FIG.1

Pure tumor cell culture in flasks
Interferon-gamma treatment for 72 hours
Floating non-autophagic, apoptotic cells
Adherent autophagic, non-apoptotic cells
Tissue culture flask surface
Detached non-autophagic, apoptotic cell
Attached autophagic,non-apoptotic cell
Major histocompatibility complex II-over expressed in autophagic cells
Phosphatidylserine-apoptotic marker

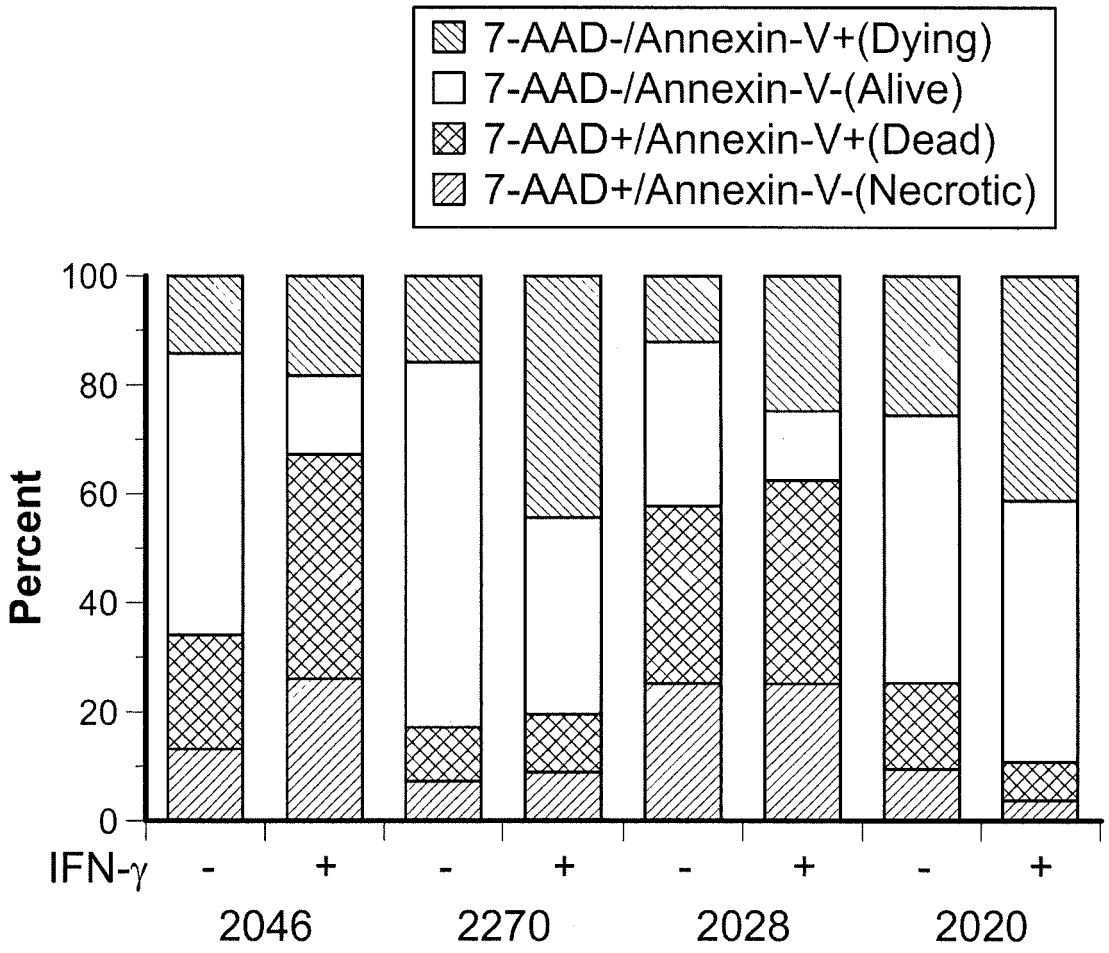

7-AAD-/Annexin-V+(Dying)
7-AAD-/Annexin-V-(Alive)
7-AAD+/Annexin-V+(Dead)
7-AAD+/Annexin-V-(Necrotic)
Percent
100
80
60
40
20
0
IFN-γ - + - + - + - +
2046
2270
2028
2020

FIG. 2A

FIG.2B

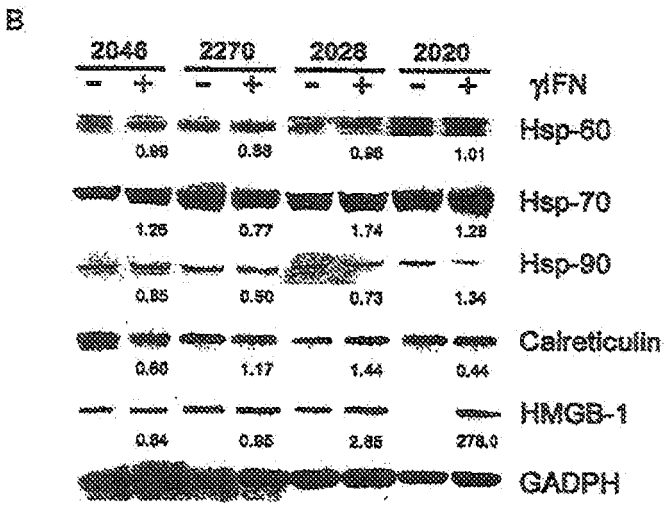

B
2046
2270
2028
2020
- + - + - + - +
γIFN
Hsp-60
0.89 0.58 0.98 1.01
Hsp-70
1.25 0.77 1.74 1.28
Hsp-90
0.85 0.50 0.73 1.34
Calreticulin
0.68 1.17 1.44 0.44
HMGB-1
0.84 0.85 2.85 278.0
GADPH

FIG.2C

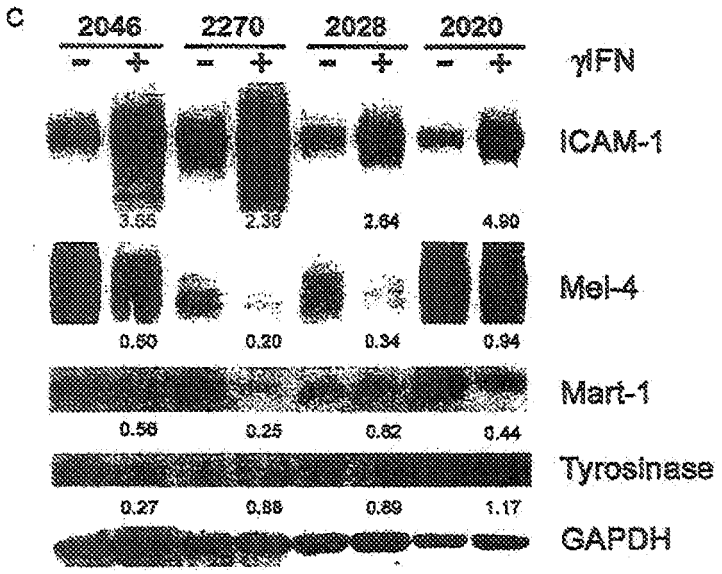

C
2046
2270
2028
2020
- + - + - + - +
γIFN
ICAM-1
3.65
2.38
2.64
4.90
Mel-4
0.50
0.20
0.34
0.94
Mart-1
0.56
0.25
0.62
0.44
Tyrosinase
0.27
0.88
0.89
1.17
GAPDH

FIG.2D

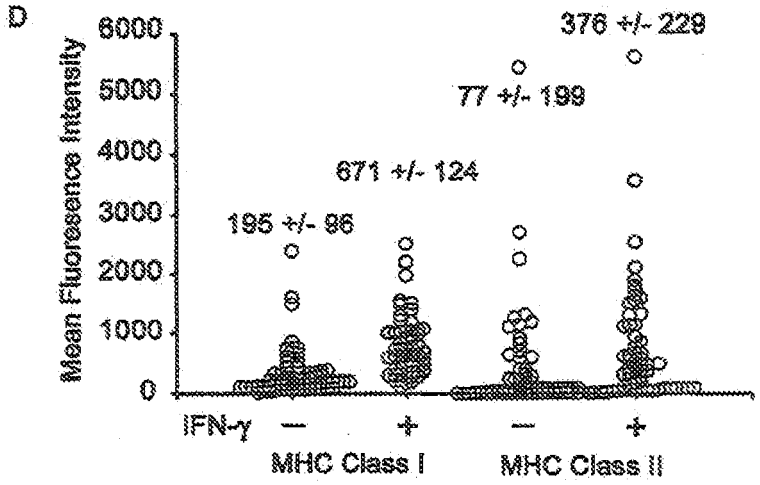
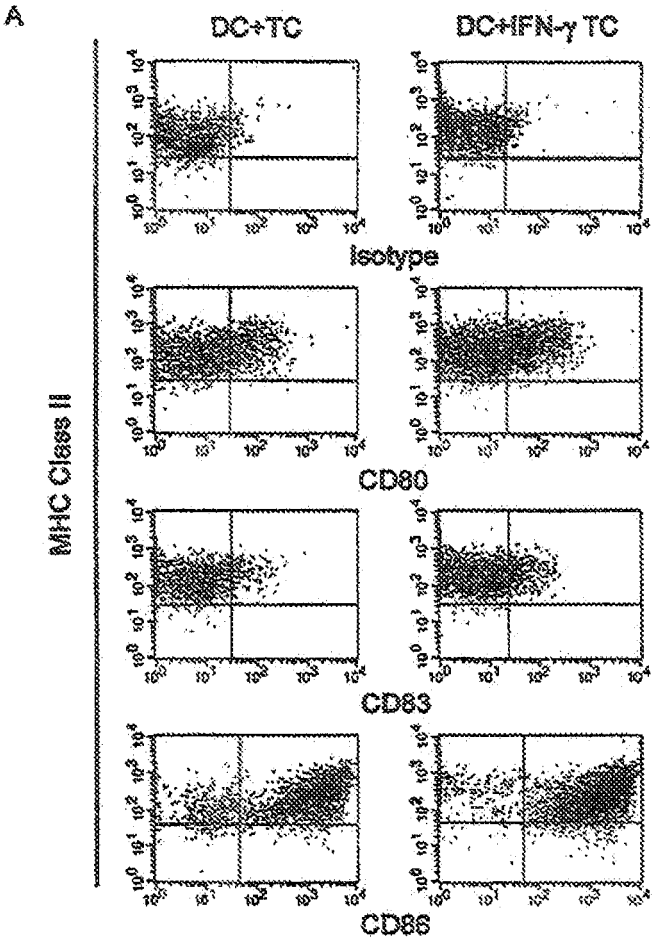

