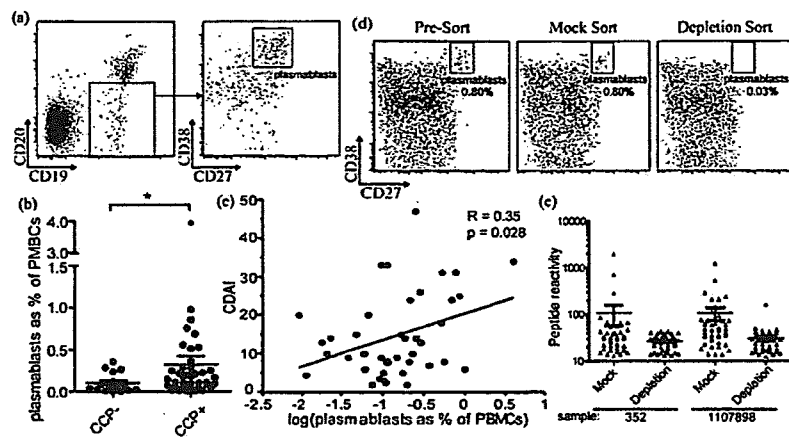


Figure 6

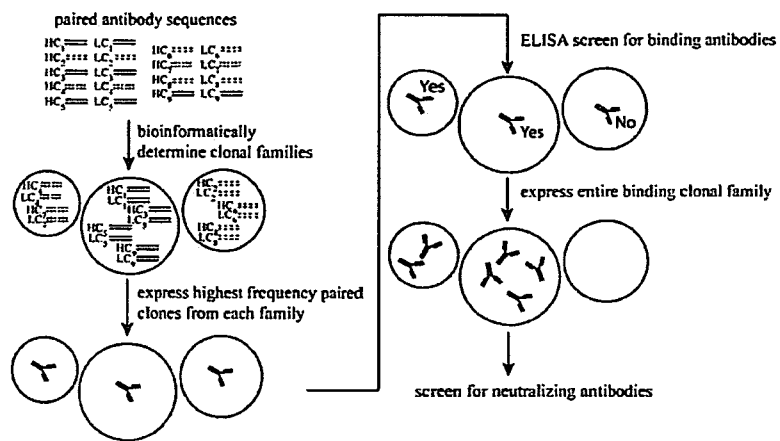
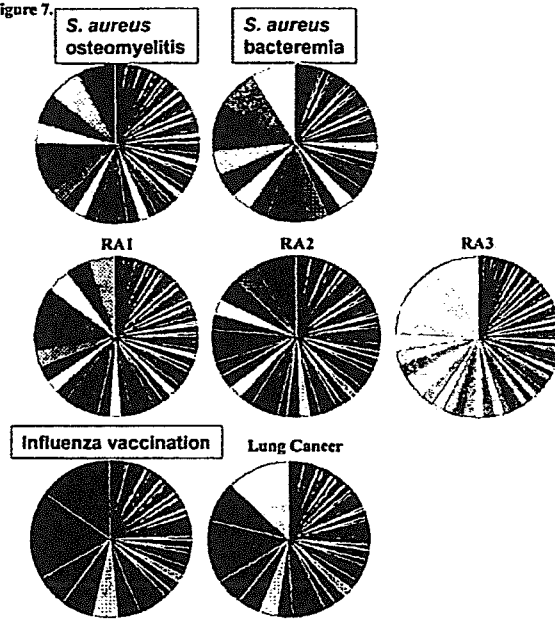


Figure 7.



