FIG. 1

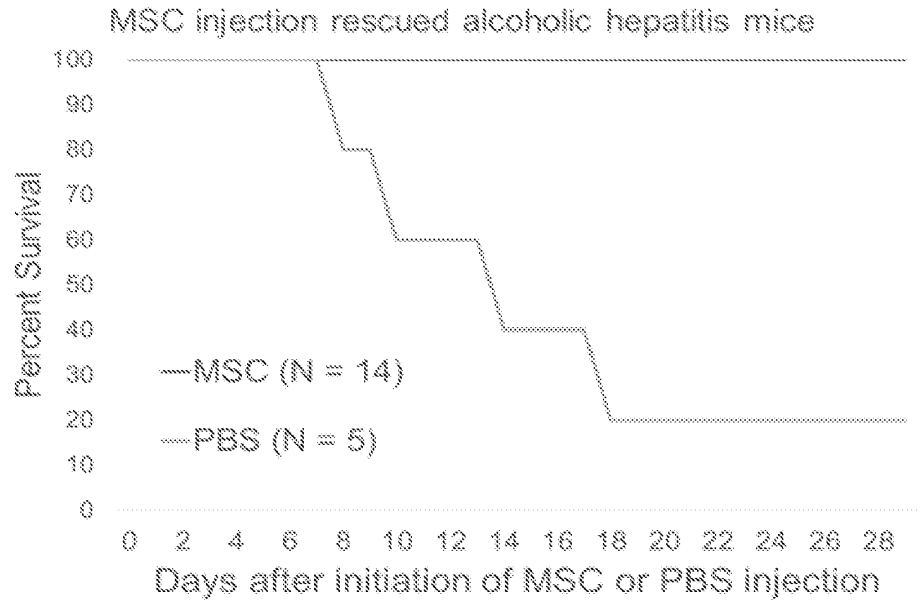

MSC injection rescued alcoholic hepatitis mice
Percent Survival
100
90
80
70
60
50
40
30
20
10
0
—MSC (N = 14)
—PBS (N = 5)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28
Days after initiation of MSC or PBS injection

FIG. 2

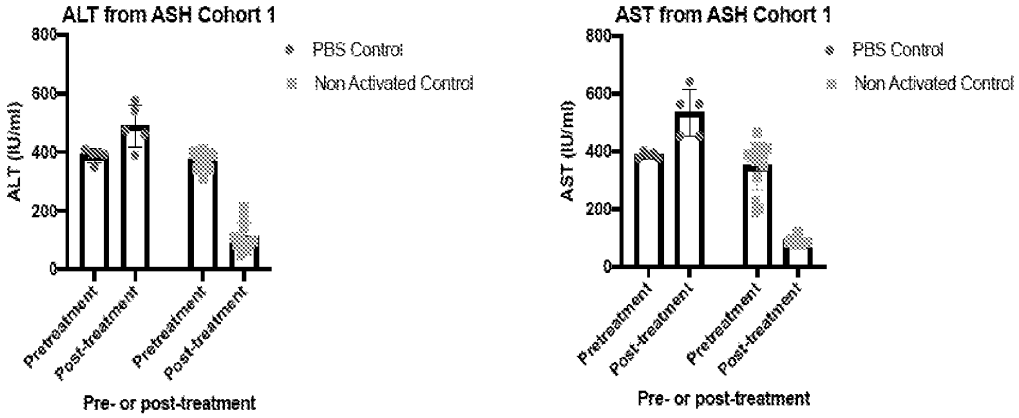

ALT from ASH Cohort 1
PBS Control
Non Activated Control
ALT (IU/ml)
800
600
400
200
0
Pretreatment
Post-treatment
Pretreatment
Post-treatment
Pre- or post-treatment
AST from ASH Cohort 1
PBS Control
Non Activated Control
AST (IU/ml)
800
600
400
200
0
Pretreatment
Post-treatment
Pretreatment
Post-treatment
Pre- or post-treatment

FIG. 3

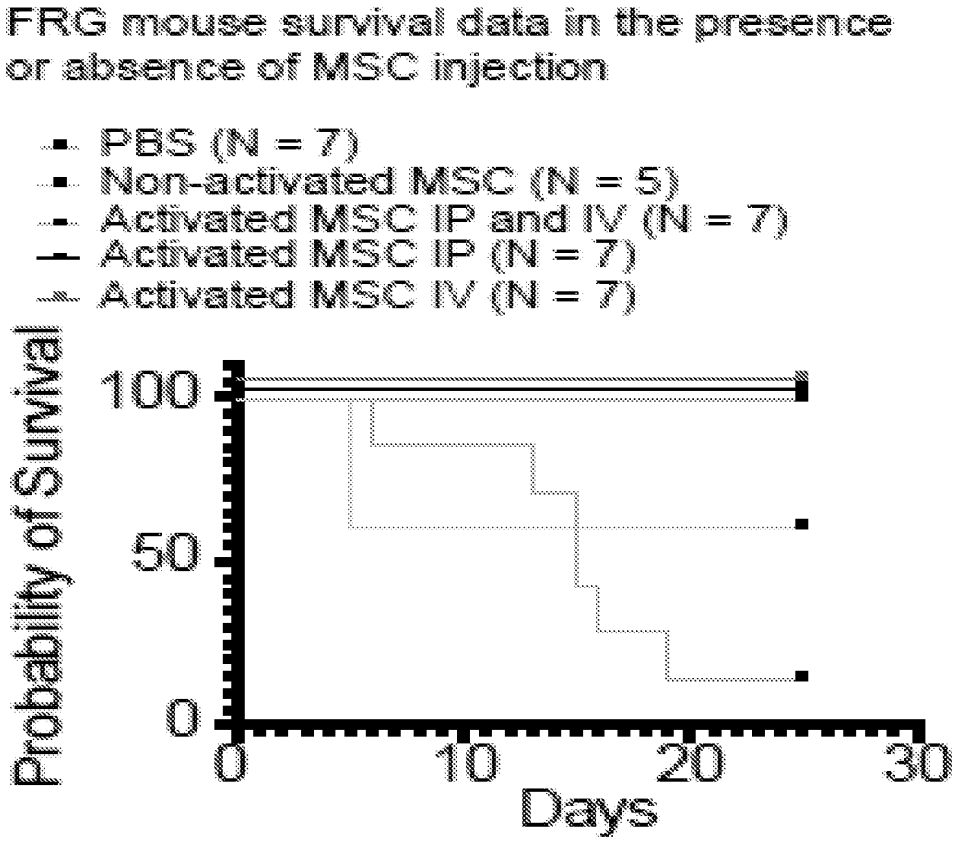

FRG mouse survival data in the presence or absence of MSC injection
PBS (N = 7)
Non-activated MSC (N = 5)
Activated MSC IP and IV (N = 7)
Activated MSC IP (N = 7)
Activated MSC IV (N = 7)
Probability of Survival
100
50
0
0
10
20
30
Days

FIG. 4

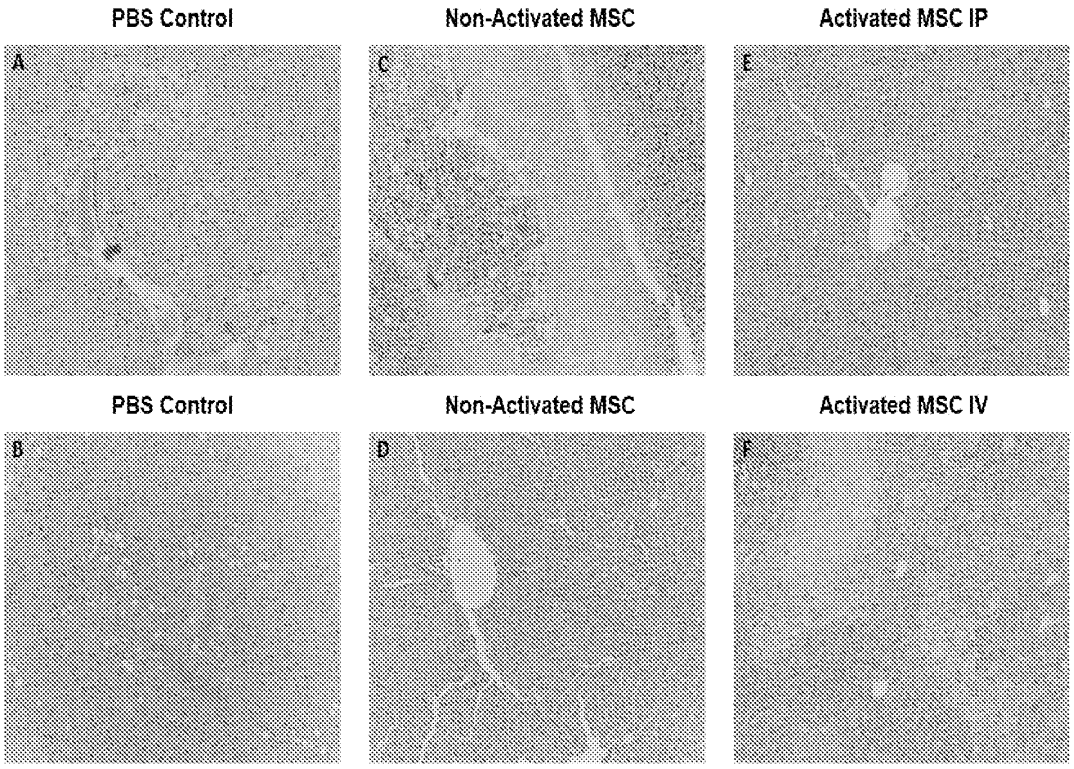

PBS Control
Non-Activated MSC
Activated MSC IP
A
C
E
PBS Control
Non-Activated MSC
Activated MSC IV
B
D
F

FIG. 5

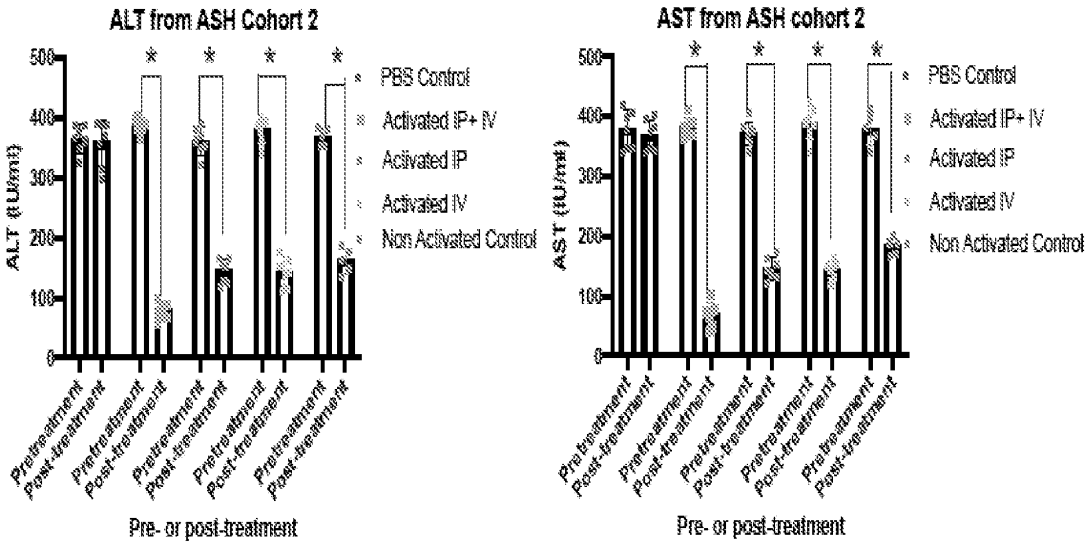

ALT from ASH Cohort 2
ALT (IU/ml)
500
400
300
200
100
0
*
PBS Control
Activated IP+ IV
Activated IP
Activated IV
Non Activated Control
Pre-treatment
Post-treatment
Pre- or post-treatment
AST from ASH cohort 2
AST (IU/ml)
Pre- or post-treatment