D
Mean Fluorescence Intensity
6000
5000
4000
3000
2000
1000
0
195 +/- 96
671 +/- 124
77 +/- 199
376 +/- 229
IFN-γ
—
+
—
+
MHC Class I
MHC Class II

FIG.3A



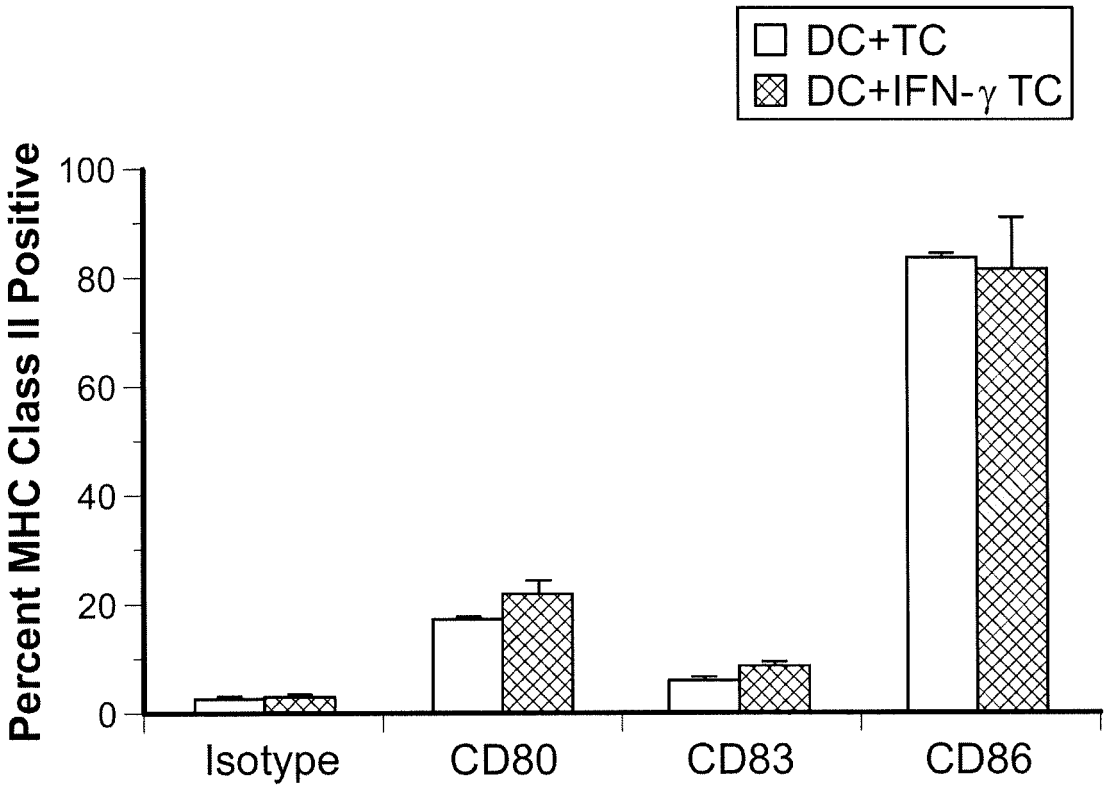
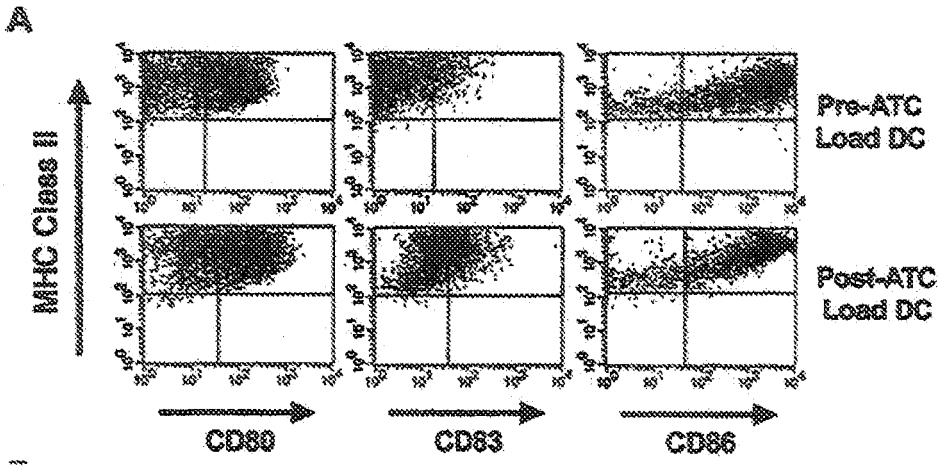

DC+TC
DC+IFN-γ TC
Percent MHC Class II Positive
100
80
60
40
20
0
Isotype
CD80
CD83
CD86