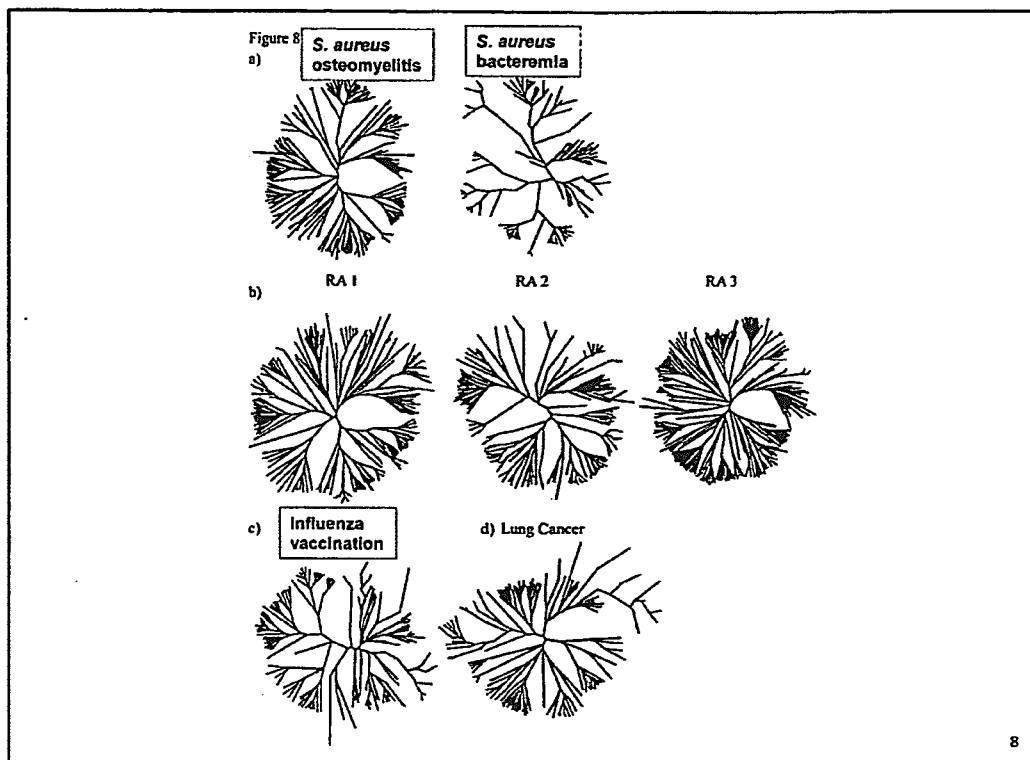


Figure 3

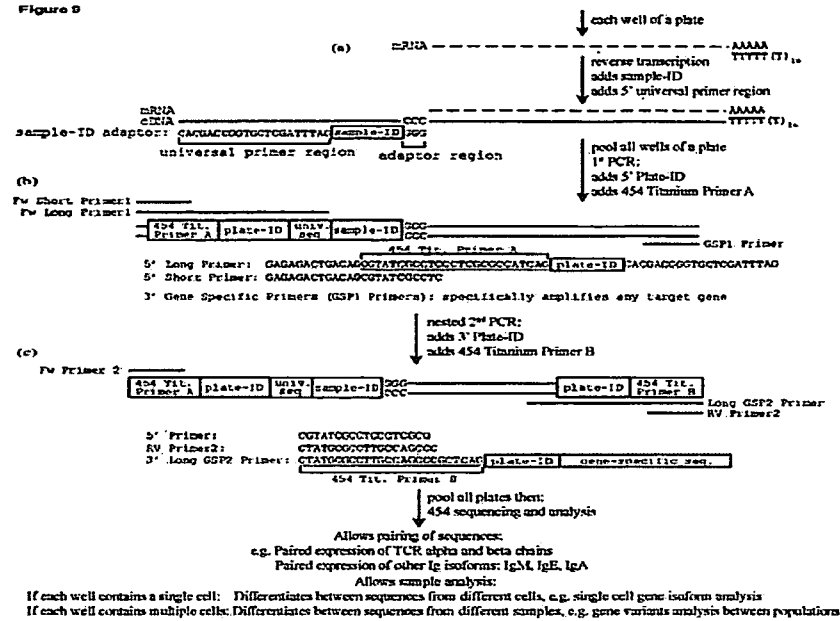


Figure 10

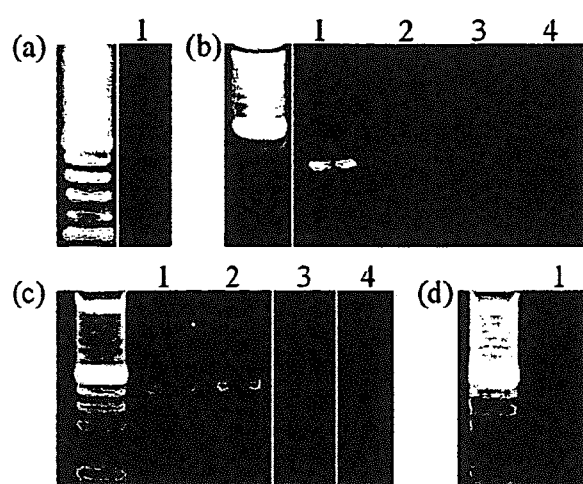


Figure 11

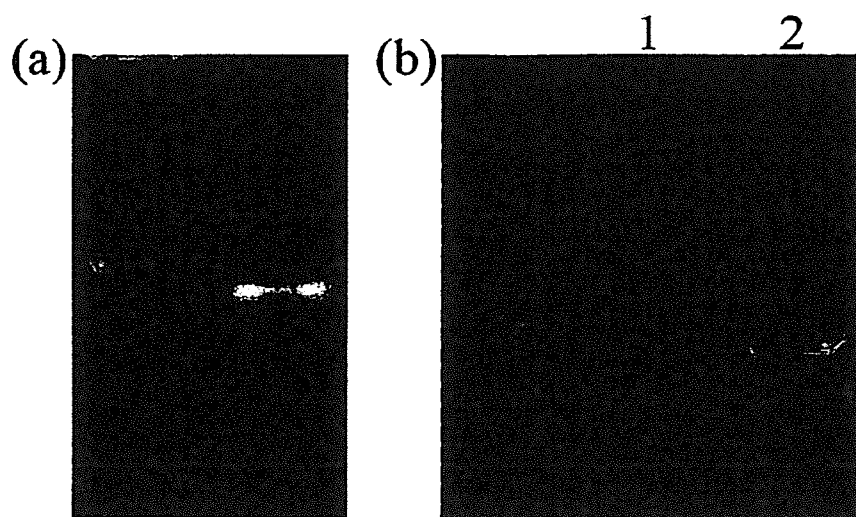


Figure 12

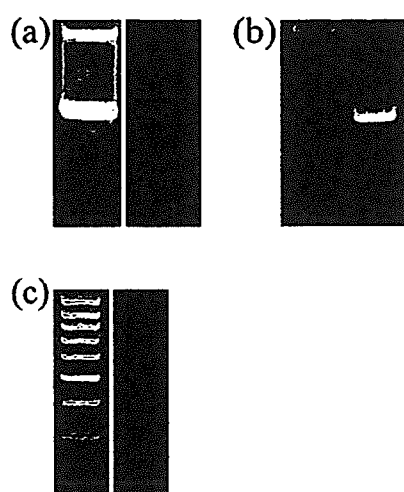


Figure 13

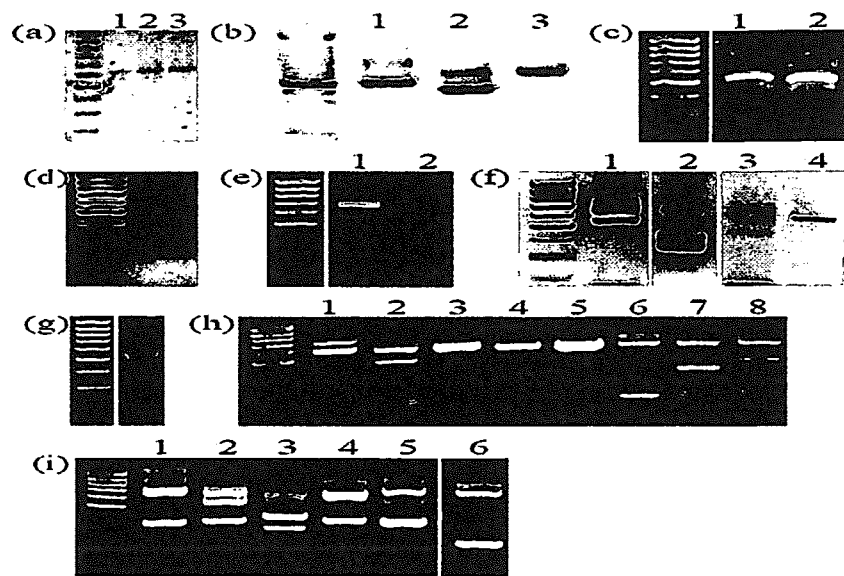


Figure 14