FIG. 6

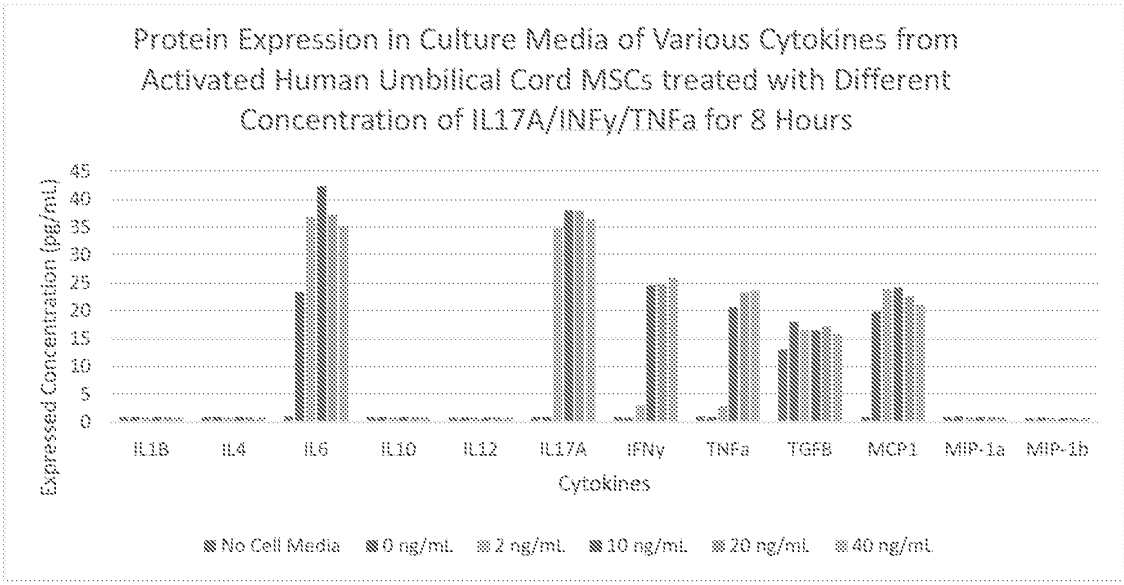
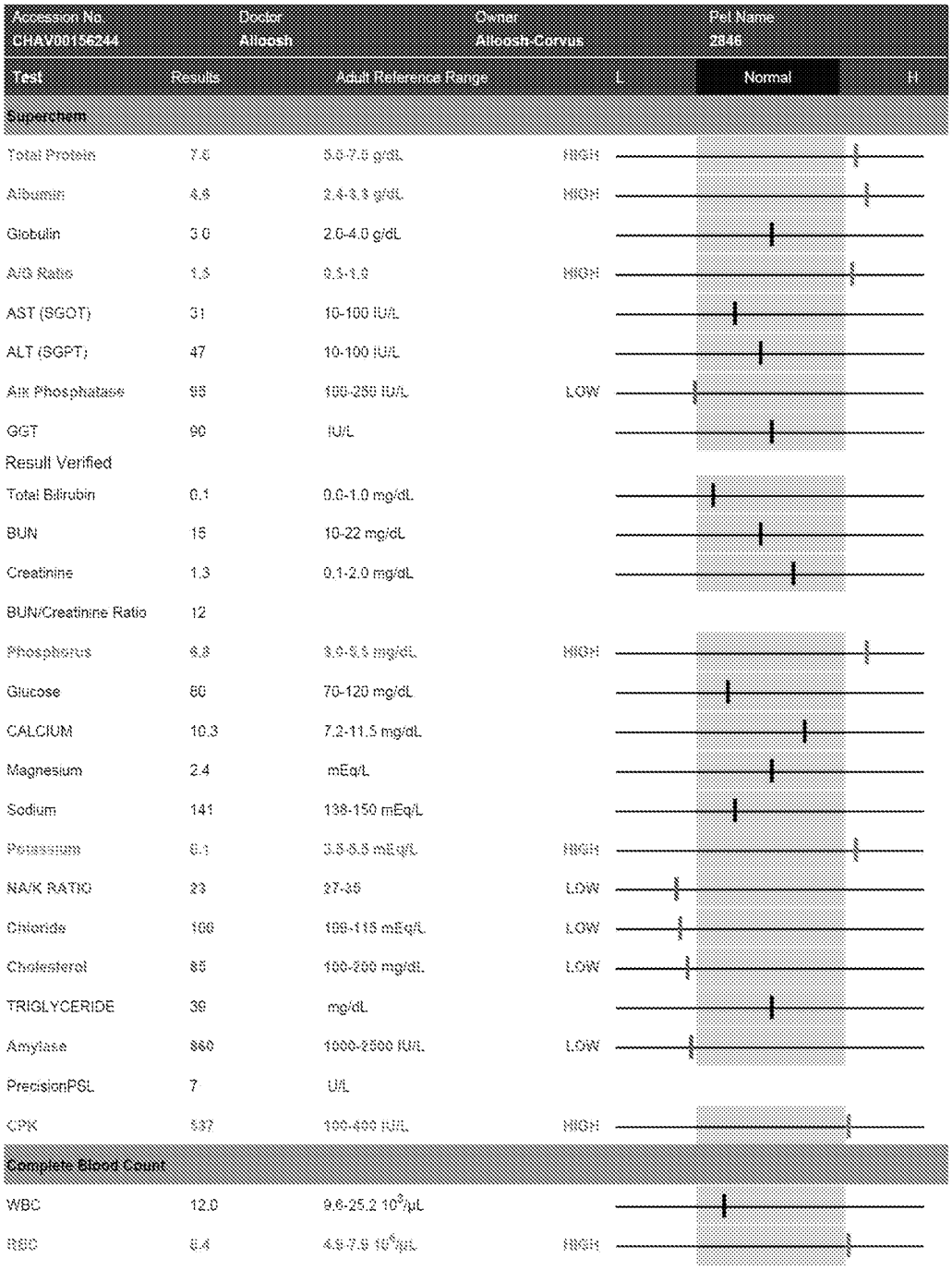

Protein Expression in Culture Media of Various Cytokines from Activated Human Umbilical Cord MSCs treated with Different Concentration of IL17A/INFy/TNFa for 8 Hours
Expressed Concentration (pg/mL)
45
40
35
30
25
20
15
10
5
0
IL1B
IL4
IL6
IL10
IL12
IL17A
IFNy
TNFa
TGFB
MCP1
MIP-1a
MIP-1b
Cytokines
No Cell Media
0 ng/mL
2 ng/mL
10 ng/mL
20 ng/mL
40 ng/mL

FIG. 7



Accession No.	Doctor	Owner	Pet Name
CHAV00156244	Alloosh	Alloosh-Corvus	2848

Test	Results	Adult Reference Range	L	Normal	H
Supercherm					
Total Protein	7.6	5.0-7.6 g/dL	HIGH		
Albumin	4.6	2.6-3.3 g/dL	HIGH		
Globulin	3.0	2.0-4.0 g/dL			
A/G Ratio	1.5	0.5-1.0	HIGH		
AST (SGOT)	31	10-100 IU/L			
ALT (SGPT)	47	10-100 IU/L			
Alk Phosphatase	95	100-250 IU/L	LOW		
GGT	90	IU/L			
Result Verified					
Total Bilirubin	0.1	0.0-1.0 mg/dL			
BUN	15	10-22 mg/dL			
Creatinine	1.3	0.1-2.0 mg/dL			
BUN/Creatinine Ratio	12				
Phosphorus	6.8	3.0-5.5 mg/dL	HIGH		
Glucose	80	70-120 mg/dL			
CALCIUM	10.3	7.2-11.5 mg/dL			
Magnesium	2.4	mEq/L			
Sodium	141	138-150 mEq/L			
Potassium	6.1	3.5-5.5 mEq/L	HIGH		
NA/K RATIO	23	27-35	LOW		
Chloride	108	105-115 mEq/L	LOW		
Cholesterol	85	100-200 mg/dL	LOW		
TRIGLYCERIDE	39	mg/dL			
Amylase	860	1000-2500 IU/L	LOW		
PrecisionPSL	7	U/L			
CPK	587	100-400 IU/L	HIGH		
Complete Blood Count					
WBC	12.0	9.6-25.2 $10^3/\mu L$			
RBC	6.4	4.6-7.6 $10^6/\mu L$	HIGH		

FIG. 8

Accession No.	Doctor	Owner	Pet Name
CHAV80156244	Allcosh	Allcosh-Corvus	2946

Test	Results	Adult Reference Range	L	Normal	H
HGB	17.6	8.1-11.8 g/dL	HIGH		
HCT	54	26-48 %	HIGH		
MCV	64	44-65 fL			
MCH	20.9	12.4-19.3 pg	HIGH		
MCHC	33	27.4-31.4 g/dL	HIGH		
NRBC	1	/100 WBC			
Blood Parasites	None Seen				
RBC Comment					
RBC Morphology Normal					
Platelet Count	220	200-800 10^3/µL			
Platelet Estimate	Adequate				

Differential	Absolute	%		
Neutrophils	6000	50	2300-11900 /µL	
Bands		0	0-2 %	
Lymphocytes	5040	42	400-12500 /µL	
Monocytes	720	6	50-2300 /µL	
Eosinophils	240	2	0-500 /µL	
Basophils	0	0	/µL	

Comment

Blood smear reviewed by technologist.

FIG. 9

Accession No	Doctor	Owner	Pet Name
CHAV00158374	Allposh	Allposh	2846

Test	Results	Adult Reference Range	L	Normal	H
Superchem					
Total Protein	6.8	5.0-7.0 g/dL			
Albumin	3.8	2.4-3.3 g/dL	HIGH		
Globulin	3.0	2.0-4.0 g/dL			
A/G Ratio	1.3	0.5-1.0	HIGH		
AST (SGOT)	25	10-100 IU/L			
ALT (SGPT)	34	10-100 IU/L			
Alk Phosphatase	61	100-289 IU/L	LOW		
GGT	43	IU/L			
Result Verified					
Total Bilirubin	0.1	0.0-1.0 mg/dL			
BUN	13	10-22 mg/dL			
Creatinine	1.3	0.1-2.0 mg/dL			
BUN/Creatinine Ratio	10				
Phosphorus	8.5	3.0-6.5 mg/dL	HIGH		
Glucose	79	70-120 mg/dL			
CALCIUM	9.7	7.2-11.5 mg/dL			
Magnesium	1.9	mEq/L			
Sodium	143	138-150 mEq/L			
Potassium	5.3	3.5-5.5 mEq/L			
NA/K RATIO	27	27-35			
Chloride	104	109-115 mEq/L	LOW		
Cholesterol	61	100-299 mg/dL	LOW		
TRIGLYCERIDE	23	mg/dL			
Amylase	797	1000-2500 IU/L	LOW		
PrecisionPSL	7	U/L			
CPK	352	100-400 IU/L			
Complete Blood Count					
WBC	10.1	9.6-25.2 $10^3/\mu L$			
RBC	7.0	4.9-7.9 $10^6/\mu L$			

FIG. 10

Accession No CHAV00158374	Doctor Allcosh	Owner Allcosh	Pet Name 2845		
Test	**Results**	**Adult Reference Range**	**L**	**Normal**	**H**
HGB	14.6	8.1-11.9 g/dL	HIGH		
HCT	48	28-46 %	HIGH		
MCV	64	44-65 fL			
MCH	21.0	12.4-19.3 pg	HIGH		
MCHC	33	27.4-31.4 g/dL	HIGH		
Blood Parasites	None Seen				
RBC Comment					
RBC Morphology Normal					
Platelet Count	269	200-600 10^3/µL			
Platelet Estimate	Adequate				
Differential	**Absolute**	**%**			
Neutrophils	4141	41 2300-11900 /µL			
Bands		0 0-2 %			
Lymphocytes	5151	51 400-12500 /µL			
Monocytes	707	7 50-2300 /µL			
Eosinophils	0	0 0-500 /µL			
Basophils	0	0 /µL			
Unclassified		1			