FIG. 3B

FIG.4A



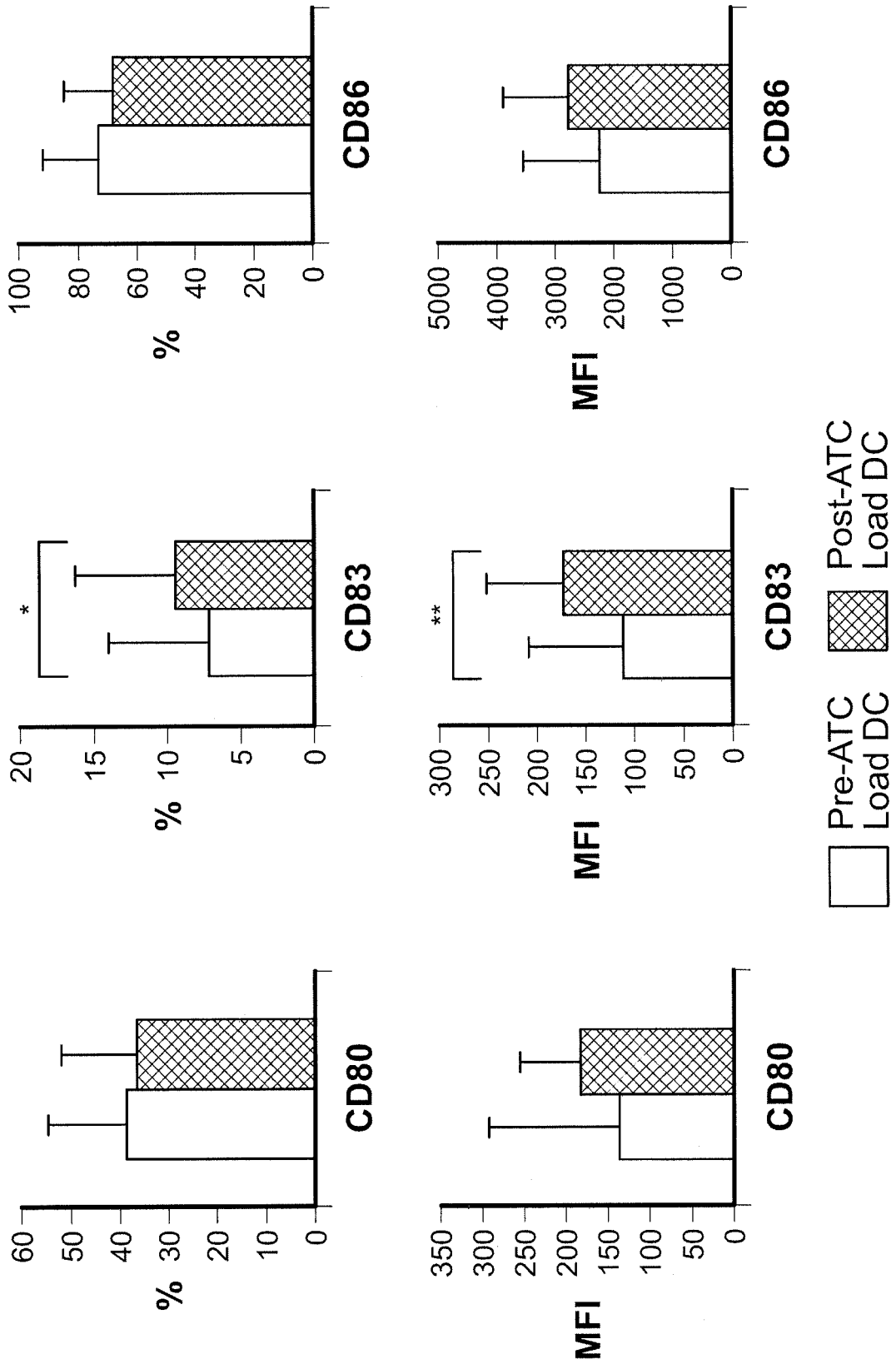
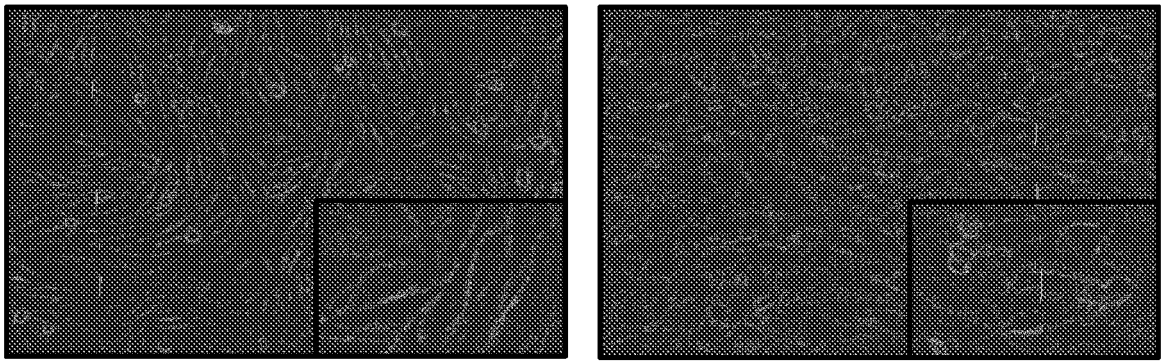
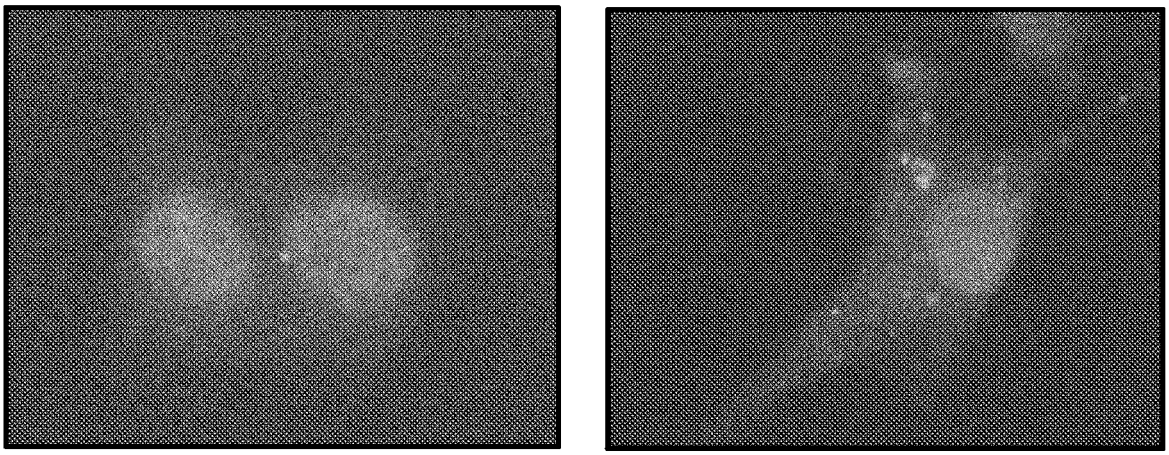


FIG. 4B



No IFN-γ IFN-γ

FIG. 5A



No IFN-γ IFN-γ

FIG. 5B

FIG.5C

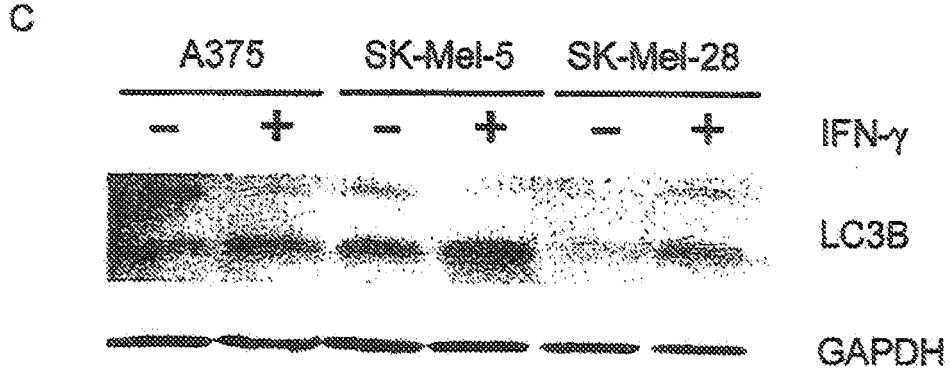


FIG.6A

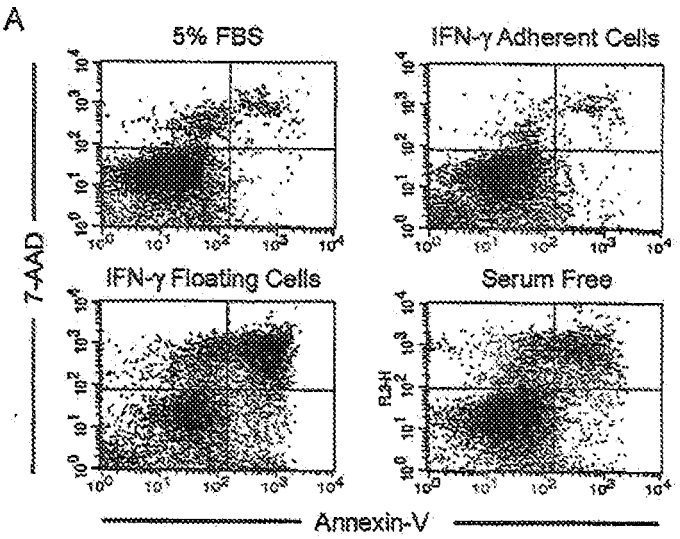
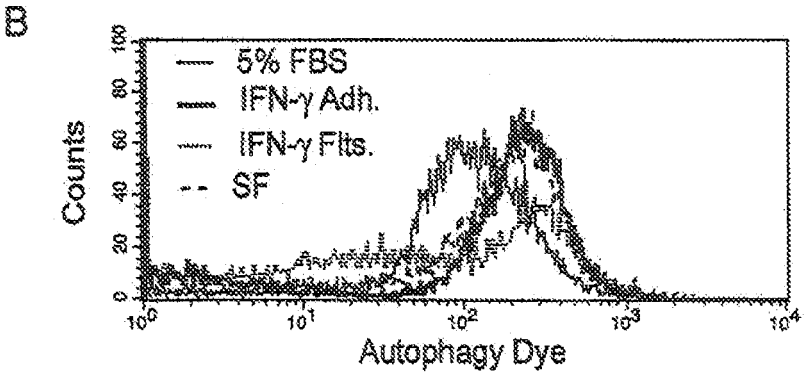

A
5% FBS
IFN-γ Adherent Cells
IFN-γ Floating Cells
Serum Free
7-AAD
Annexin-V
R3H