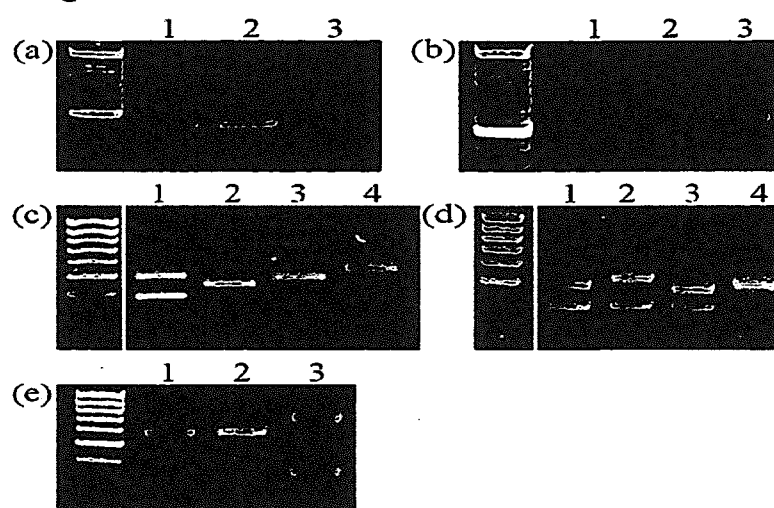


Figure 15

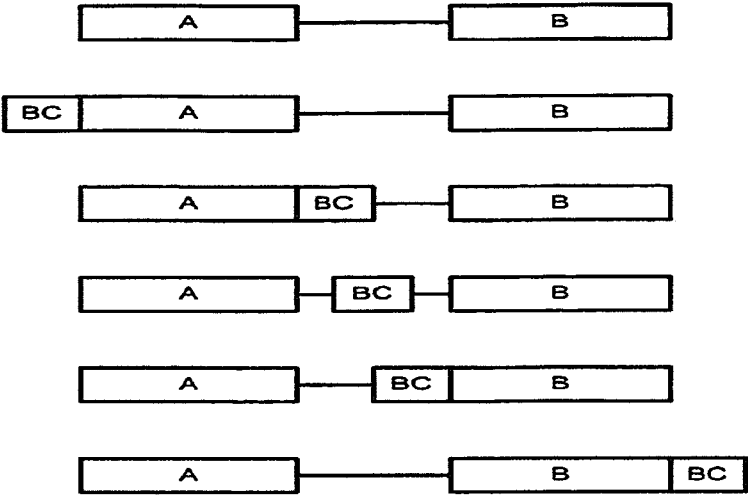


Figure 16

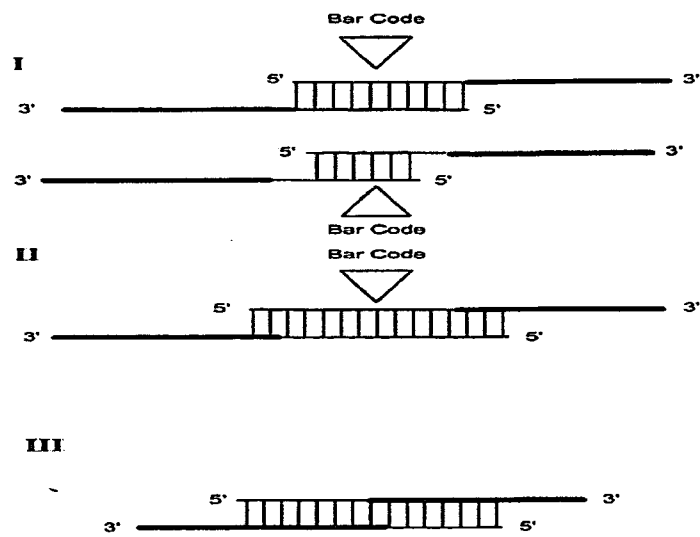


Figure 17

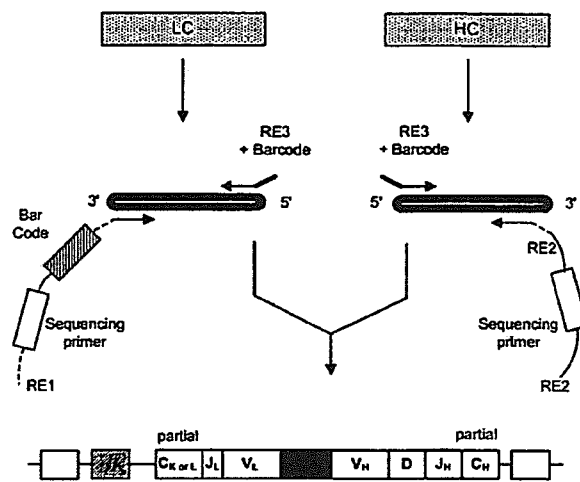


Figure 18

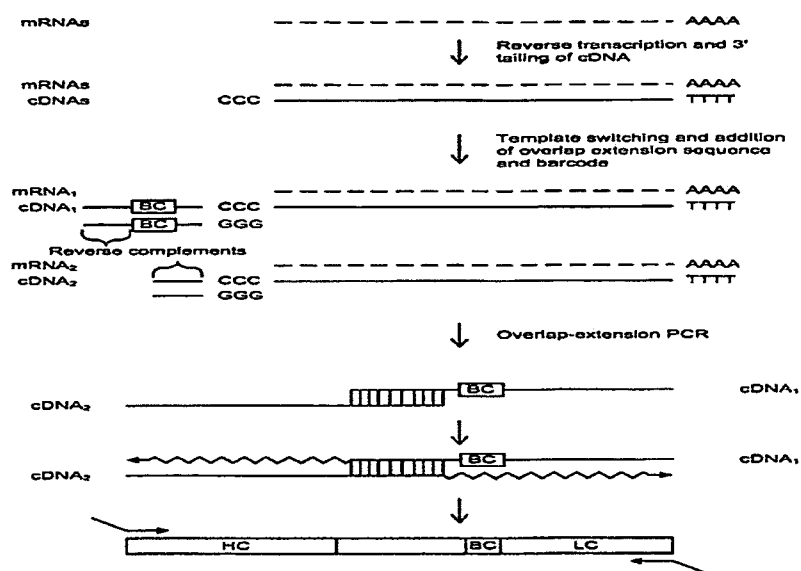


Figure 19

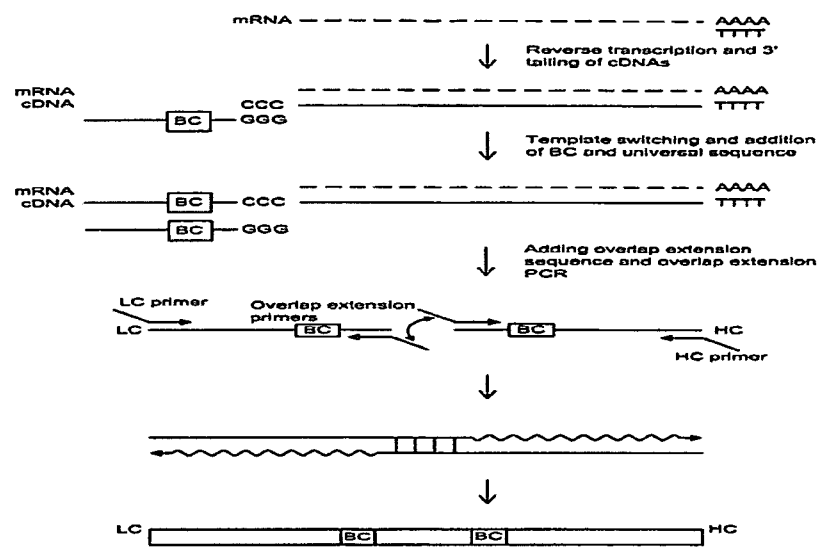


Figure 20