FIG. 11

Accession No	Doctor	Owner	Pet Name
CHAV00185225	Afoosh	Afoosh-Corvus	2948

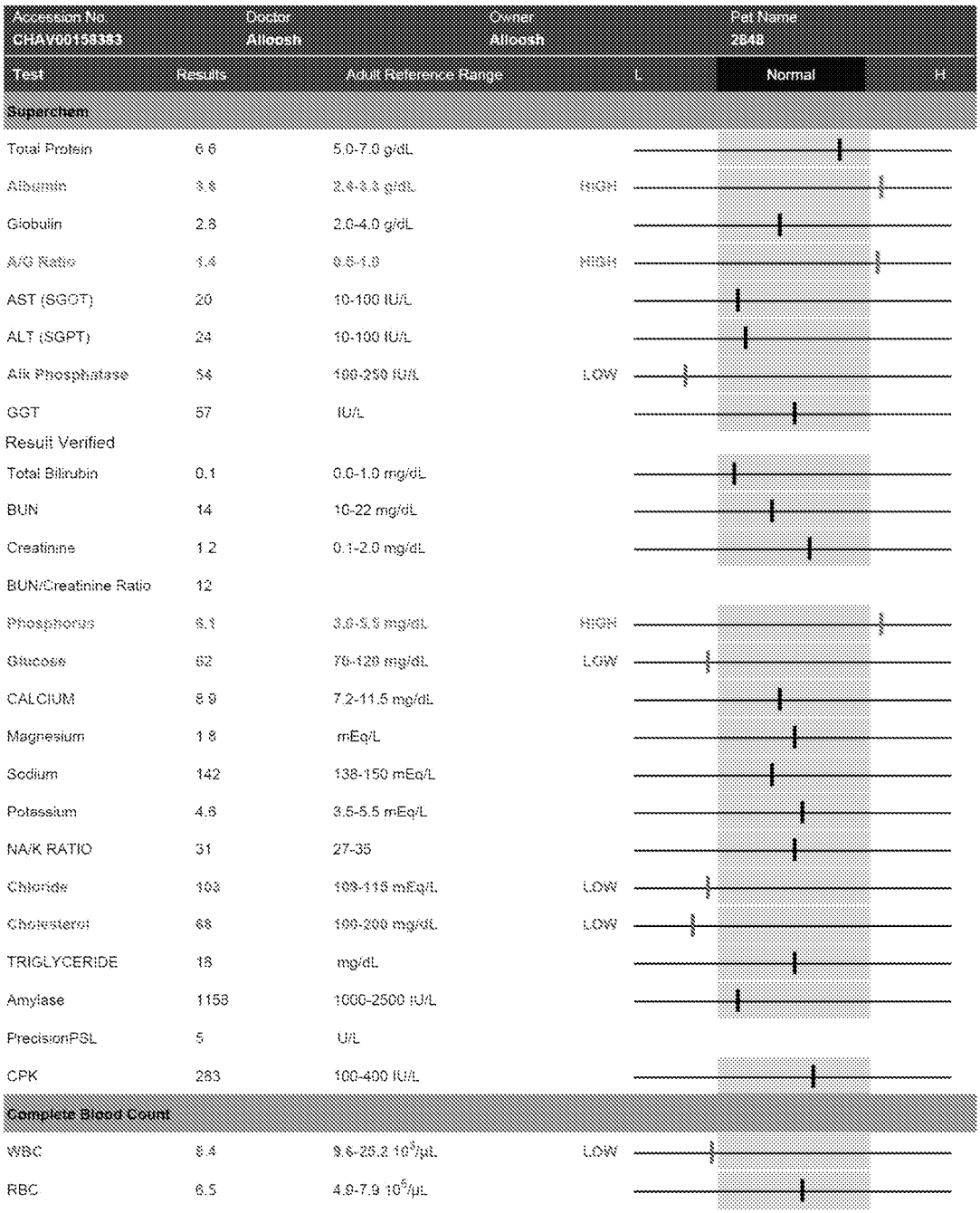
Test	Results	Adult Reference Range	L	Normal	H
Superchem					
Total Protein	6.7	5.0-7.0 g/dL			
Albumin	3.9	2.4-3.3 g/dL	HIGH		
Globulin	2.8	2.0-4.0 g/dL			
A/G Ratio	1.4	0.6-1.6	HIGH		
AST (SGOT)	28	10-100 IU/L			
ALT (SGPT)	38	10-100 IU/L			
Alk Phosphatase	73	100-250 IU/L	LOW		
GGT	69	IU/L			
Result Verified					
Total Bilirubin	0.1	0.0-1.0 mg/dL			
BUN	14	19-22 mg/dL			
Creatinine	1.4	0.1-2.0 mg/dL			
BUN/Creatinine Ratio	10				
Phosphorus	6.6	3.0-5.5 mg/dL	HIGH		
Glucose	77	70-120 mg/dL			
CALCIUM	9.2	7.2-11.5 mg/dL			
Magnesium	1.9	mEq/L			
Sodium	141	138-150 mEq/L			
Potassium	4.1	3.5-5.5 mEq/L			
NA/K RATIO	34	27-36			
Chloride	99	109-115 mEq/L	LOW		
Cholesterol	72	155-200 mg/dL	LOW		
TRIGLYCERIDE	23	mg/dL			
Amylase	1465	1000-2500 IU/L			
PrecisionPSL	7	U/L			
CPK	438	100-400 IU/L	HIGH		
Complete Blood Count					
WBC	8.1	9.6-25.2 10^3/µL	LOW		
RBC	6.8	4.9-7.9 10^6/µL			

FIG. 12

Accession No.	Doctor	Owner	Pet Name
CHAV00156226	Allcosh	Allcosh-Corvus	2848

Test	Results	Adult Reference Range	L	Normal	H
HGB	14.7	8.1-11.9 g/dL	HIGH		
HCT	44	28-40 %	HIGH		
MCV	64	44-65 fL			
MCH	21.7	12.4-19.5 pg	HIGH		
MCHC	34	27.4-31.4 g/dL	HIGH		
Blood Parasites	None Seen				
RBC Comment					
RBC Morphology Normal					
Platelet Count	204	200-600 10^3/µL			
Platelet Estimate	Adequate				
Differential	**Absolute**	**%**			
Neutrophils	2349	28 2300-11900 /µL			
Bands		0 0-2 %			
Lymphocytes	4941	61 400-12500 /µL			
Monocytes	486	6 50-2300 /µL			
Eosinophils	324	4 0-500 /µL			
Basophils	0	0 /µL			

FIG. 13



Accession No: CHAV00153383	Doctor: Allcosh	Owner: Allcosh	Pet Name: 2848		
Test	**Results**	**Adult Reference Range**	**L**	**Normal**	**H**
Superchem					
Total Protein	6.6	5.0-7.0 g/dL			
Albumin	3.8	2.4-3.3 g/dL	HIGH		
Globulin	2.8	2.0-4.0 g/dL			
A/G Ratio	1.4	0.5-1.0	HIGH		
AST (SGOT)	20	10-100 IU/L			
ALT (SGPT)	24	10-100 IU/L			
Alk Phosphatase	54	100-250 IU/L	LOW		
GGT	57	IU/L			
Result Verified					
Total Bilirubin	0.1	0.0-1.0 mg/dL			
BUN	14	10-22 mg/dL			
Creatinine	1.2	0.1-2.0 mg/dL			
BUN/Creatinine Ratio	12				
Phosphorus	6.1	3.0-5.5 mg/dL	HIGH		
Glucose	62	70-128 mg/dL	LOW		
CALCIUM	8.9	7.2-11.5 mg/dL			
Magnesium	1.8	mEq/L			
Sodium	142	138-150 mEq/L			
Potassium	4.6	3.5-5.5 mEq/L			
NA/K RATIO	31	27-35			
Chloride	103	109-118 mEq/L	LOW		
Cholesterol	68	100-200 mg/dL	LOW		
TRIGLYCERIDE	18	mg/dL			
Amylase	1158	1000-2500 IU/L			
PrecisionPSL	5	U/L			
CPK	283	100-400 IU/L			
Complete Blood Count					
WBC	8.4	9.6-25.3 10^3/µL	LOW		
RBC	6.5	4.9-7.9 10^6/µL			

FIG. 14

Accession No.	Doctor	Owner	Pet Name
CHAV00158343	Allcosh	Allcosh	2448

Test	Results	Adult Reference Range	L	Normal	H
HGB	13.8	8.1-11.9 g/dL	HIGH		
HCT	42	28-40 %	HIGH		
MCV	65	44-65 fL			
MCH	21.6	16.4-19.3 pg	HIGH		
MCHC	33	37.4-31.4 g/dL	HIGH		
Blood Parasites	None Seen				
RBC Comment					
RBC Morphology Normal					
Platelet Count	198	300-800 10^3/µL	LOW		
Platelet count reflects the minimum number due to platelet clumping					
Platelet Estimate	Adequate				
Differential	**Absolute**	**%**			
Neutrophils	3444	41	2300-11900 /µL		
Bands		0	0-2 %		
Lymphocytes	3864	46	400-12500 /µL		
Monocytes	924	11	50-2300 /µL		
Eosinophils	84	1	0-500 /µL		
Basophils	0	0	/µL		
Unclassified		1			

FIG. 15

Accession No	Doctor	Owner	Pet Name
CHAV00156235	Allooch	Allooch	2859

Test	Results	Adult Reference Range	L	Normal	H
Superchem					
Total Protein	7.2	5.8-7.8 g/dL	HIGH		
Albumin	3.8	2.4-3.3 g/dL	HIGH		
Globulin	3.4	2.0-4.0 g/dL			
A/G Ratio	1.1	0.8-1.8	HIGH		
AST (SGOT)	30	10-100 IU/L			
ALT (SGPT)	34	10-100 IU/L			
Alk Phosphatase	50	100-250 IU/L	LOW		
GGT	9A	N/L	HIGH		
Result Verified					
Total Bilirubin	0.1	0.0-1.0 mg/dL			
BUN	15	10-22 mg/dL			
Creatinine	1.4	0.1-2.0 mg/dL			
BUN/Creatinine Ratio	11				
Phosphorus	8.8	3.0-8.8 mg/dL	HIGH		
Glucose	73	70-120 mg/dL			
CALCIUM	9.4	7.2-11.5 mg/dL			
Magnesium	2.3	mEq/L			
Sodium	140	138-150 mEq/L			
Potassium	7.7	3.5-5.8 mEq/L	HIGH		
Result Verified					
NA/K RATIO	18	27-35	LOW		
Chloride	100	109-118 mEq/L	LOW		
Cholesterol	69	100-200 mg/dL	LOW		
TRIGLYCERIDE	45	28-109 mg/dL			
Amylase	689	1000-2500 IU/L	LOW		
PrecisionPSL	8	U/L			
CPK	438	100-400 IU/L	HIGH		

Comment(s)

Hemolysis 2+ No significant interference.