FIG.6B



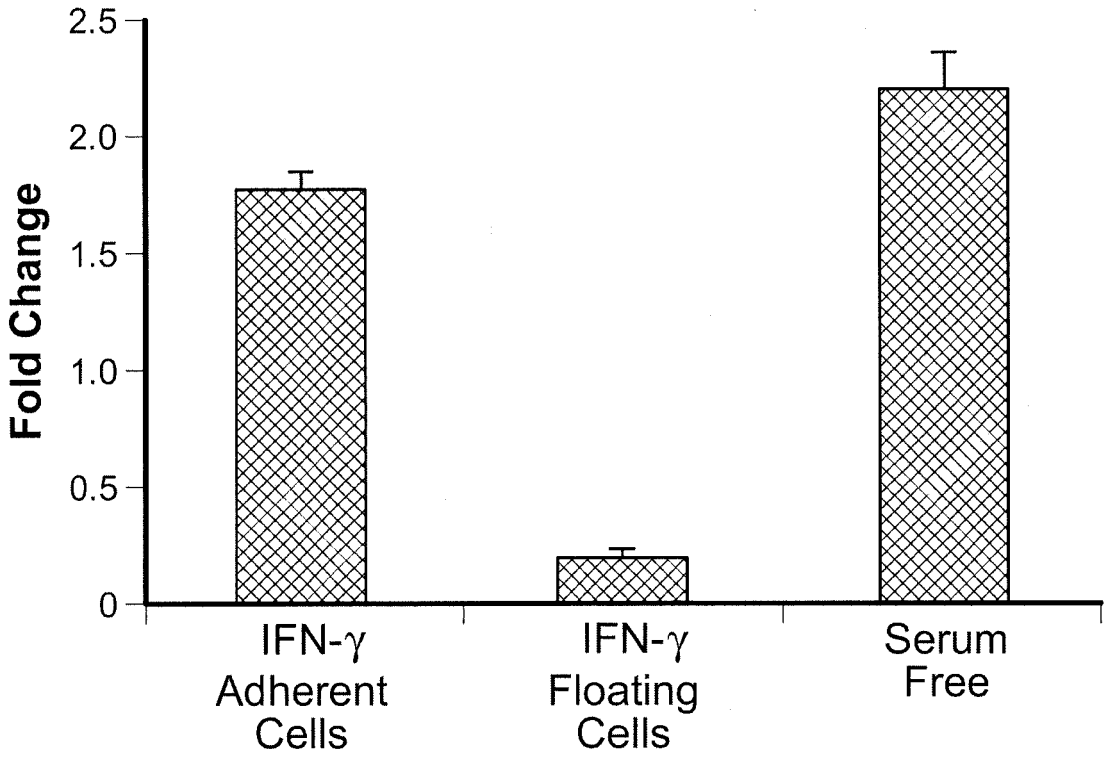

Fold Change
2.5
2.0
1.5
1.0
0.5
0
IFN-γ Adherent Cells
IFN-γ Floating Cells
Serum Free

FIG. 6C

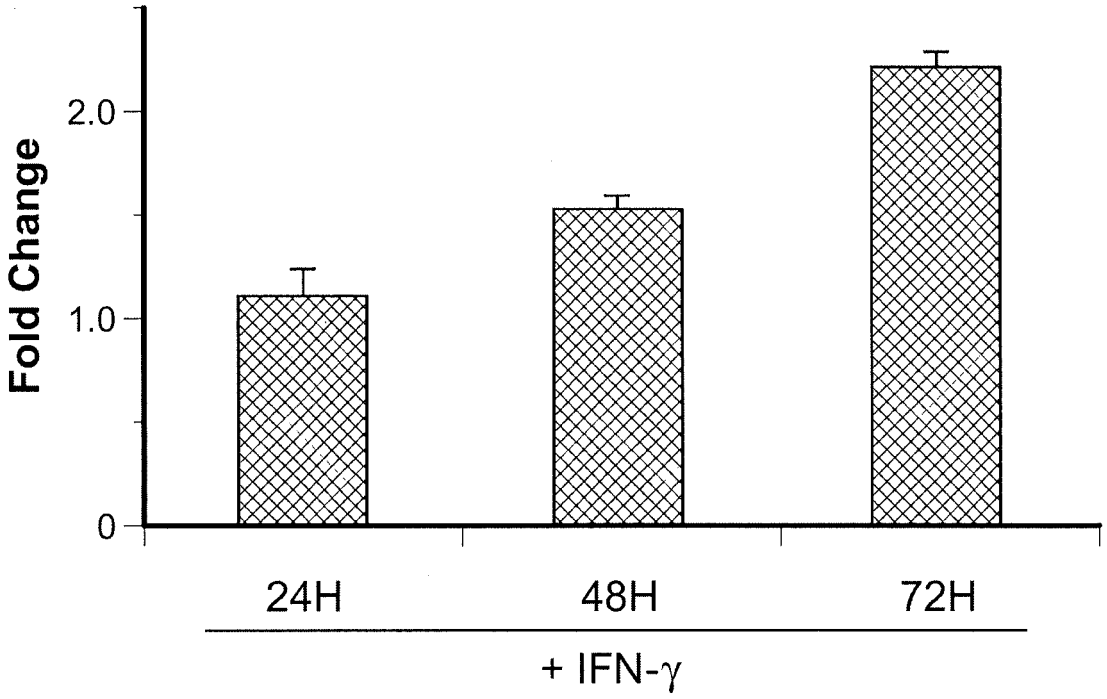


FIG. 7A

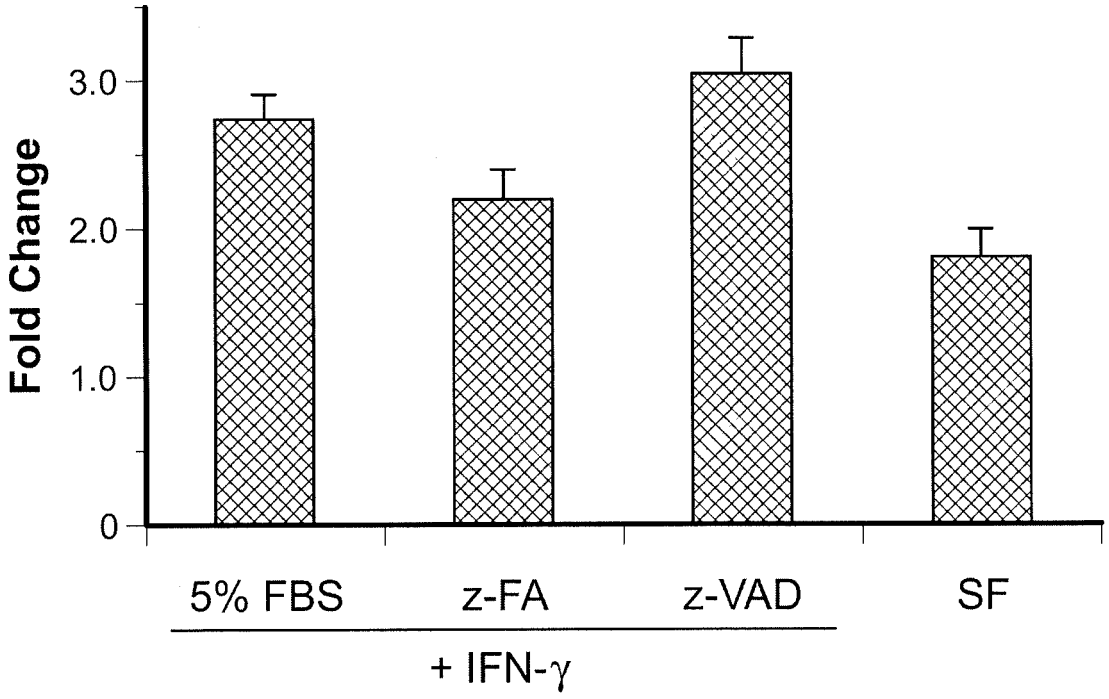
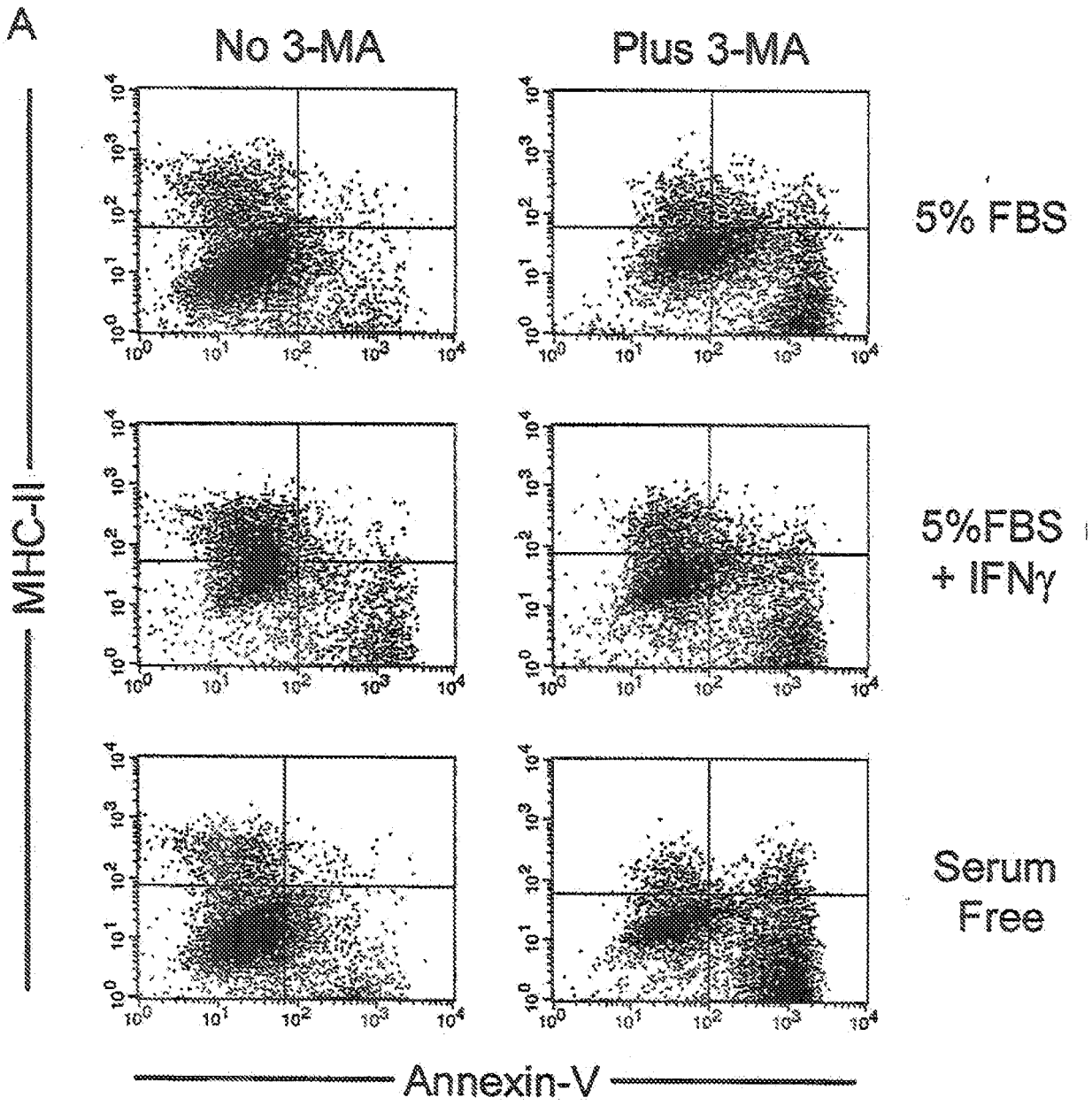