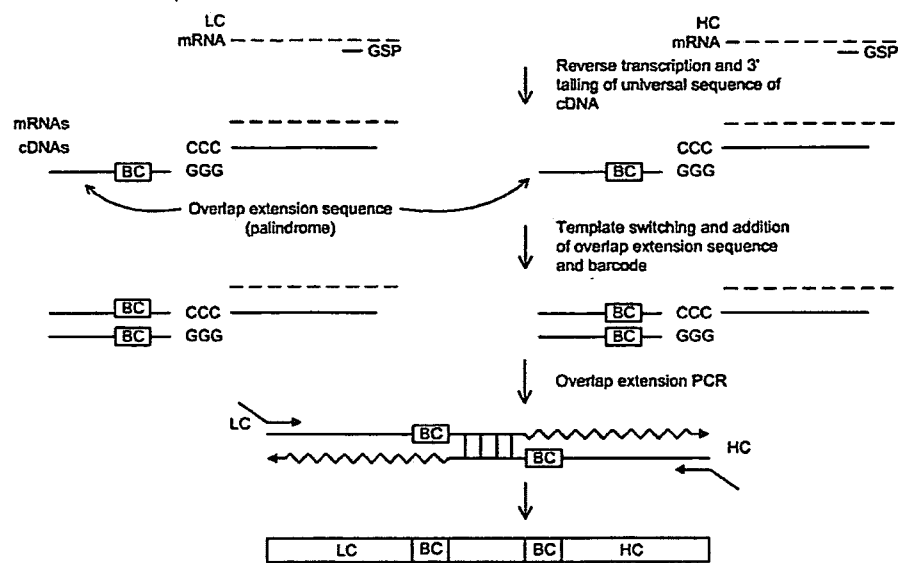


Figure 21

M 1 2 3 4



Sequences:
Univ_seq_2

VK

VL

IgKC.v3_barcode

IgLC.v5_barcode

Fixed_PCR3

AACGCGTGACGAGAGACTGACAG
 ATGAGGSTOCCYGCTCAGCTGCTG G
 GGTCTGGGCCAGTCTGCCCTG
 AGGCCCTTACGACTGCGTCTTGAAACAATACCAGATGGGGGAAGATGAAGAC
 AGGCCCTTACGACTGCGTCTTGAAACAATACCAGATGGGGGAAGATGAAGAC
 AGGCCCTTACGACTGCGTCTTG