FIG. 16

Accession No.	Doctor	Owner	Pet Name
CHAV00156235	Allposh	Allposh	2839

Test	Results	Adult Reference Range	L	Normal	H
Complete Blood Count					
WBC	9.1	8.8-23.2 10^3/µL	LOW		
RBC	8.7	4.9-7.9 10^6/µL			
HGB	14.3	8.4-11.8 g/dL	HIGH		
HCT	44	36-48 %	HIGH		
MCV	68	44-65 fL	HIGH		
MCH	21.2	12.4-16.3 pg	HIGH		
MCHC	32	27.4-31.4 g/dL	HIGH		
Blood Parasites	None Seen				
RBC Comment					
RBC Morphology Normal					
Platelet Count	79	200-600 10^3/µL	LOW		
Platelet count reflects the minimum number due to platelet clumping.					
Platelet Estimate	Adequate				
Differential	**Absolute**	**%**			
Neutrophils	2730	30	2300-11900 /µL		
Bands		0	0-2 %		
Lymphocytes	5551	61	400-12500 /µL		
Monocytes	273	3	50-2300 /µL		
Eosinophils	546	6	0-500 /µL	HIGH	
Basophils	0	0	/µL		

FIG. 17

Accession No.	Doctor	Owner	Pet Name
CHAV00150365	Allcosh	Allcosh	2859

Test	Results	Adult Reference Range	L	Normal	H
Superchem					
Total Protein	6.6	5.0-7.0 g/dL			
Albumin	3.3	2.4-3.9 g/dL			
Globulin	3.3	2.0-4.0 g/dL			
A/G Ratio	1.0	0.5-1.0			
AST (SGOT)	43	10-100 IU/L			
ALT (SGPT)	27	10-100 IU/L			
Alk Phosphatase	35	100-250 IU/L	LOW		
GGT	34	IU/L	HIGH		
Result Verified					
Total Bilirubin	0.1	0.0-1.0 mg/dL			
BUN	12	10-22 mg/dL			
Creatinine	1.0	0.1-2.0 mg/dL			
BUN/Creatinine Ratio	12				
Phosphorus	8.7	3.0-8.6 mg/dL	HIGH		
Glucose	73	70-120 mg/dL			
CALCIUM	8.8	7.2-11.5 mg/dL			
Magnesium	1.7	mEq/L			
Sodium	142	138-160 mEq/L			
Potassium	4.0	3.5-5.5 mEq/L			
NA/K RATIO	36	37-38	HIGH		
Chloride	105	109-118 mEq/L	LOW		
Cholesterol	88	100-299 mg/dL	LOW		
TRIGLYCERIDE	17	28-109 mg/dL	LOW		
Amylase	789	1000-2500 IU/L	LOW		
PrecisionPSL	5	U/L			
CPK	1163	100-400 IU/L	HIGH		
Complete Blood Count					
WBC	12.3	9.6-25.2 $10^3/\mu L$			
RBC	8.4	4.9-7.9 $10^6/\mu L$			

FIG. 18

Accession No	Doctor	Owner	Pet Name
CHAV00158365	Alloosh	Alloosh	2859

Test	Results	Adult Reference Range	L	Normal	H
HGB	13.0	8.1-11.9 g/dL	HIGH		
HCT	40	28-40 %			
MCV	63	44-65 fL			
MCH	20.3	12.4-19.2 pg	HIGH		
MCHC	32	27.4-31.4 g/dL	HIGH		
Blood Parasites	None Seen				
RBC Comment					
RBC Morphology Normal					
Platelet Count	218	200-500 10^3/µL			
Platelet Estimate	Adequate				
Differential	**Absolute**	**%**			
Neutrophils	4162	34 2300-11900 /µL			
Bands		0 0-2 %			
Lymphocytes	7134	58 400-12500 /µL			
Monocytes	492	4 50-2300 /µL			
Eosinophils	492	4 0-500 /µL			
Basophils	0	0 /µL			

FIG. 19

Superchem

Tests	Results	REF. Range	Units
Total Protein	5.7	5.0-7.0	g/dL
Albumin	2.9	2.4-3.3	g/dL
Globulin	2.4	2.0-4.0	g/dL
A/G Ratio	**1.2 (HIGH)**	**0.5-1.0**	
AST (SGOT)	23	10-100	IU/L
ALT (SGPT)	15	10-100	IU/L
Alk Phosphatase	**70 (LOW)**	**100-250**	**IU/L**
GGT	23		IU/L
Result Verified			
Total Bilirubin	0.1	0.0-1.0	mg/dL
BUN	12	10-22	mg/dL
Creatinine	1.5	0.1-2.0	mg/dL
BUN/Creatinine Ratio	8		
Phosphorus	**7.6 (HIGH)**	**3.0-5.5**	**mg/dL**
Glucose	55	70-120	mg/dL
Calcium	10.1	7.2-11.5	mg/dL
Magnesium	1.5		mEq/L
Sodium	143	138-150	mEq/L
Potassium	4.1	3.5-5.5	mEq/L
NA/K Ratio	35	27-35	
Chloride	**104 (LOW)**	**109-115**	**mEq/L**
Cholesterol	**58 (LOW)**	**100-200**	**mg/dL**
Triglyceride	40	28-109	mg/dL
Amylase	**576 (LOW)**	**1000-2500**	**IU/L**
PrecisionPSL	7		U/L
CPK	224	100-400	IU/L

Complete Blood Count

Tests	Results		REF. Range	Units
WBC	**9.3 (LOW)**		**9.6-25.2**	**10^3/uL**
RBC	4.9		4.9-7.9	10^6/uL
HGB	9.9		8.1-11.9	g/dL
HCT	30		28-40	%
MCV	61		44-65	fL
MCH	**20.2 (HIGH)**		**12.4-19.3**	**pg**
MCHC	**33 (HIGH)**		**27.4-31.4**	**g/dL**
Blood Parasites	None Seen			
RBC Comment				
RBC Morphology	Normal			
Platelet Count	261		200-800	10^3/uL
Platelet count reflects the minimum number due to platelet clumping.				
Platelet Estimate	Adequate			
Differential	**Absolute**	**%**	**REF. Range**	
Neutrophils	**2,139 (LOW)**	**23**	**2300-11900**	**/uL**
Bands		0	0-2	
Lymphocytes	6,231	67	400-12500	/uL
Monocytes	465	5	50-2300	/uL
Eosinophils	465	5	0-500	/uL
Basophils	0	0		/uL
Comment				
Blood smear reviewed by technologist.				

FIG. 20

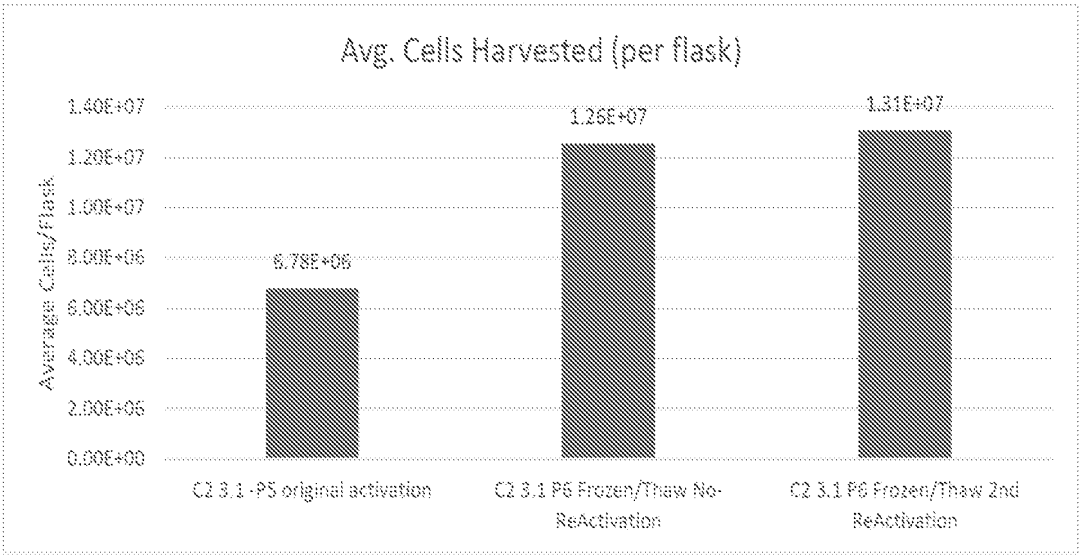

Avg. Cells Harvested (per flask)
Average Cells/Flask
1.40E+07
1.20E+07
1.00E+07
8.00E+06
6.00E+06
4.00E+06
2.00E+06
0.00E+00
6.78E+06
1.26E+07
1.31E+07
C2 3.1 -P5 original activation
C2 3.1 P6 Frozen/Thaw No-ReActivation
C2 3.1 P6 Frozen/Thaw 2nd ReActivation

FIG. 21

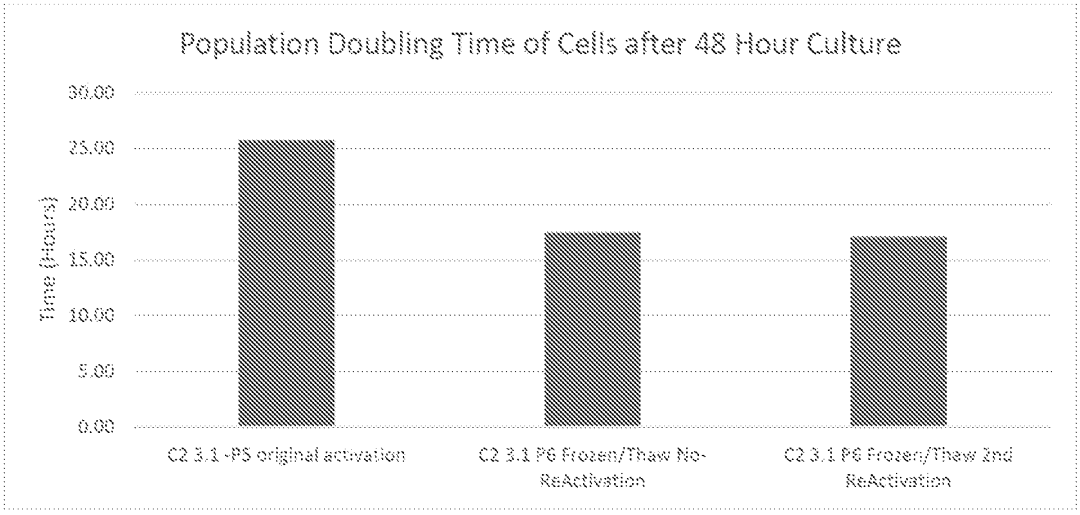

Population Doubling Time of Cells after 48 Hour Culture
Time (Hours)
30.00
25.00
20.00
15.00
10.00
5.00
0.00
C2 3.1 -P5 original activation
C2 3.1 P6 Frozen/Thaw No-ReActivation
C2 3.1 P6 Frozen/Thaw 2nd ReActivation

FIG. 22

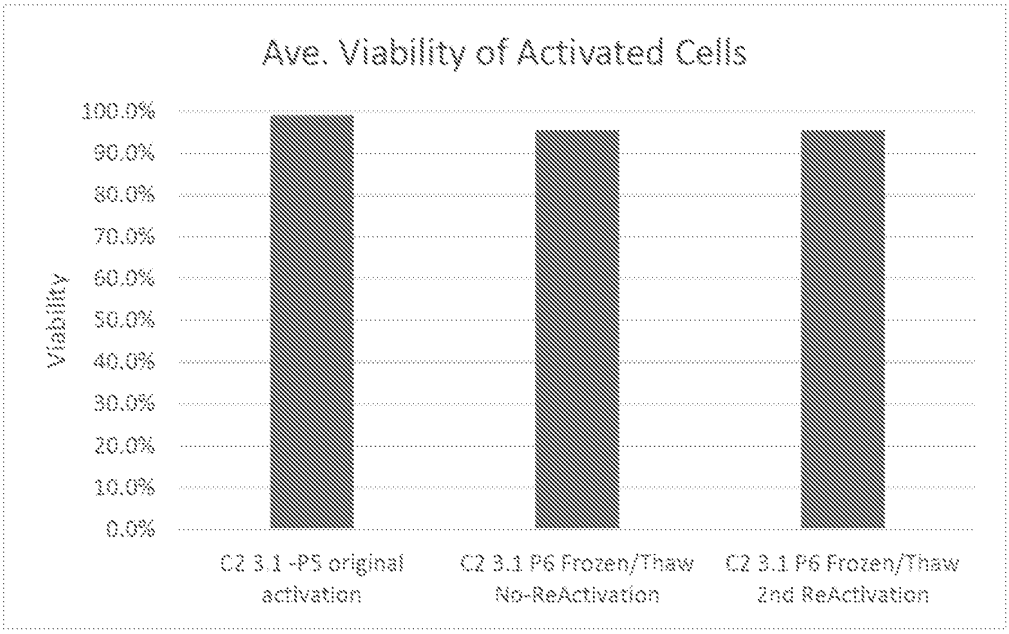

Ave. Viability of Activated Cells
Viability
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
C2 3.1 -P5 original activation
C2 3.1 P6 Frozen/Thaw No-ReActivation
C2 3.1 P6 Frozen/Thaw 2nd ReActivation