FIG. 7B

FIG.8



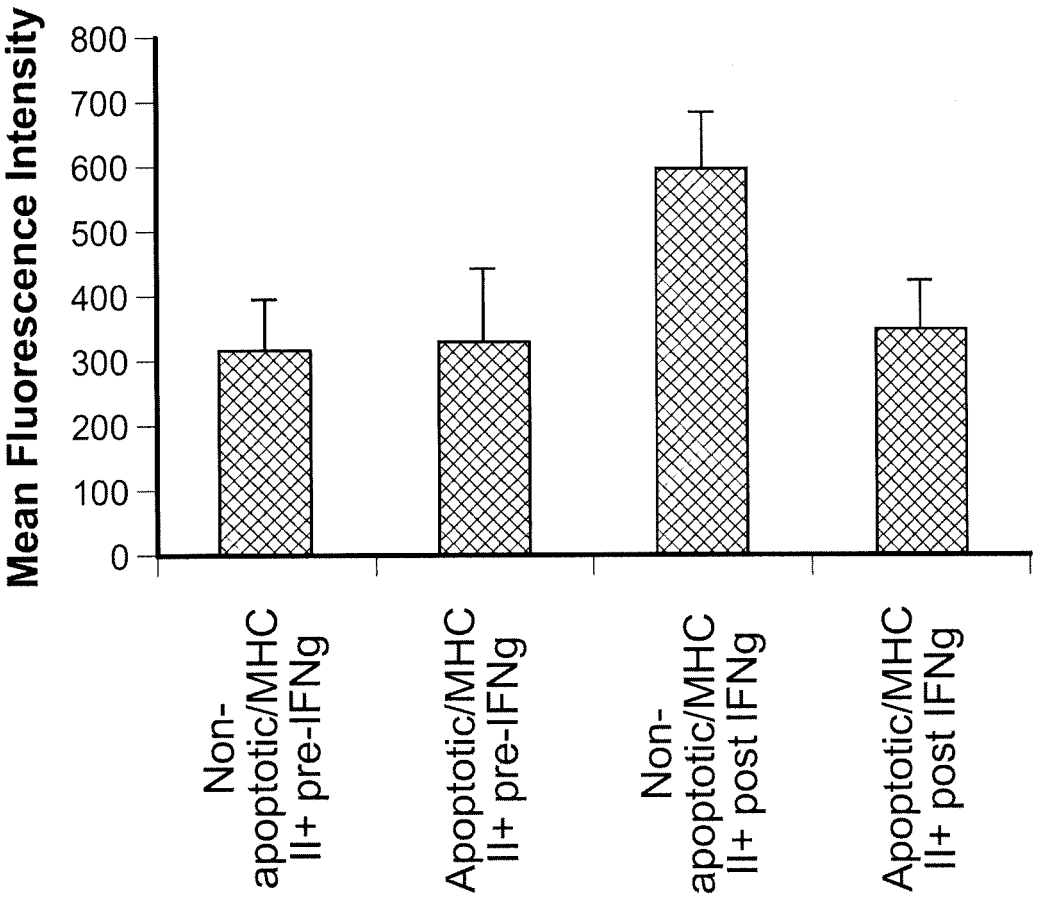

Mean Fluorescence Intensity
800
700
600
500
400
300
200
100
0
Non-apoptotic/MHC II+ pre-IFNg
Apoptotic/MHC II+ pre-IFNg
Non-apoptotic/MHC II+ post IFNg
Apoptotic/MHC II+ post IFNg