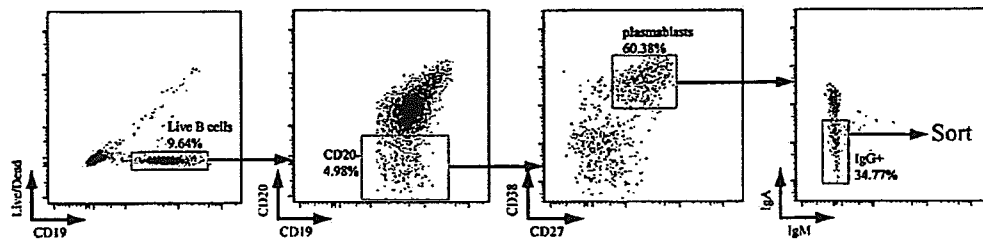
FIGURE 22

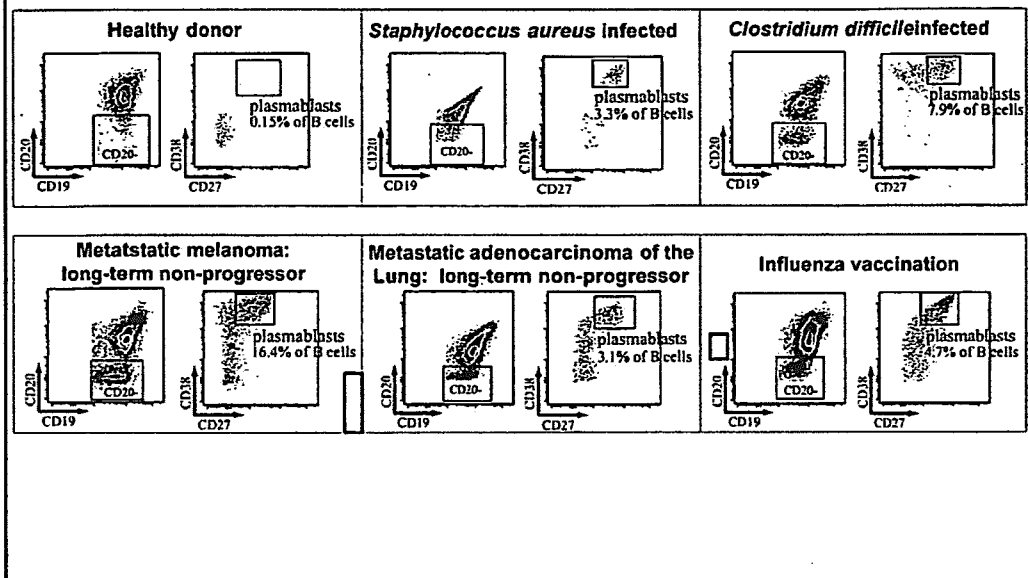
FIGURE 23

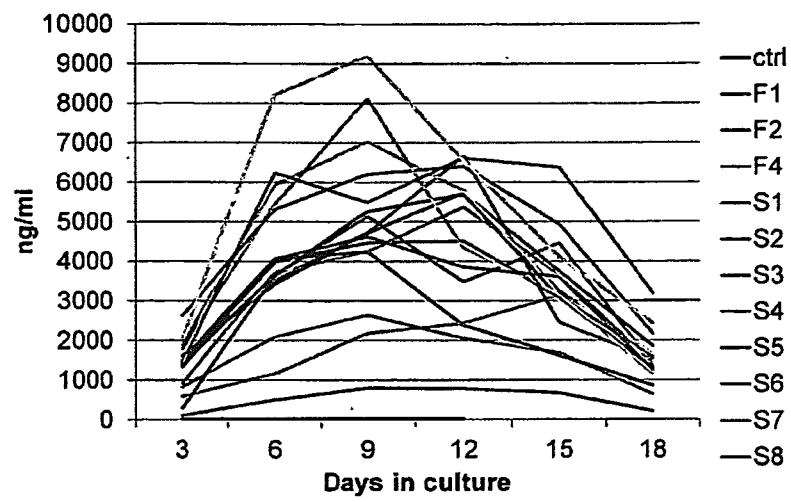
FIGURE 24

FIGURE 25B

51.A11.1 SCSSSTUTTMMWYRQA
 49.A08.1 SCAASSTMTMMWYRQA
 51.D07.1 SCSSSTUTTMMWYRQA
 Consensus SCVXSGFTFR VYDMHWVRQA
 Conservation 100%
 0%

CDR1

51.A11.1 A S I G S N A S I C
 49.A08.1 A S I G S N A S I C
 51.D07.1 A S I G S N A S I C
 Consensus VAV I SYDGSNXYY ADSVKGR
 Conservation 100%
 0%

CDR2

51.A11.1 CAN T T T N G N P R P H G T T N G Q G
 49.A08.1 CAN T T T N G N P R P H G A T N G Q G
 51.D07.1 CAN T T T N G N P R P S G T T N G Q G
 Consensus CAN L I T E D N G N P R P X G X X V W G Q C
 Conservation 100%
 0%

CDR3

FIGURE 25C

51.A11.1 T C G A S Q I S N N N Y Q Q P
 49.A08.1 T C G A S Q I S M N N Y Q Q P
 51.D07.1 T C G A S I I S N N N Y Q Q P
 Consensus I T C Q A S Q D I S N Y L N W Y Q Q K P
 Conservation 100%
 0%

CDR1

51.A11.1 K L L I Y D A S N L E T G V P
 49.A08.1 K L L I Y D A S N L E T G V P
 51.D07.1 K L L I Y D A S N L E T G V P
 Consensus K L L I Y D A S N L E T G V P
 Conservation 100%
 0%

CDR2

51.A11.1 C Q Q N P L T F G G G
 49.A08.1 C Q Q S P L T F G G G
 51.D07.1 C Q Q N P L T F G G G
 Consensus C Q Q Y D N L P L T F G G G
 Conservation 100%
 0%

CDR3

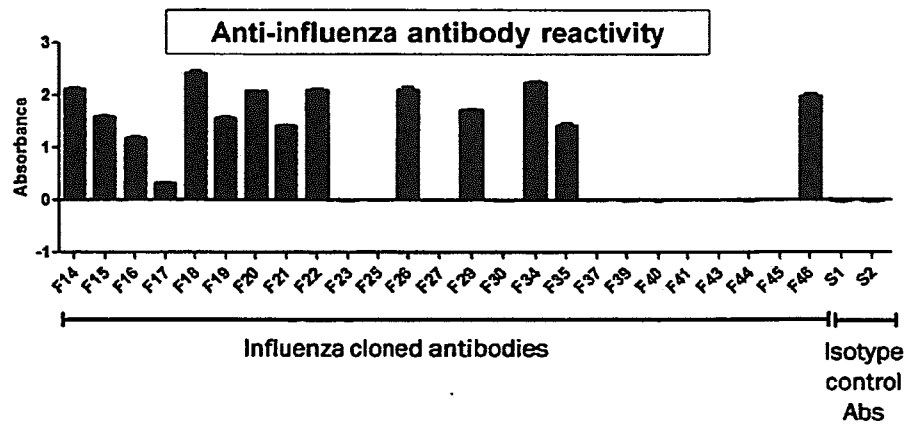
FIGURE 26

FIGURE 27

Antibody	Bound H3 Perth?	Bound H1 California?	K _a	K _d	K _d
FLU 14	Y	N	7.12E+05	1.13E-02	3.04E-08
FLU 16	Y	N	5.35E+05	5.86E-03	1.36E-08
FLU 18	Y	N	2.89E+05	1.60E-03	6.00E-09
FLU 19	Y	N	1.96E+05	5.08E-02	2.59E-07
FLU 20	Y	N	3.77E+05	6.28E-02	4.62E-07
FLU 22	Y	N	1.39E+05	6.75E-03	5.38E-08
FLU 26	Y	N	5.24E+05	1.52E-04	3.13E-10
FLU 34	Y	N	1.40E+05	1.26E-02	9.25E-08
FLU 35	Y	N	1.96E+04	2.35E-02	1.20E-06
FLU 46	Y	N	3.39E+04	4.13E-02	1.24E-06
FLU 21	N	Y	2.23E+05	5.29E-02	2.38E-07
FLU 15	N	N	--	--	--
FLU 17	N	N	--	--	--
FLU 29	N	N	--	--	--