FIG. 23

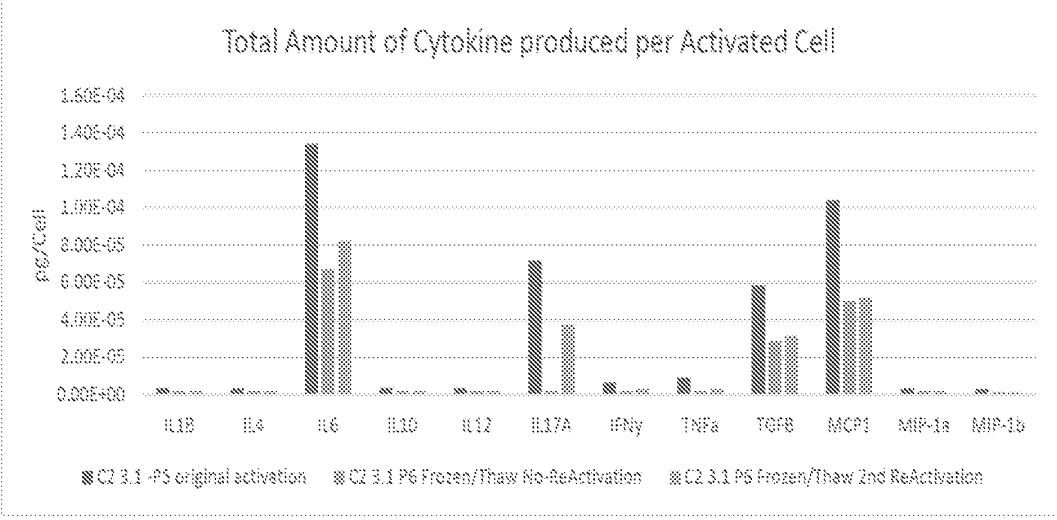
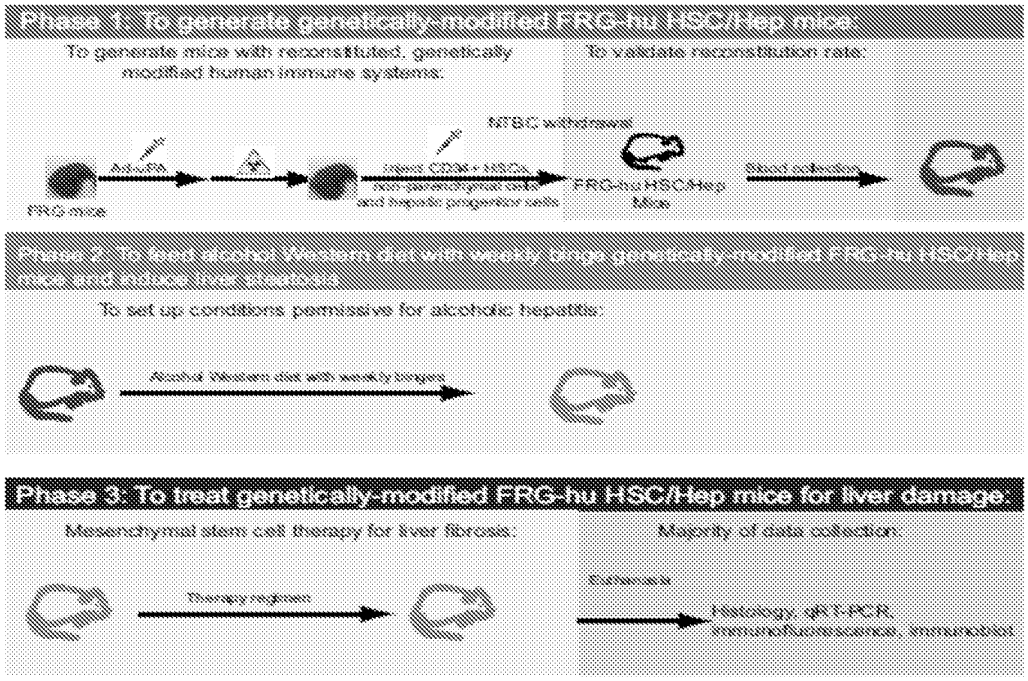

Total Amount of Cytokine produced per Activated Cell
pg/Cell
1.60E-04
1.40E-04
1.20E-04
1.00E-04
8.00E-05
6.00E-05
4.00E-05
2.00E-05
0.00E+00
IL1B
IL4
IL6
IL10
IL12
IL17A
IFNγ
TNFa
TGFB
MCP1
MIP-1a
MIP-1b
C2 3.1 -P5 original activation
C2 3.1 P6 Frozen/Thaw No-ReActivation
C2 3.1 P6 Frozen/Thaw 2nd ReActivation

FIG. 24

(A)


Phase 1: To generate genetically-modified FRG-hu HSC/Hep mice:
To generate mice with reconstituted, genetically modified human immune systems:
To validate reconstitution rate:
NTBC withdrawal
FRG mice
FRG-hu HSC/Hep Mice
Blood collection
Phase 2: To feed alcohol Western diet with weekly binge genetically-modified FRG-hu HSC/Hep mice and induce liver steatosis
To set up conditions permissive for alcoholic hepatitis:
Alcohol Western diet with weekly binges
Phase 3: To treat genetically-modified FRG-hu HSC/Hep mice for liver damage:
Mesenchymal stem cell therapy for liver fibrosis:
Majority of data collection:
Therapy regimen
Euthanasia
Histology, qRT-PCR, immunofluorescence, immunoblot

(B)

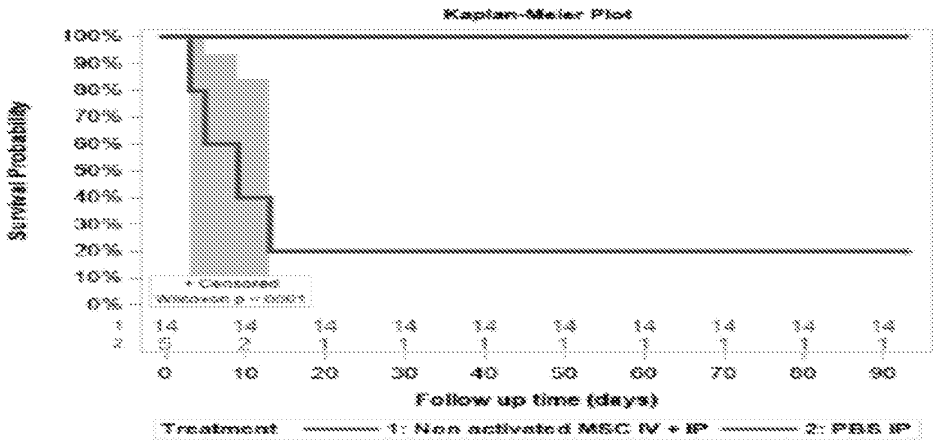
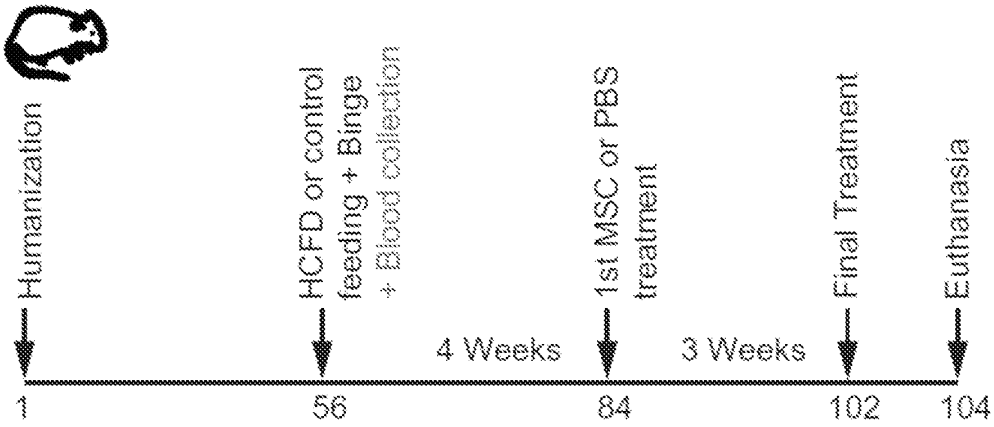

Kaplan-Meier Plot
Survival Probability
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
+ Censored
Follow up time (days)
0
10
20
30
40
50
60
70
80
90
Treatment
1: Non activated MSC IV + IP
2: PBS IP

FIG. 25

(A)


Humanization
HCFD or control feeding + Binge + Blood collection
1st MSC or PBS treatment
Final Treatment
Euthanasia
4 Weeks
3 Weeks
1
56
84
102
104

(B)

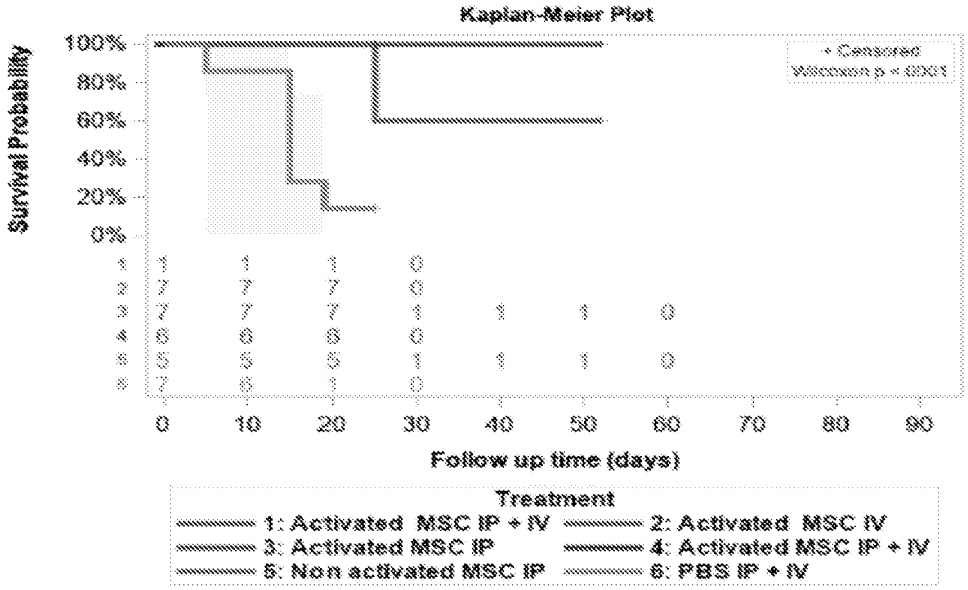
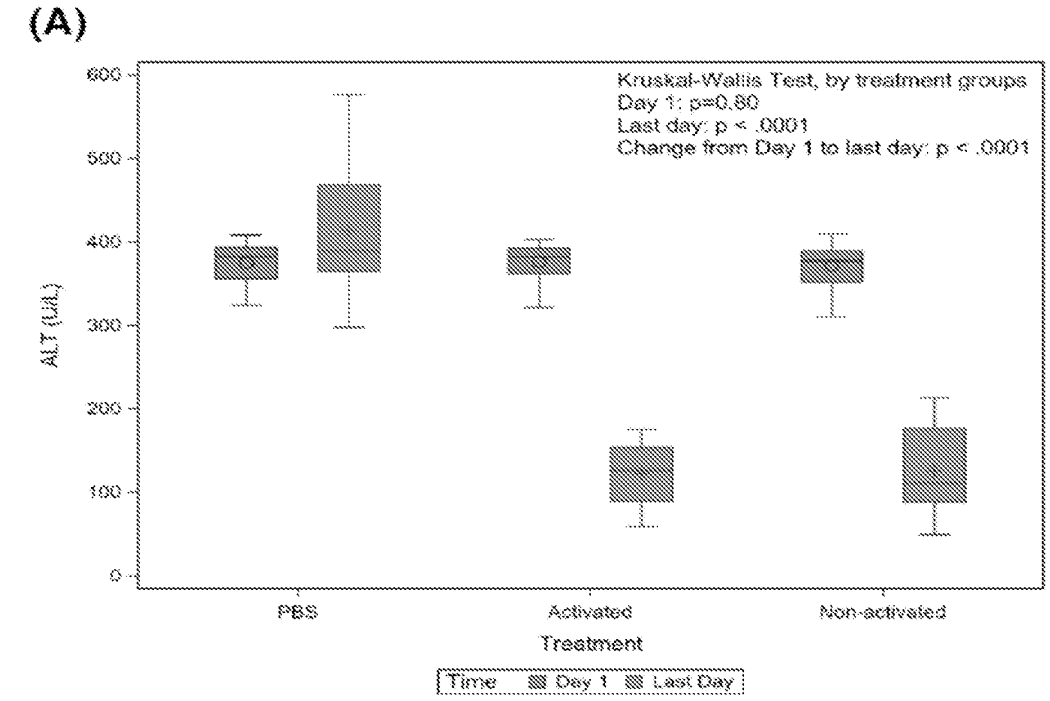