FIG. 9

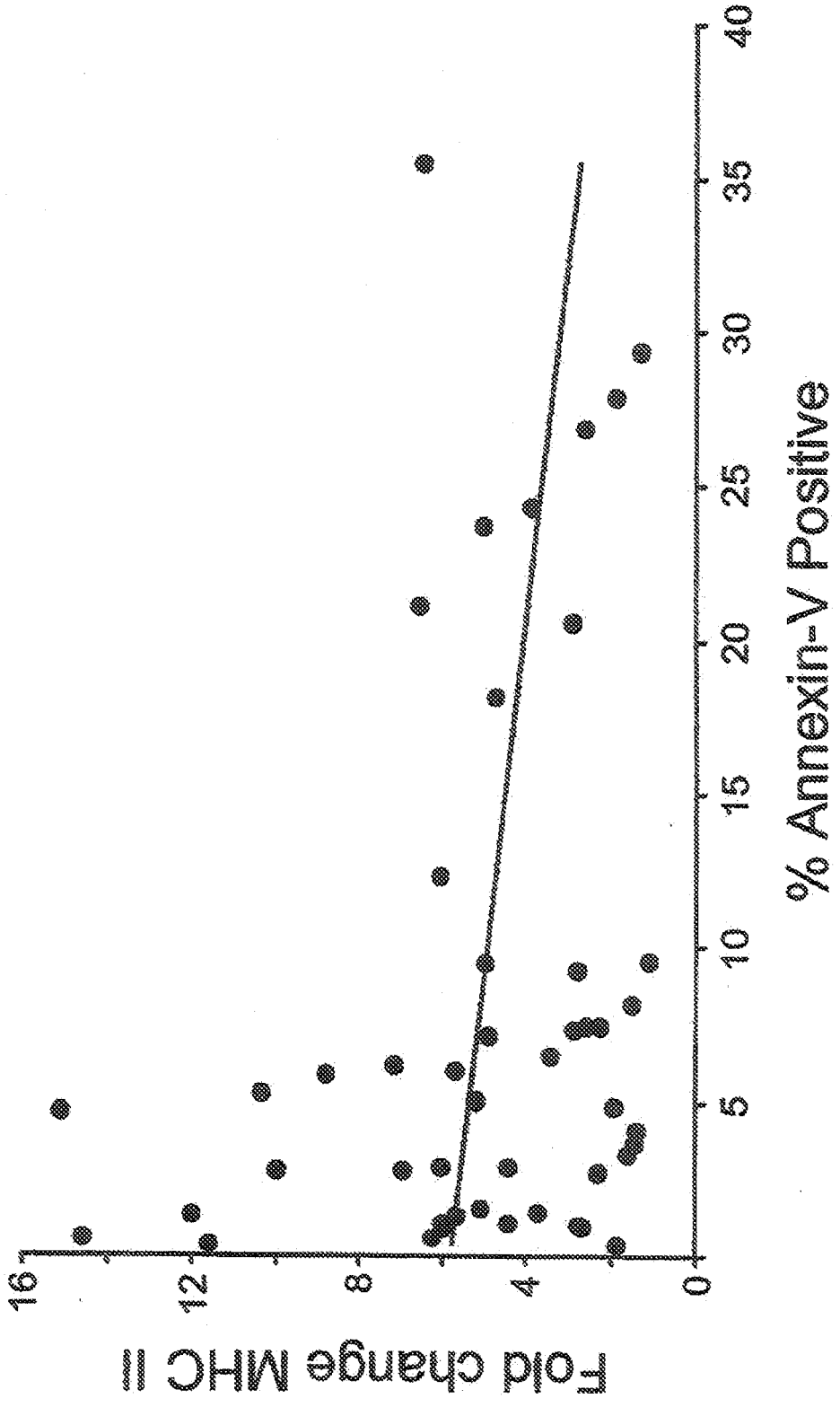

Fold change MHC II
16
12
8
4
0
% Annexin-V Positive
5
10
15
20
25
30
35
40

FIG.10

FIG.11

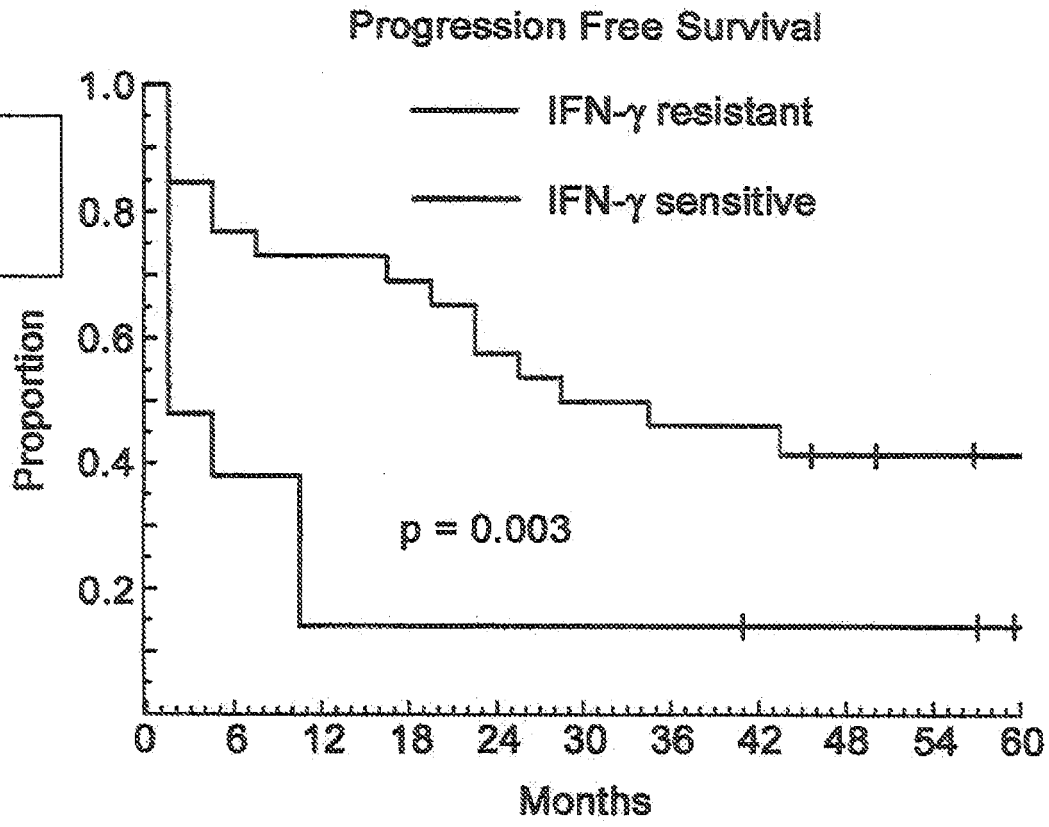
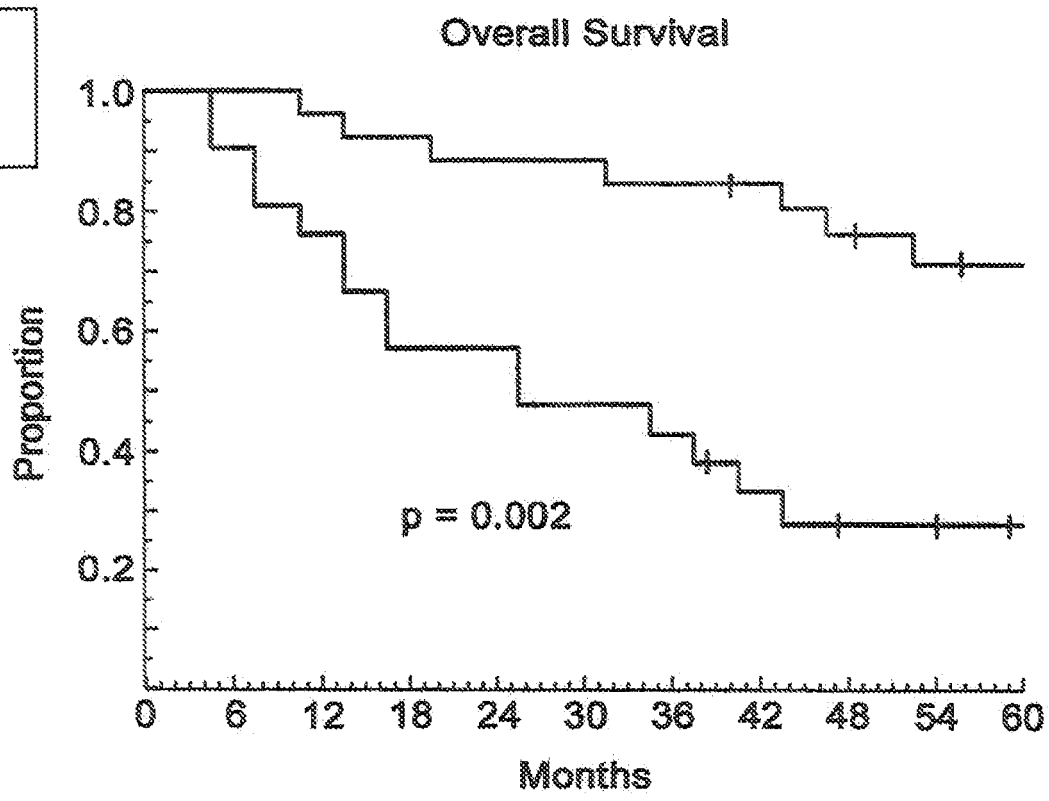

Progression Free Survival
IFN-γ resistant
IFN-γ sensitive
Proportion
1.0
0.8
0.6
0.4
0.2
p = 0.003
0
6
12
18
24
30
36
42
48
54
60
Months

FIG.12


Overall Survival
1.0
0.8
0.6
0.4
0.2
Proportion
p = 0.002
0
6
12
18
24
30
36
42
48
54
60
Months

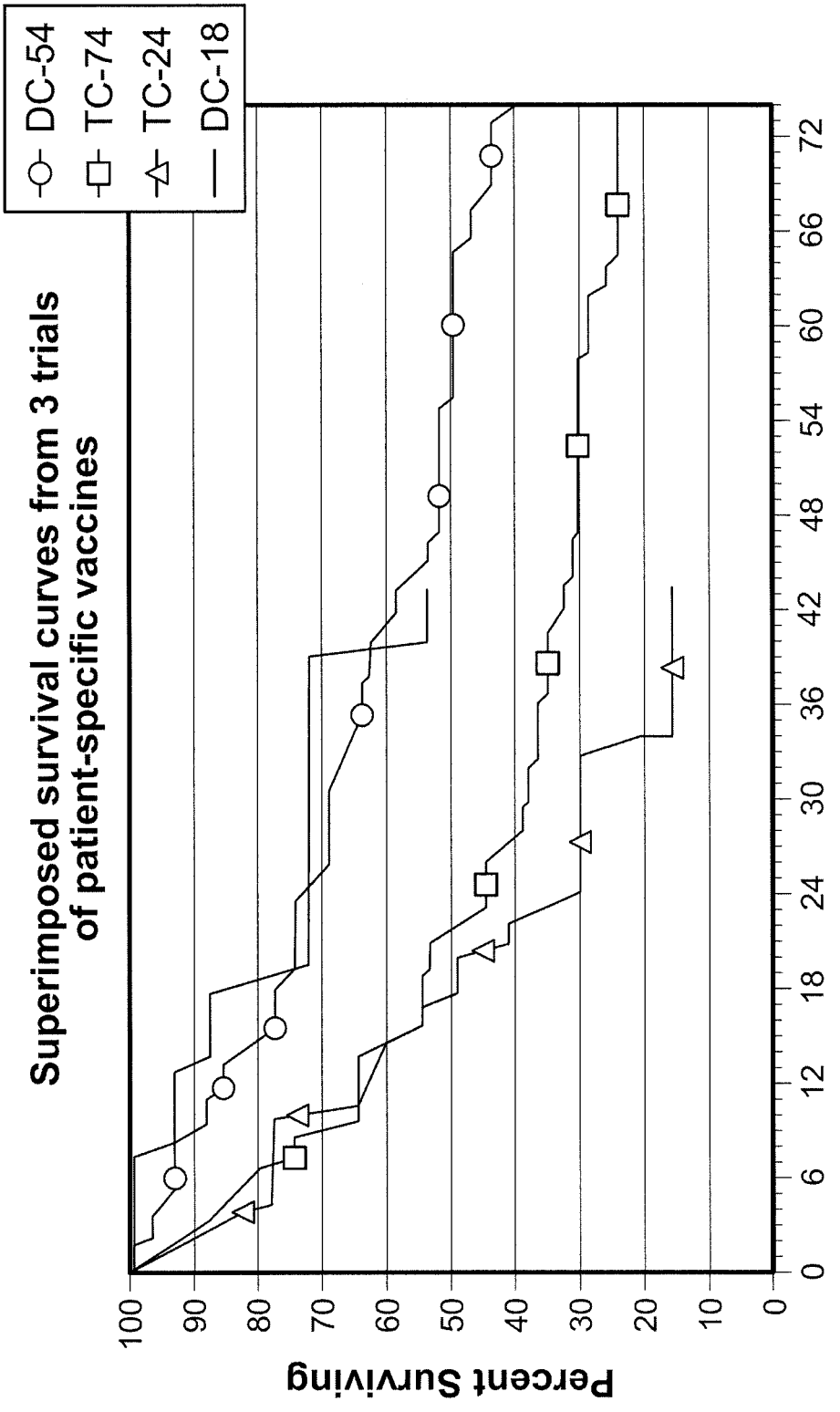

Superimposed survival curves from 3 trials of patient-specific vaccines
DC-54
TC-74
TC-24
DC-18
Percent Surviving
100
90
80
70
60
50
40
30
20
10
0
0
6
12
18
24
30
36
42
48
54
60
66
72
Months