FIGURE 28

Antibody tested	Neutralization of Infectivity	
	H1N1- A/California/07/2009	H3N2 A/Perth/16/2009
mAb F15	No	No
mAb F16	No	Yes, Neutralizes at ≤ 1.5 $\mu\text{g/ml}$
mAb F18	No	Yes, Neutralizes at ≤ 1.5 $\mu\text{g/ml}$
mAb F19	No	Yes, Neutralizes at 3.1 $\mu\text{g/ml}$
mAb F20	No	Yes, Neutralizes at 12.5 $\mu\text{g/ml}$
mAb F21	Yes, Neutralizes at ≥ 1.5 $\mu\text{g/ml}$	Yes, Neutralizes at 100 $\mu\text{g/ml}$
Polyclonal Control	Yes, Neutralizes at $\geq 1/128$ diln	Yes, Neutralizes at $\geq 1/128$ diln

FIGURE 29

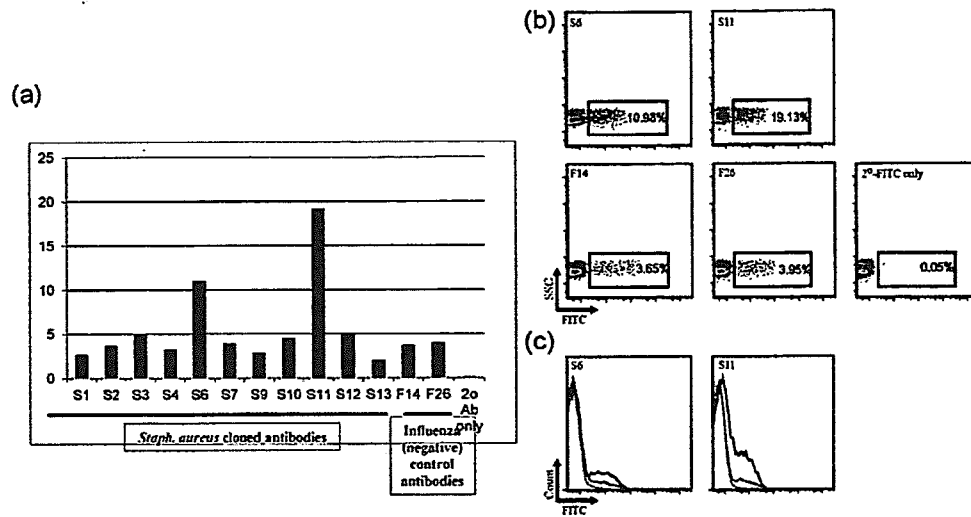


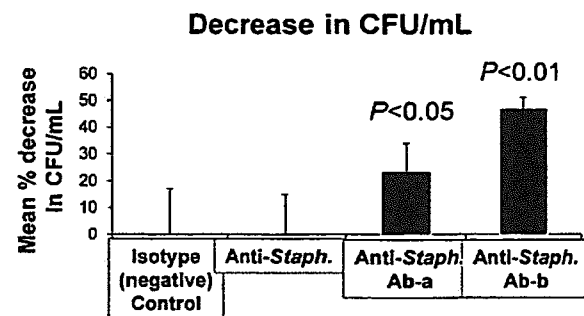
FIGURE 30

FIGURE 31

Antibody	Target Accession #	Protein Name
S04	Q6G7S2	Phenol-soluble modulin alpha 1 peptide
S04	P0C7Y8	Delta-hemolysin