Kaplan-Meier Plot
Survival Probability
100%
80%
60%
40%
20%
0%
+ Censored
Wilcoxon p = <0.001
0
10
20
30
40
50
60
70
80
90
Follow up time (days)
Treatment
1: Activated MSC IP + IV
2: Activated MSC IV
3: Activated MSC IP
4: Activated MSC IP + IV
5: Non activated MSC IP
6: PBS IP + IV

FIG. 26


(A)
Kruskal-Wallis Test, by treatment groups
Day 1: p=0.80
Last day: p < .0001
Change from Day 1 to last day: p < .0001
ALT (U/L)
600
500
400
300
200
100
0
PBS
Activated
Non-activated
Treatment
Time
Day 1
Last Day

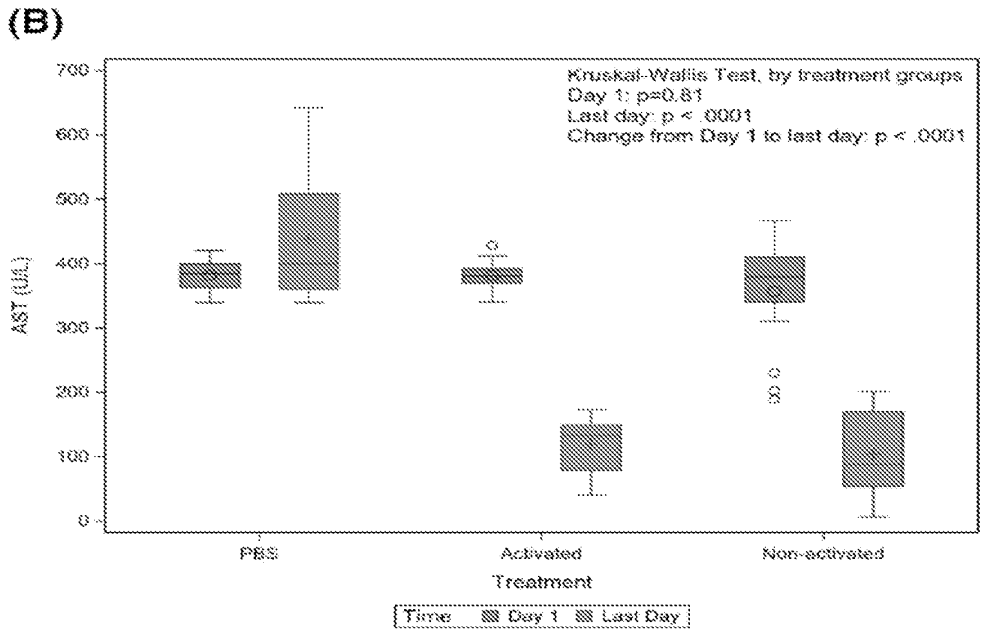

(B)
Kruskal-Wallis Test, by treatment groups
Day 1: p=0.81
Last day: p < .0001
Change from Day 1 to last day: p < .0001
AST (U/L)
700
600
500
400
300
200
100
0
PBS
Activated
Non-activated
Treatment
Time
Day 1
Last Day

FIG. 27

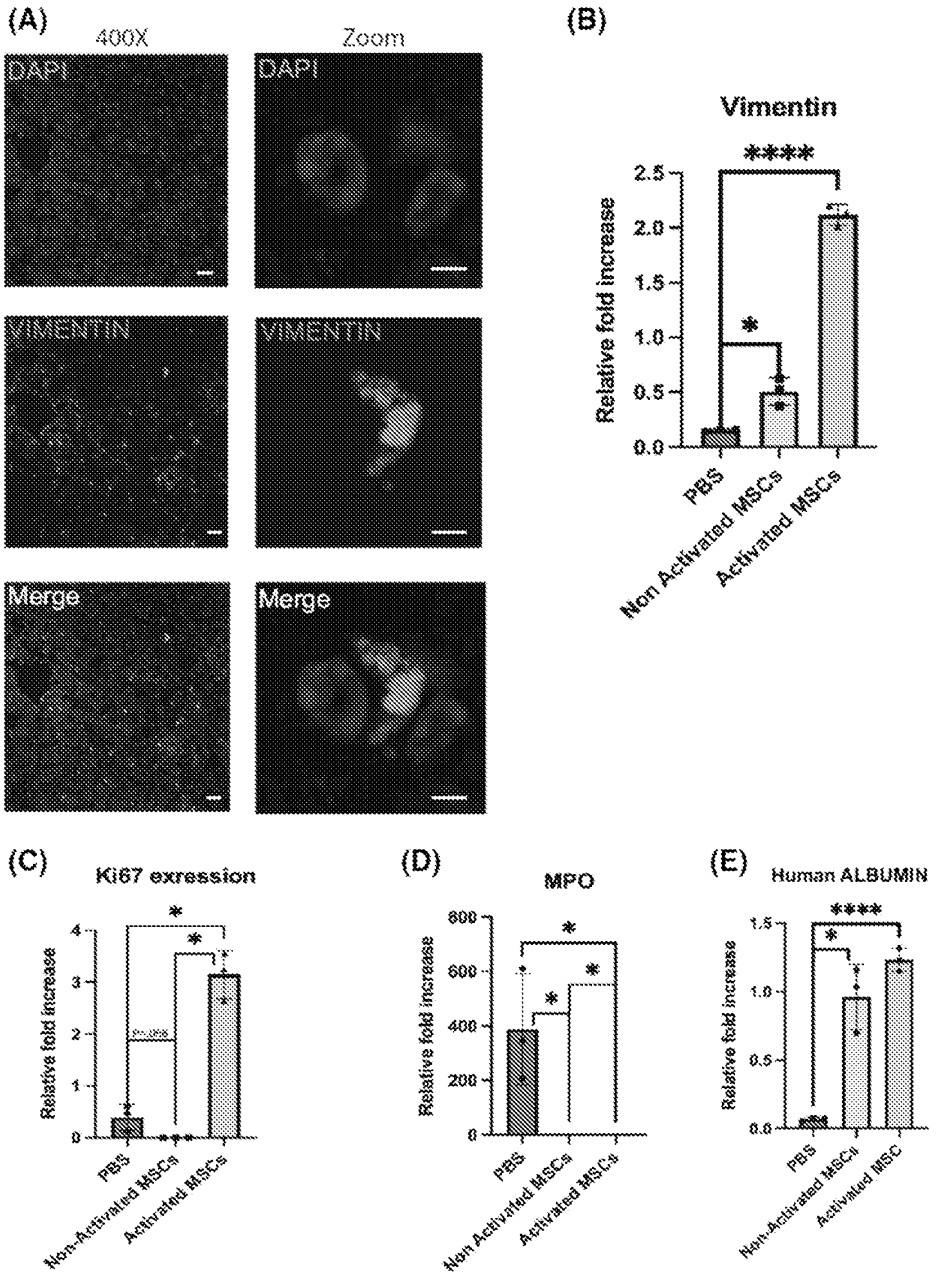

(A)
400X
Zoom
DAPI
DAPI
VIMENTIN
VIMENTIN
Merge
Merge
(B)
Vimentin
****
*
Relative fold increase
2.5
2.0
1.5
1.0
0.5
0.0
PBS
Non Activated MSCs
Activated MSCs
(C)
Ki67 exression
*
*
Relative fold increase
4
3
2
1
0
PBS
Non-Activated MSCs
Activated MSCs
(D)
MPO
*
*
*
Relative fold increase
800
600
400
200
0
PBS
Non Activated MSCs
Activated MSCs
(E)
Human ALBUMIN
****
*
Relative fold increase
1.5
1.0
0.5
0.0
PBS
Non-Activated MSCs
Activated MSC