FIG. 13

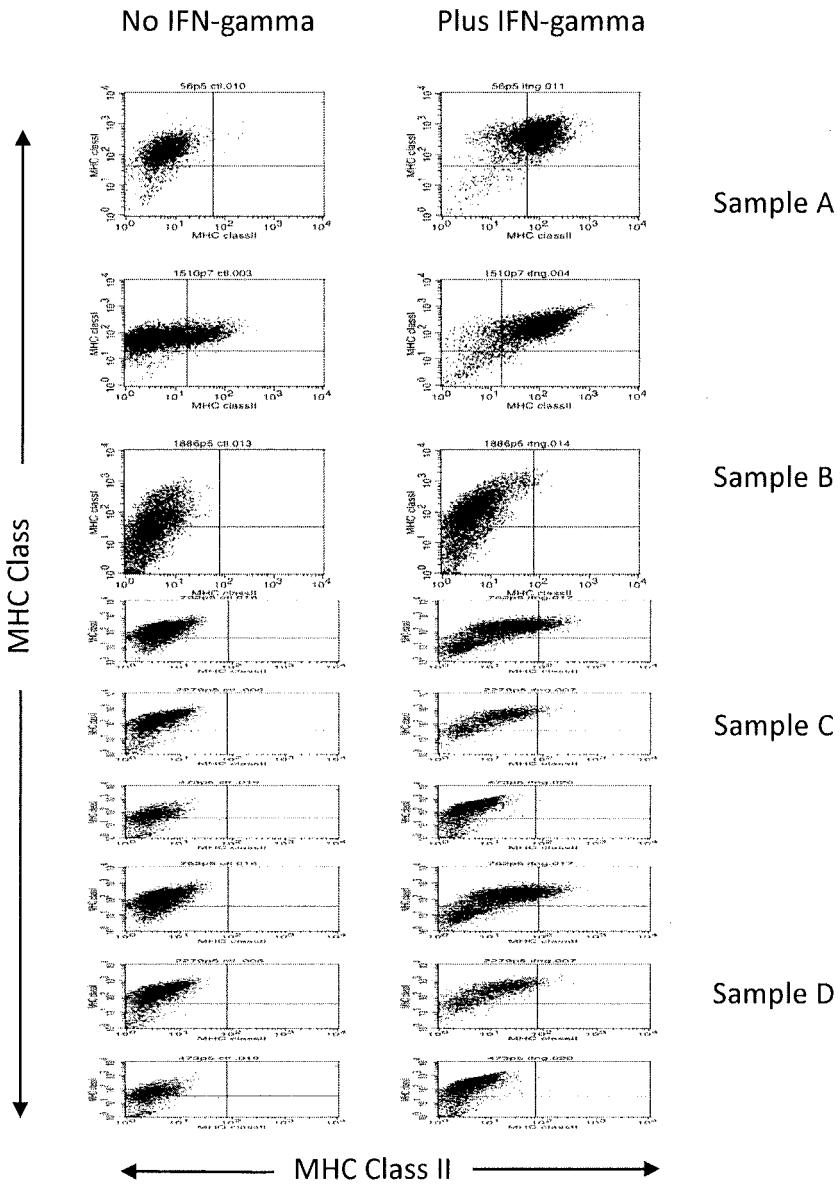

No IFN-gamma
Plus IFN-gamma
Sample A
Sample B
Sample C
Sample D
MHC Class
MHC Class II

Figure 14

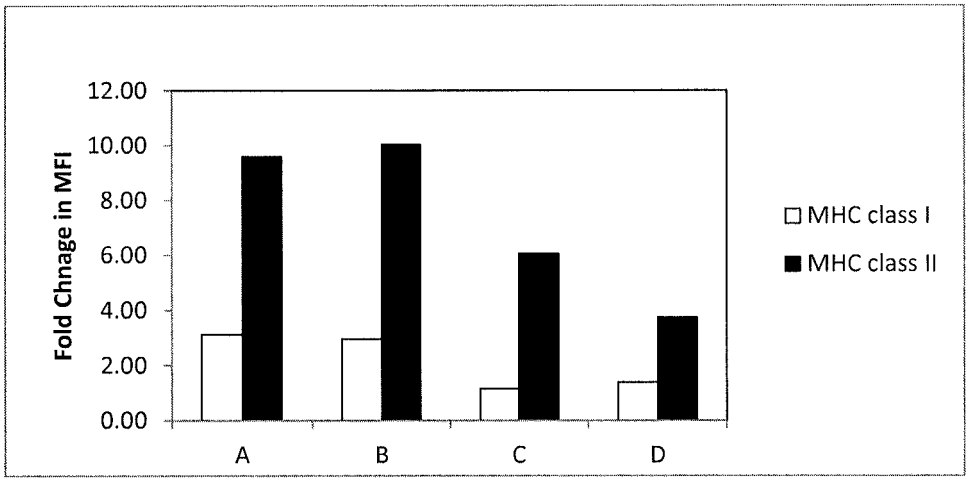

12.00
10.00
8.00
6.00
4.00
2.00
0.00
Fold Chnage in MFI
A
B
C
D
MHC class I
MHC class II

Figure 15

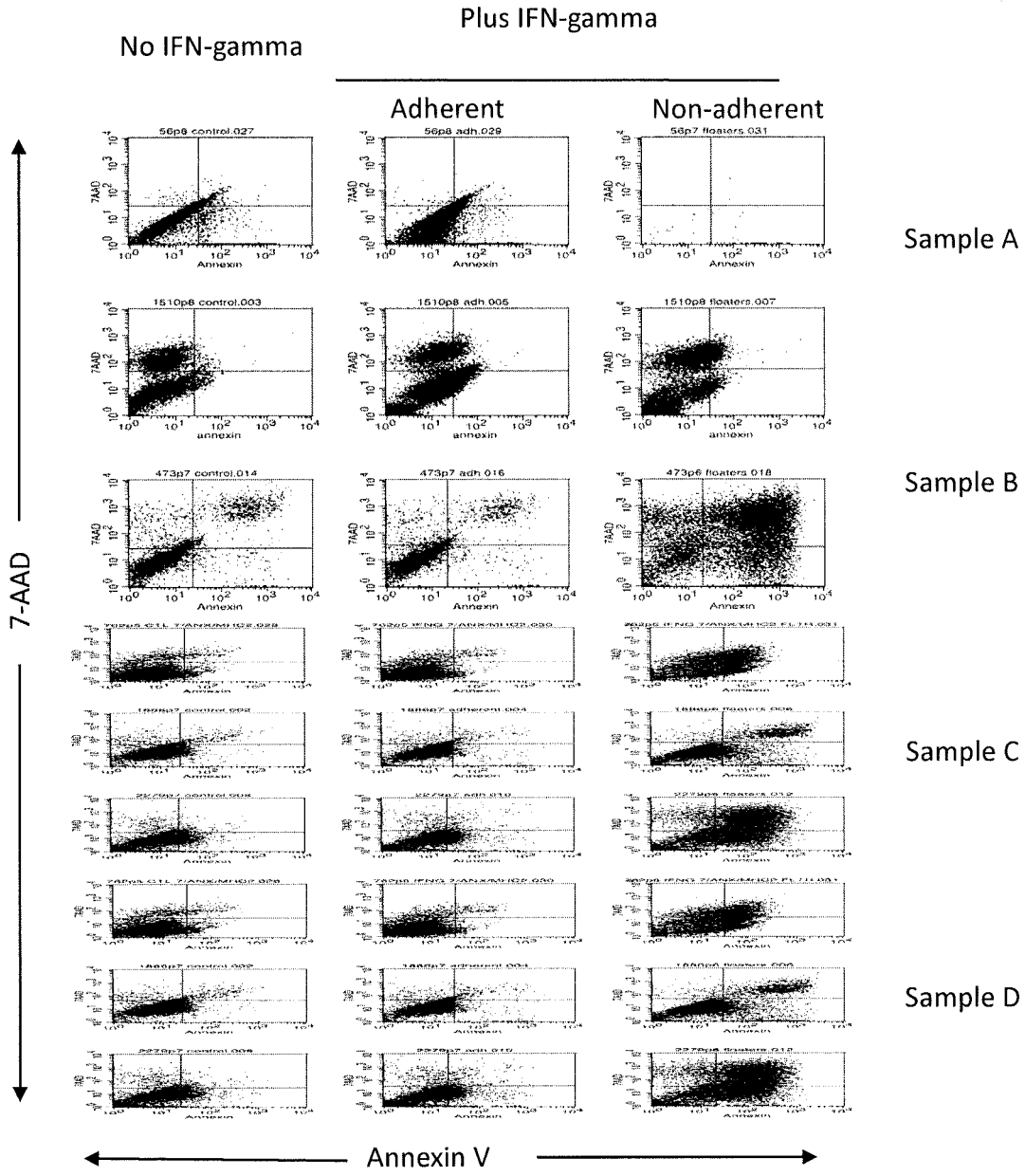

No IFN-gamma
Plus IFN-gamma
Adherent
Non-adherent
Sample A
Sample B
Sample C
Sample D
7-AAD
Annexin V