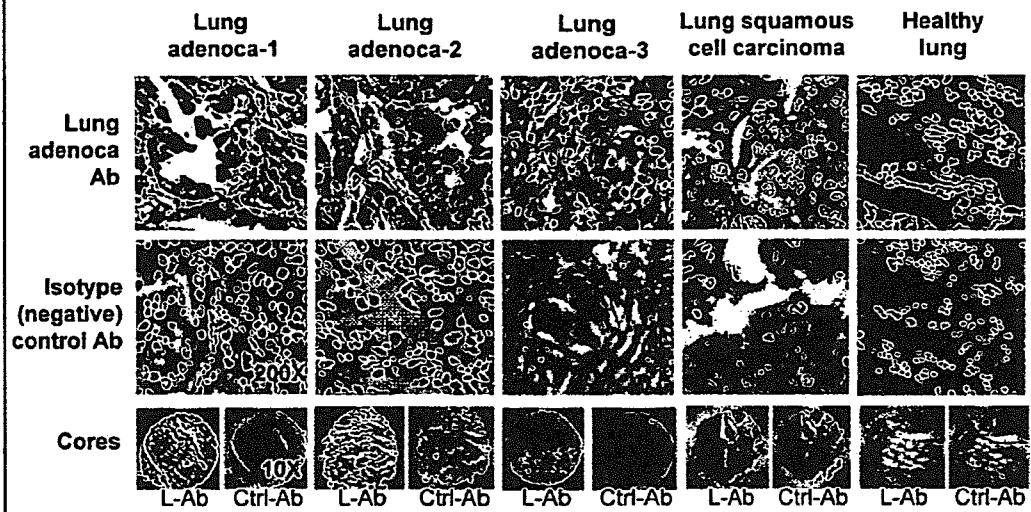
FIGURE 32

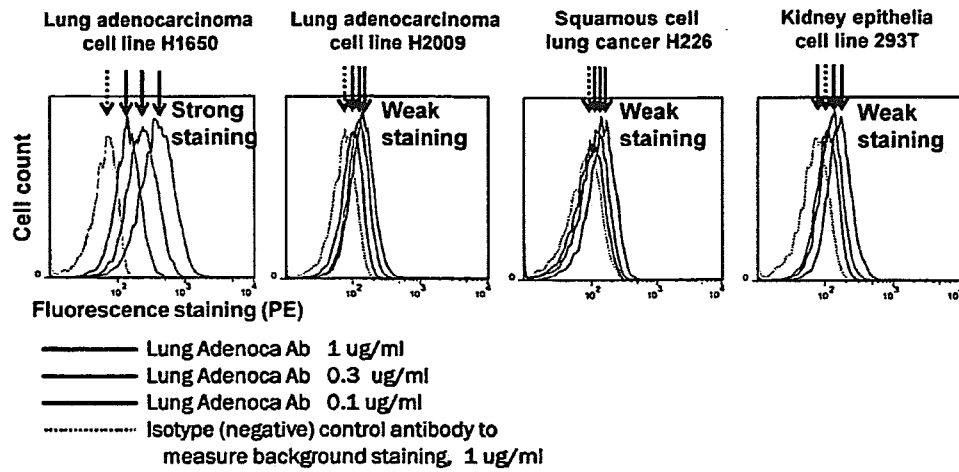
FIGURE 33

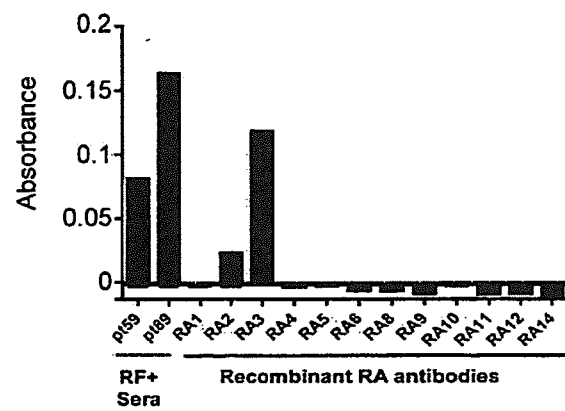
FIGURE 34

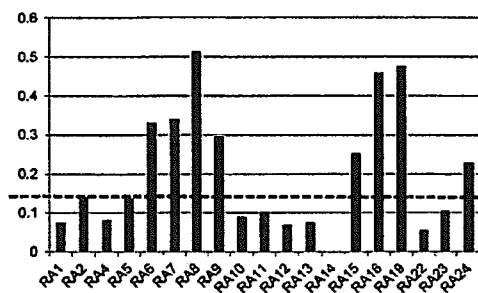
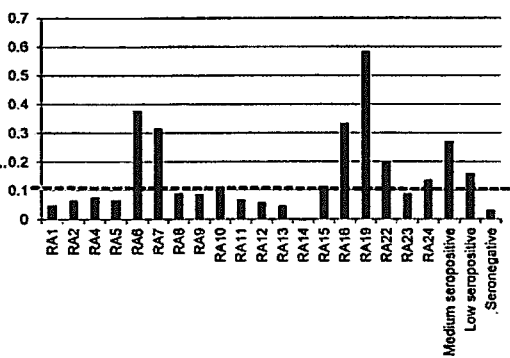
FIGURE 35**(a)****(b)**