FIG. 28

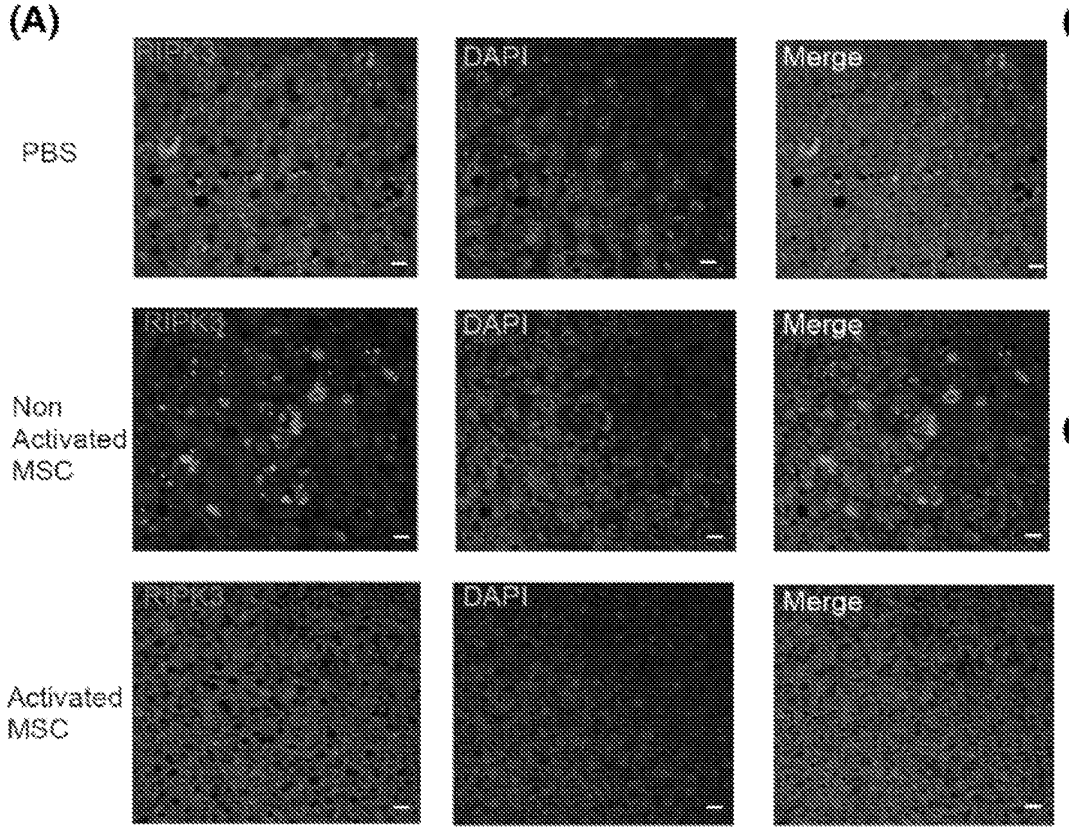


FIG. 28

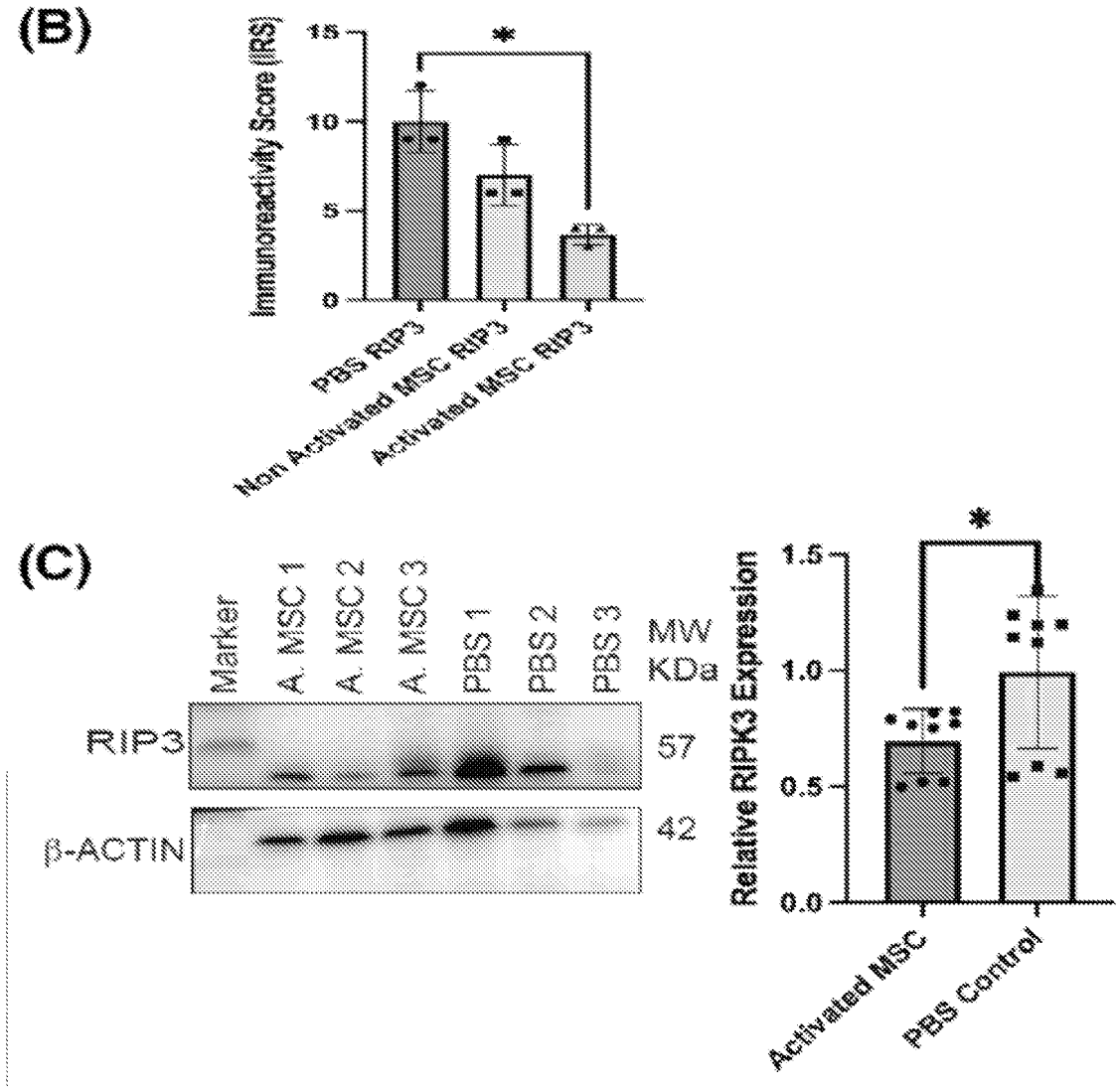

(B)
Immunoreactivity Score (IRS)
15
10
5
0
*
PBS RIP3
Non Activated MSC RIP3
Activated MSC RIP3
(C)
Marker
A. MSC 1
A. MSC 2
A. MSC 3
PBS 1
PBS 2
PBS 3
MW KDa
RIP3
57
β-ACTIN
42
Relative RIPK3 Expression
1.5
1.0
0.5
0.0
*
Activated MSC
PBS Control

FIG. 28

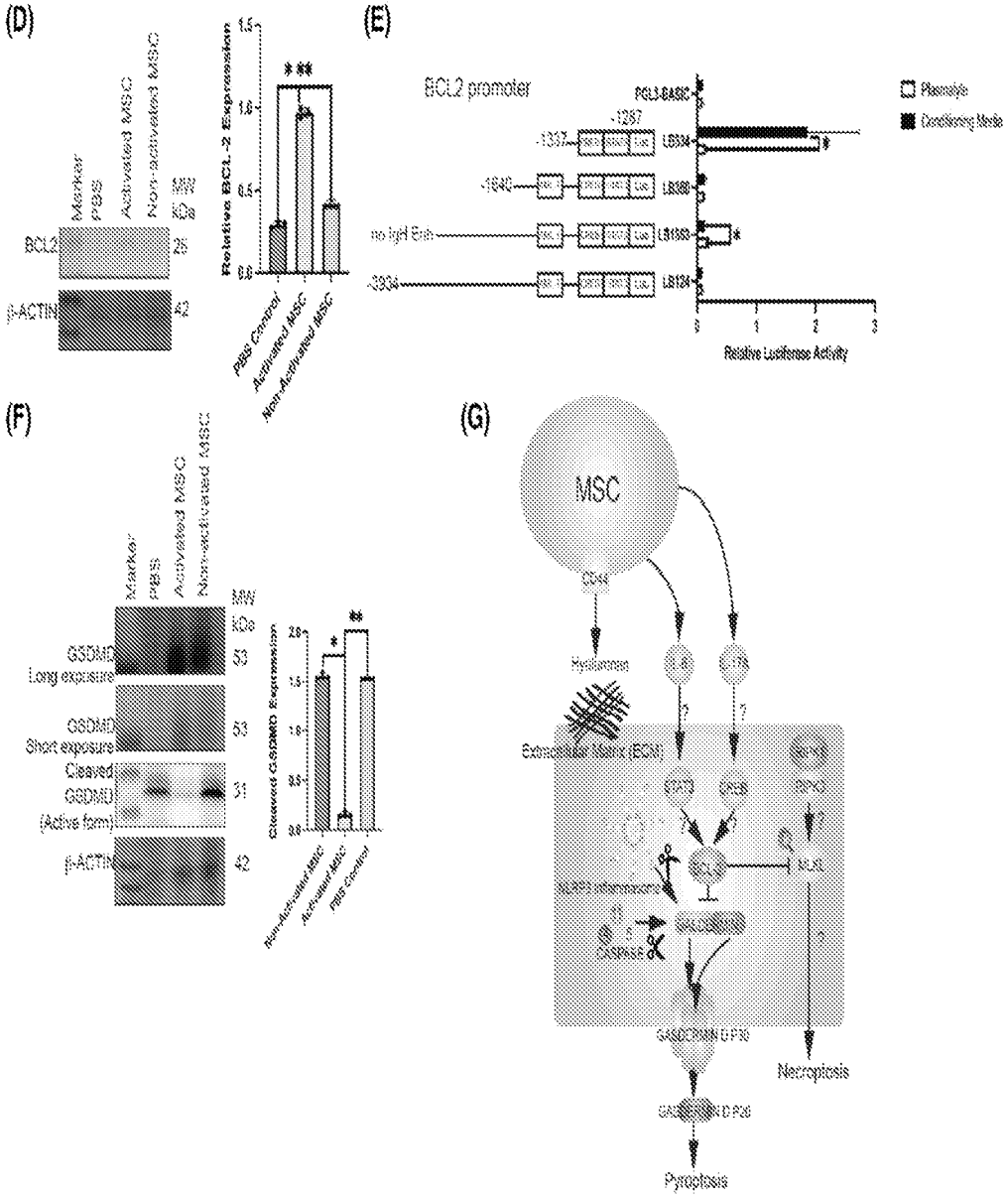

(D)
Marker
PBS
Activated MSC
Non-activated MSC
MW
kDa
BCL2
25
β-ACTIN
42
Relative BCL-2 Expression
PBS Control
Activated MSC
Non-Activated MSC
(E)
BCL2 promoter
Plasmalyte
Conditioning Media
no IgH Enh
Relative Luciferase Activity
(F)
GSDMD
Long exposure
53
GSDMD
Short exposure
53
Cleaved
GSDMD
(Active form)
31
β-ACTIN
42
Cleaved GSDMD Expression
(G)
MSC
Hyaluronan
Extracellular Matrix (ECM)
Necroptosis
Pyroptosis

FIG. 29

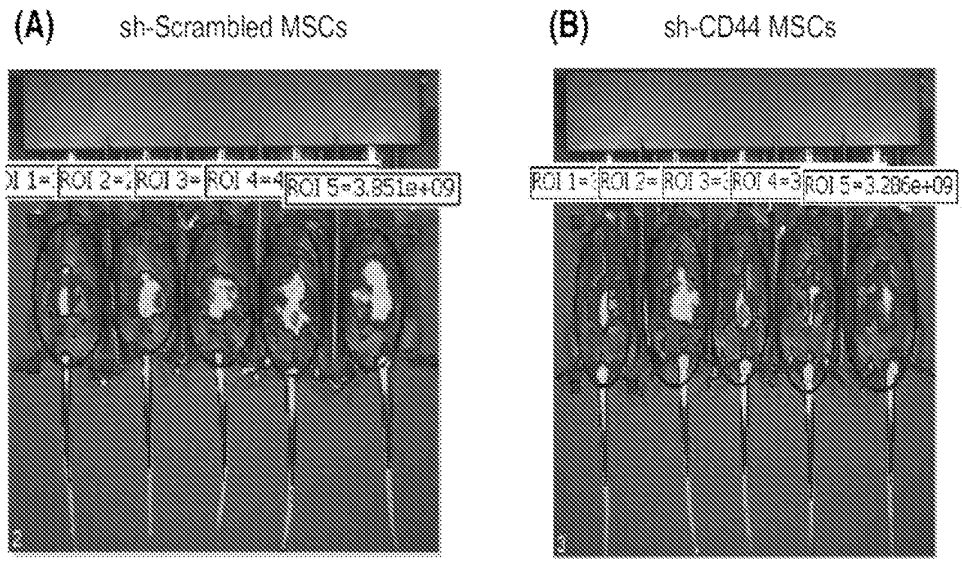


FIG. 30

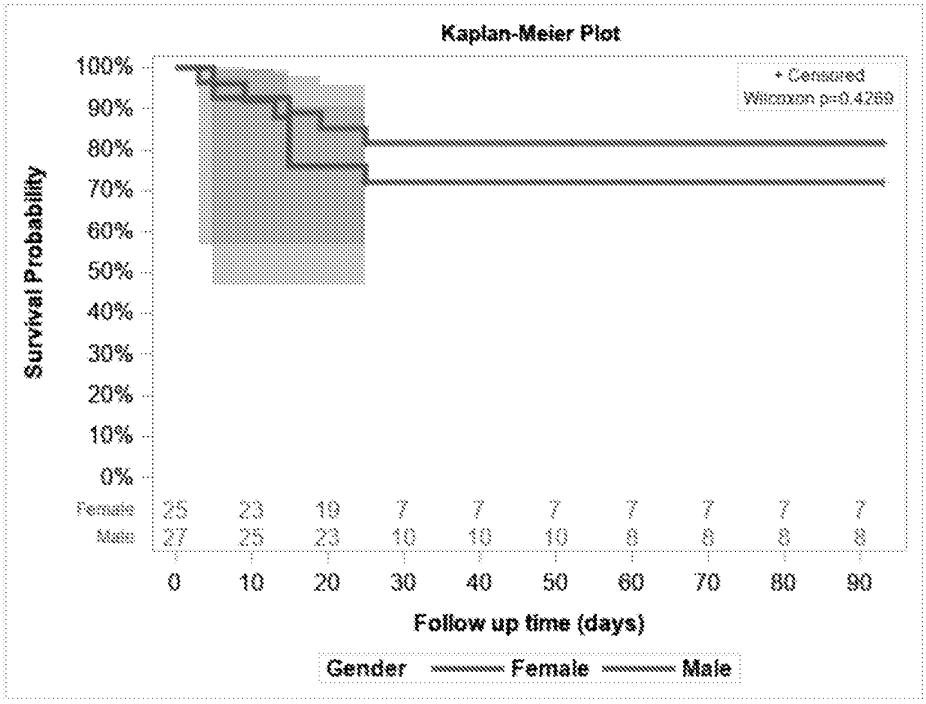

Kaplan-Meier Plot
+ Censored
Wilcoxon p=0.4269
Survival Probability
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Female 25 23 19 7 7 7 7 7 7 7
Male 27 25 23 10 10 10 8 8 8 8
0 10 20 30 40 50 60 70 80 90
Follow up time (days)
Gender Female Male