Figure 16

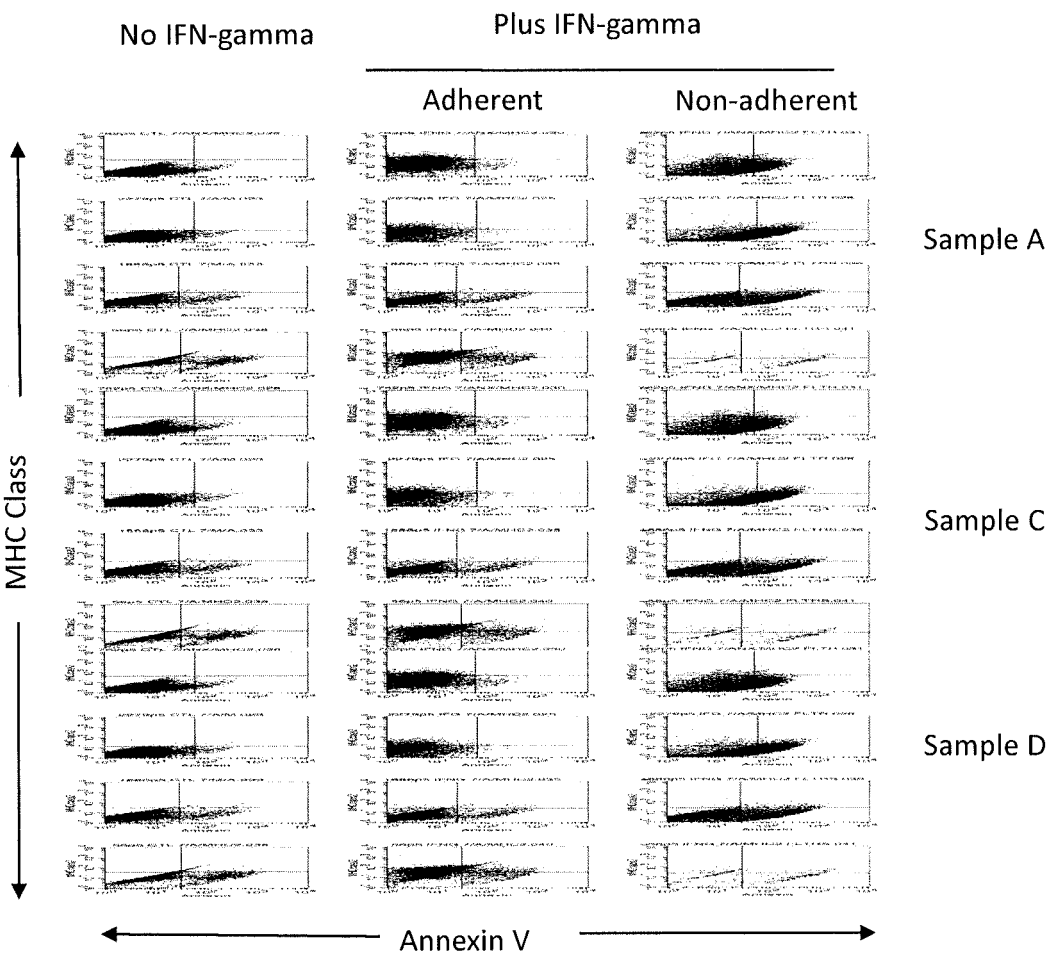

No IFN-gamma
Plus IFN-gamma
Adherent
Non-adherent
Sample A
Sample C
Sample D
MHC Class
Annexin V

Figure 17

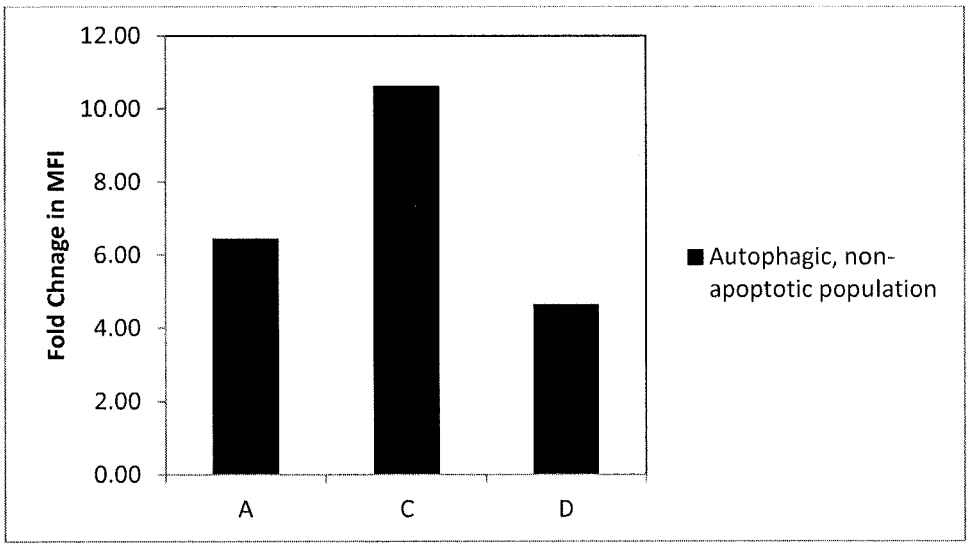

12.00
10.00
8.00
6.00
4.00
2.00
0.00
Fold Chnage in MFI
A
C
D
Autophagic, non-apoptotic population

Figure 18

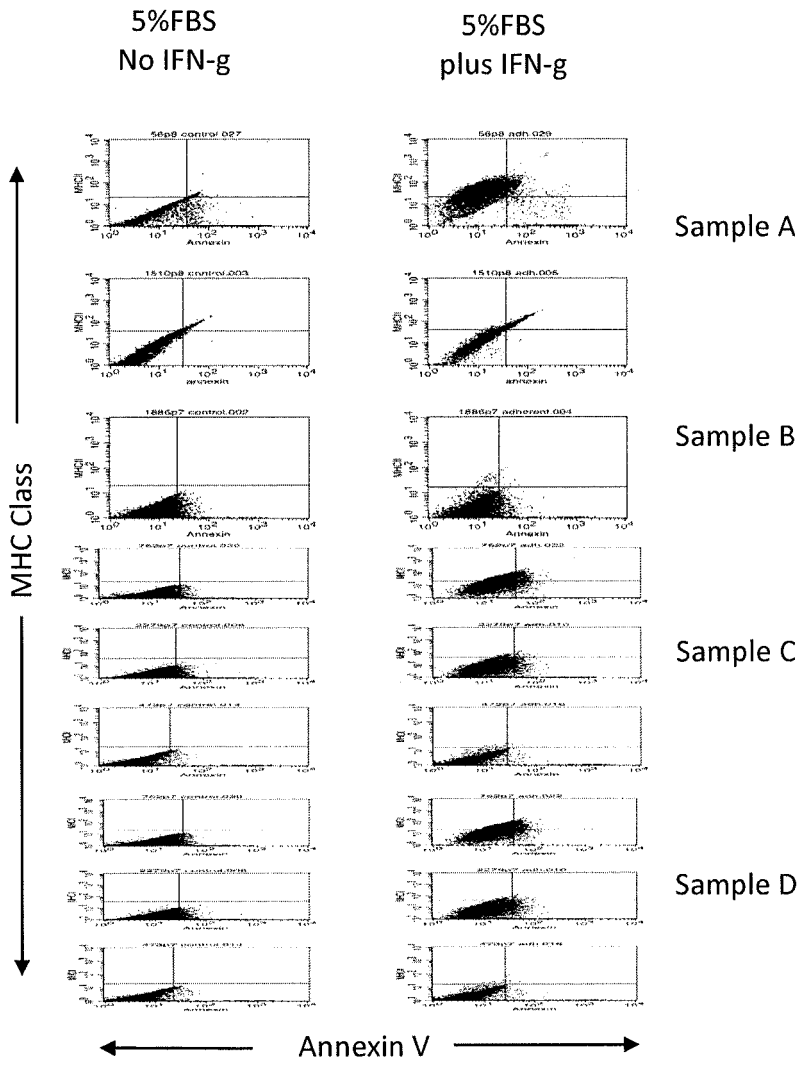

5%FBS
No IFN-g
5%FBS
plus IFN-g
Sample A
Sample B
Sample C
Sample D
MHC Class
Annexin V

Figure 19