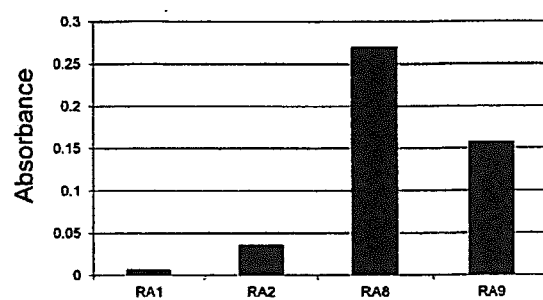
FIGURE 36

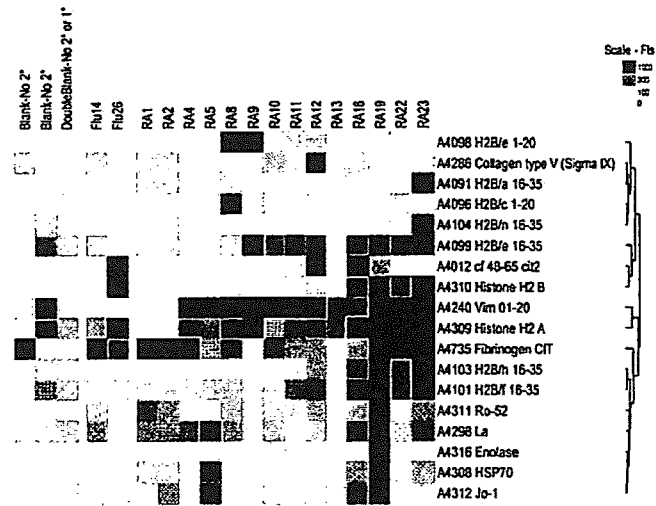
FIGURE 37

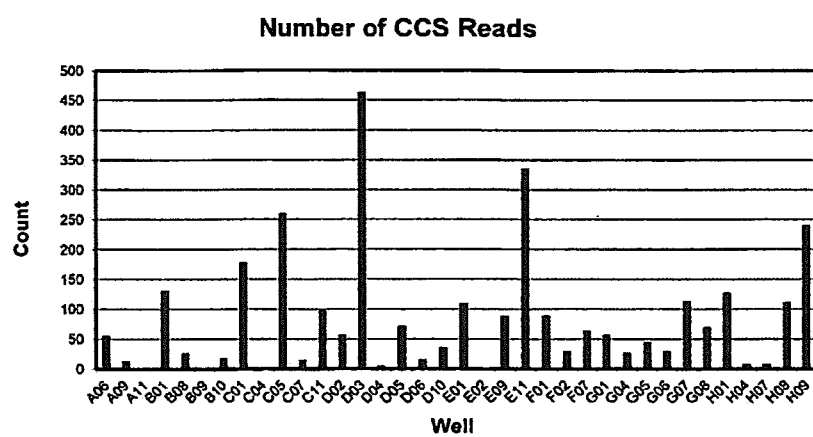
FIGURE 38

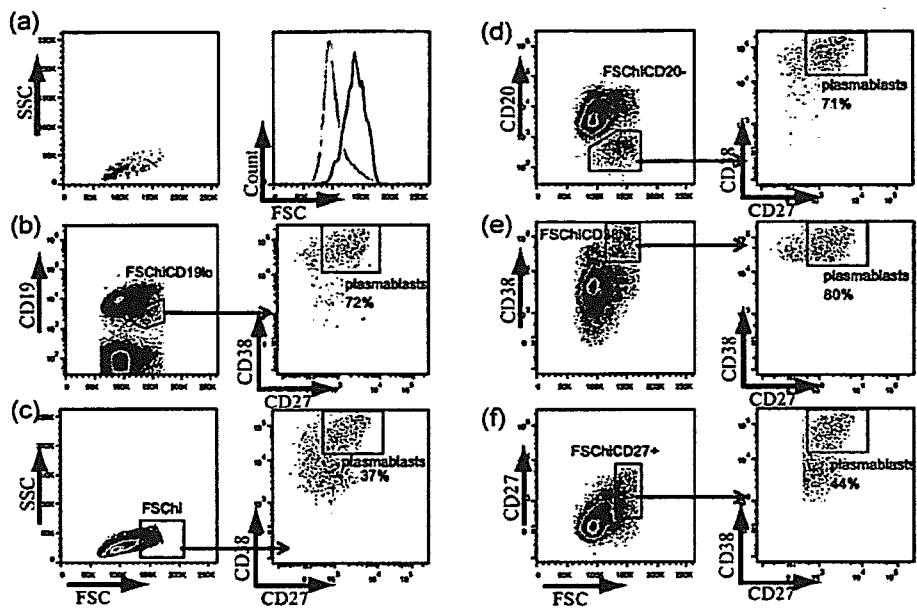
FIGURE 39

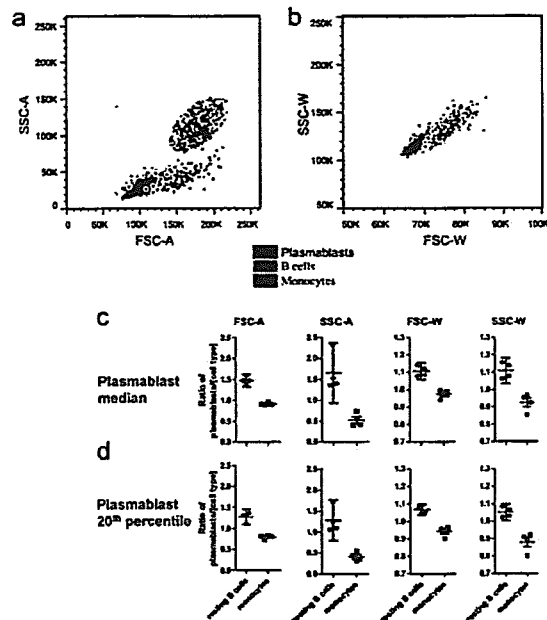
FIGURE 40

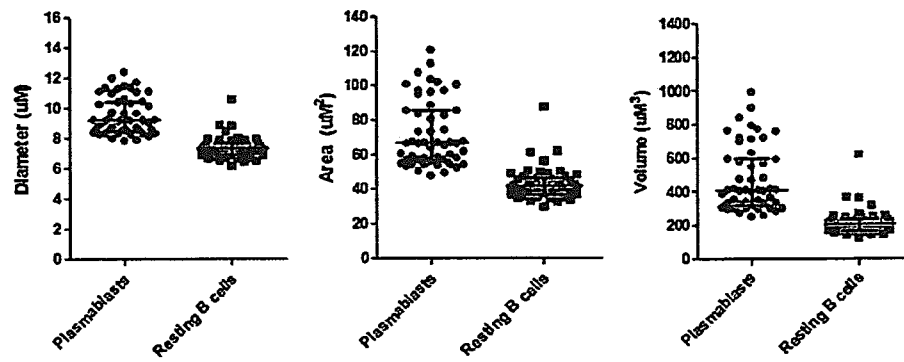
FIGURE 41

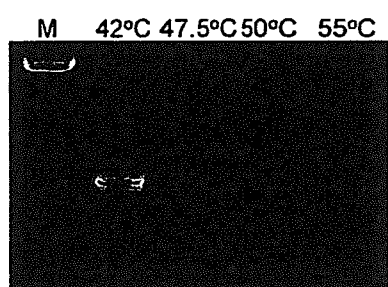
FIGURE 42

FIGURE 43

M K1 K1e K1f L1 L1x L1y

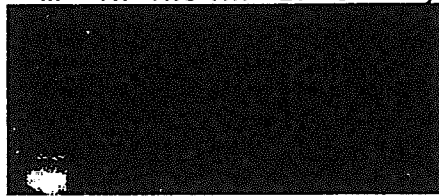


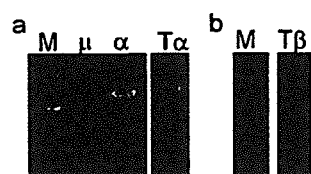
FIGURE 44

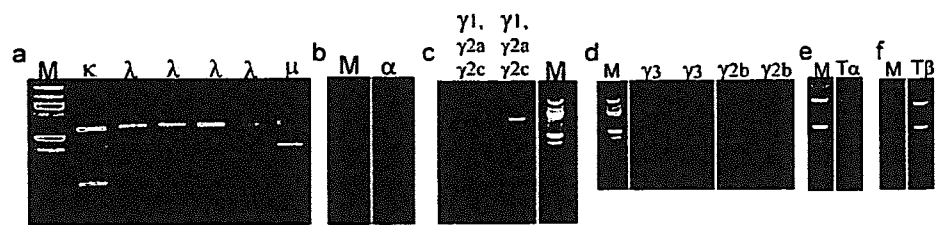
FIGURE 45

FIGURE 46