FIG. 31

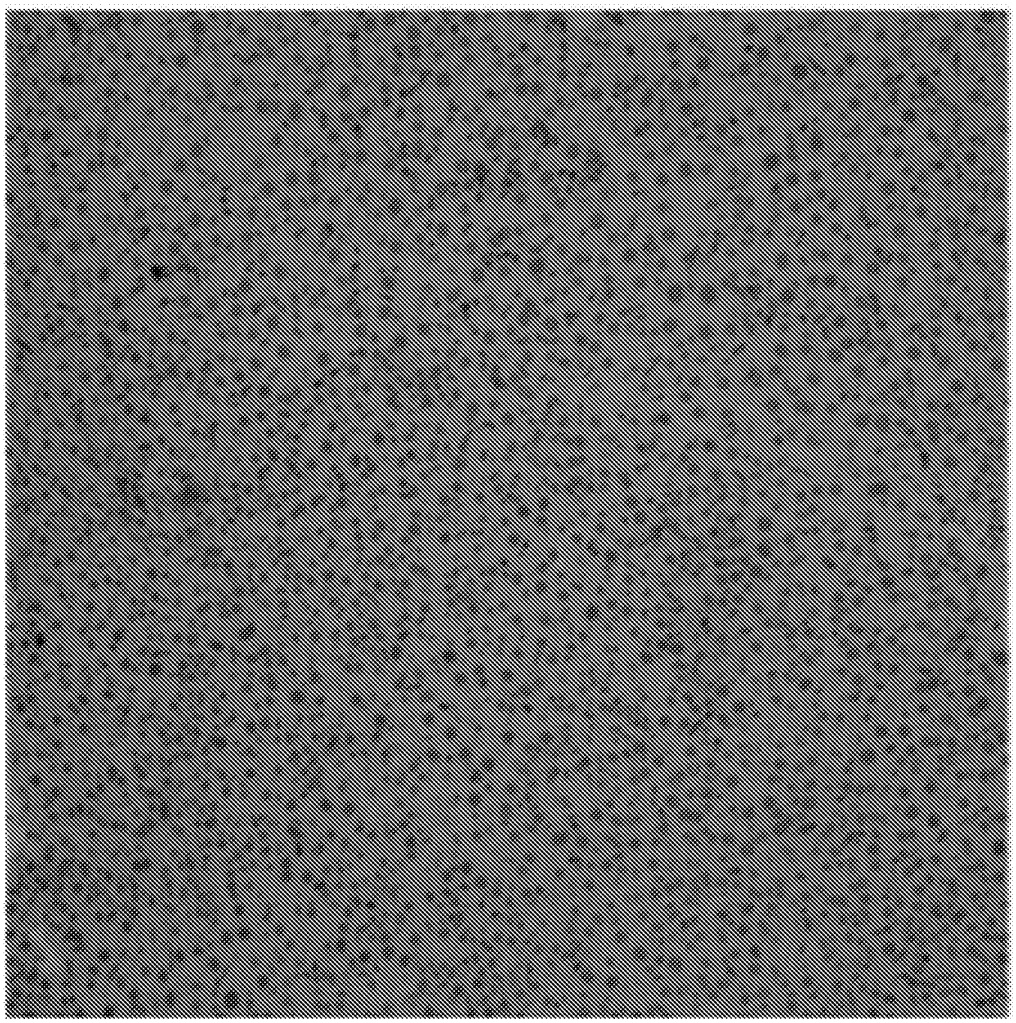


FIG. 32

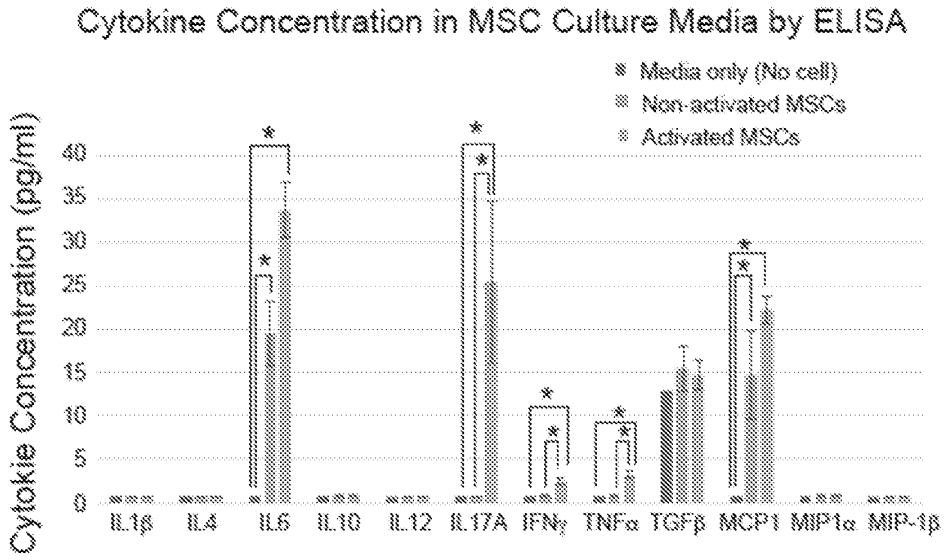

Cytokine Concentration in MSC Culture Media by ELISA
Media only (No cell)
Non-activated MSCs
Activated MSCs
Cytokie Concentration (pg/ml)
0
5
10
15
20
25
30
35
40
IL1β
IL4
IL6
IL10
IL12
IL17A
IFNγ
TNFα
TGFβ
MCP1
MIP1α
MIP-1β

FIG. 33

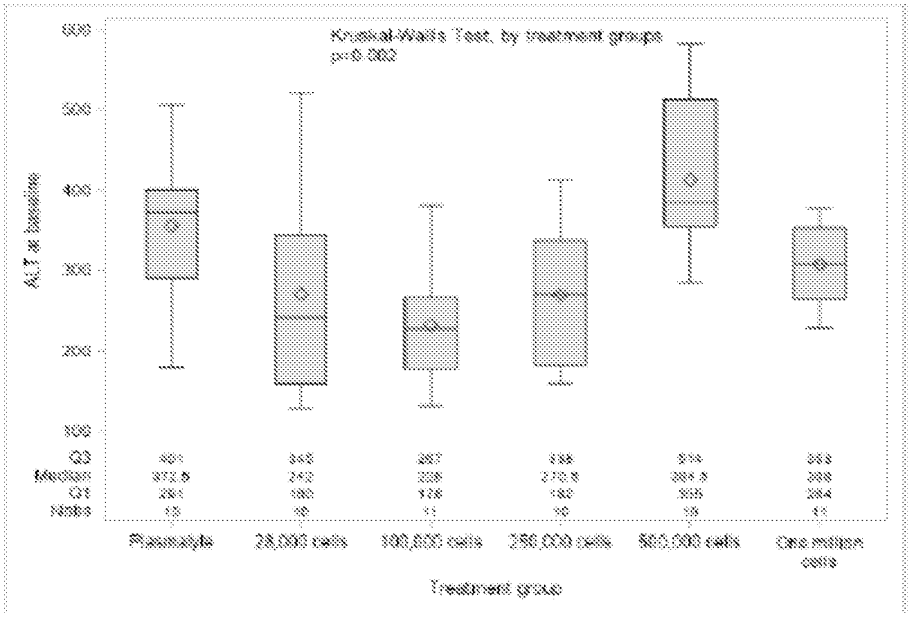
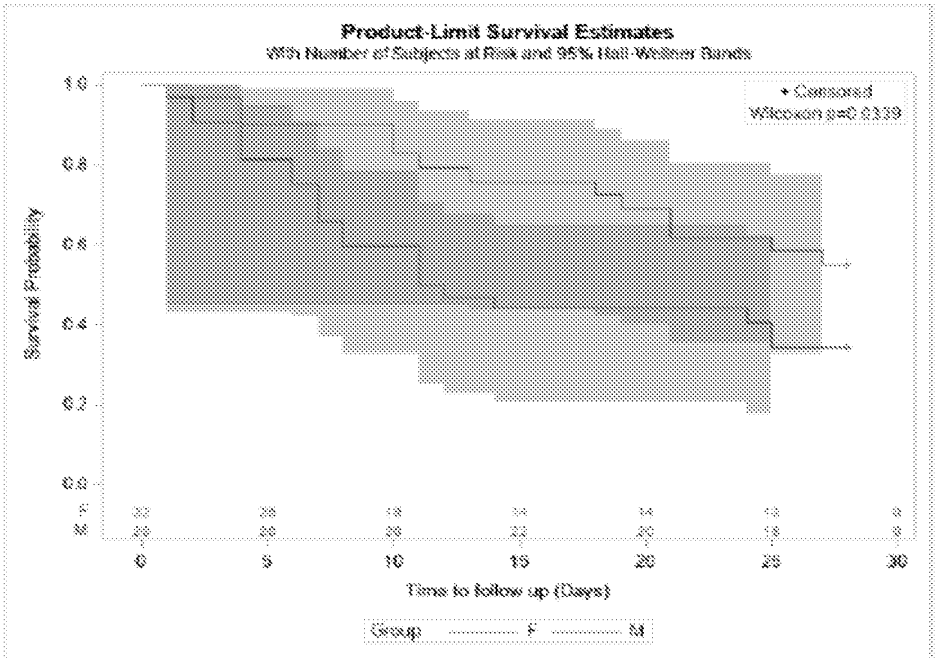

Kruskal-Wallis Test, by treatment groups
p=0.002
ALT at baseline
600
500
400
300
200
100
Q3
Median
Q1
Nobs
Plasmalyte
28,000 cells
100,000 cells
250,000 cells
500,000 cells
One million cells
Treatment group

FIG. 34


Product-Limit Survival Estimates
With Number of Subjects at Risk and 95% Hall-Wellner Bands
+ Censored
Wilcoxon p=0.0339
Survival Probability
1.0
0.8
0.6
0.4
0.2
0.0
F
M
0
5
10
15
20
25
30
Time to follow up (Days)
Group
F
M

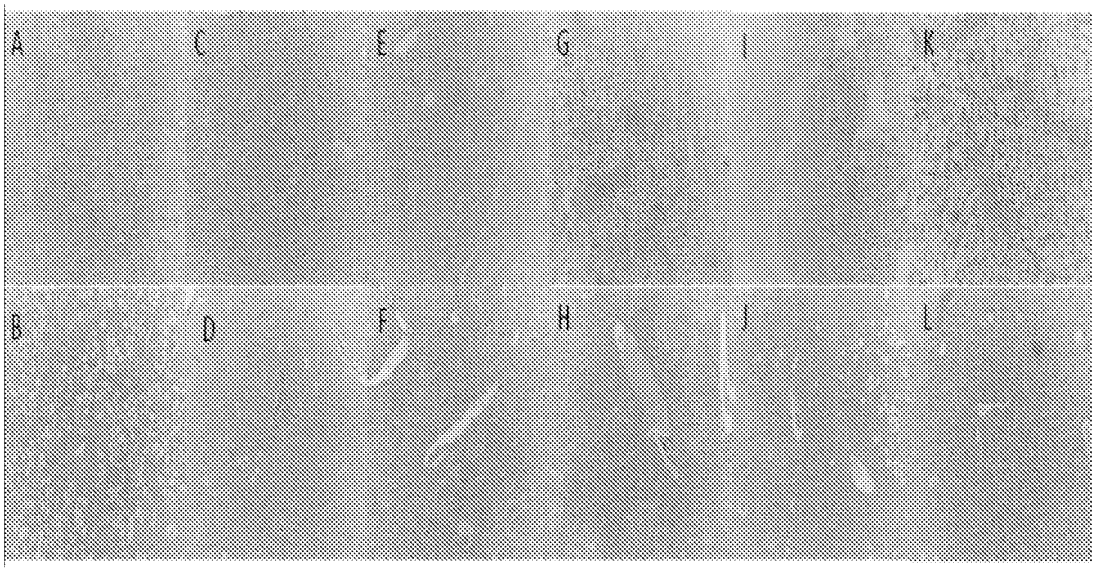



FIG. 35