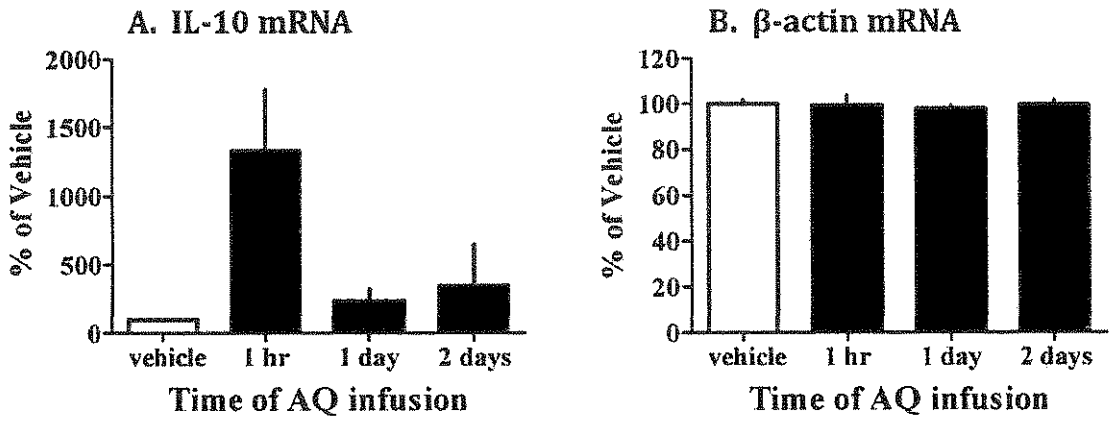
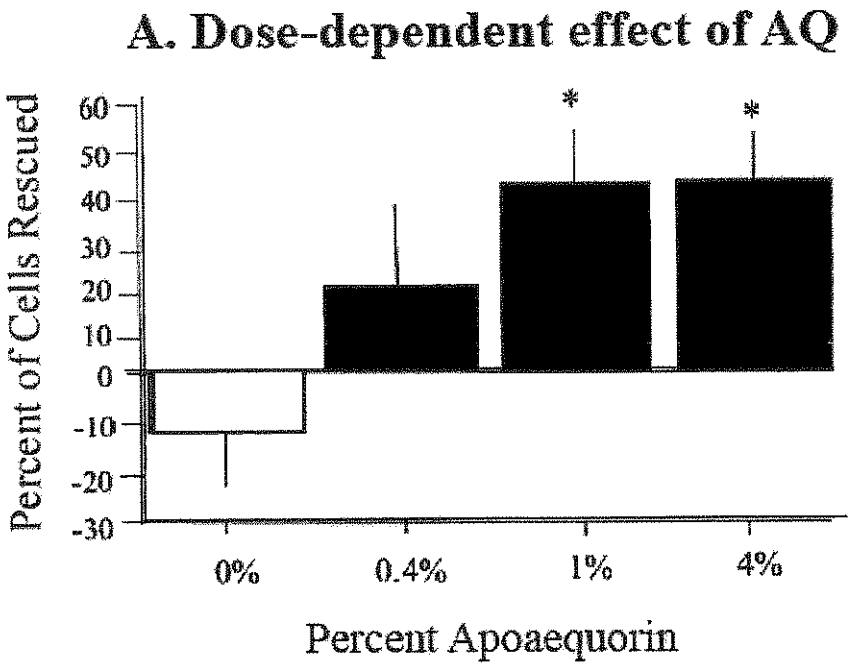

A. IL-10 mRNA
% of Vehicle
2000
1500
1000
500
0
vehicle
1 hr
1 day
2 days
Time of AQ infusion
B. β-actin mRNA
% of Vehicle
120
100
80
60
40
20
0
vehicle
1 hr
1 day
2 days
Time of AQ infusion

Fig. 1

Fig. 2


A. Dose-dependent effect of AQ
Percent of Cells Rescued
60
50
40
30
20
10
0
-10
-20
-30
*
*
0%
0.4%
1%
4%
Percent Apoaequorin

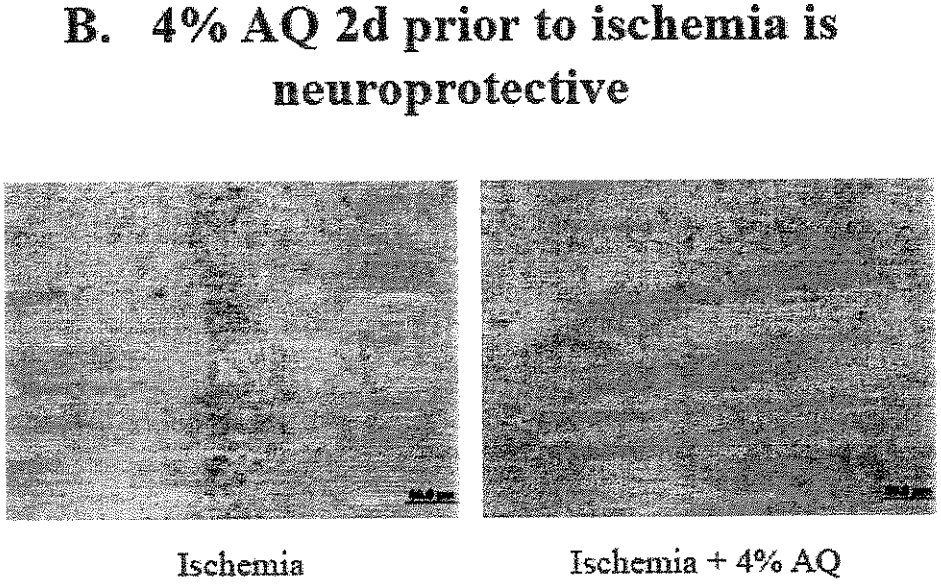

B. 4% AQ 2d prior to ischemia is neuroprotective
Ischemia
Ischemia + 4% AQ

Fig. 2

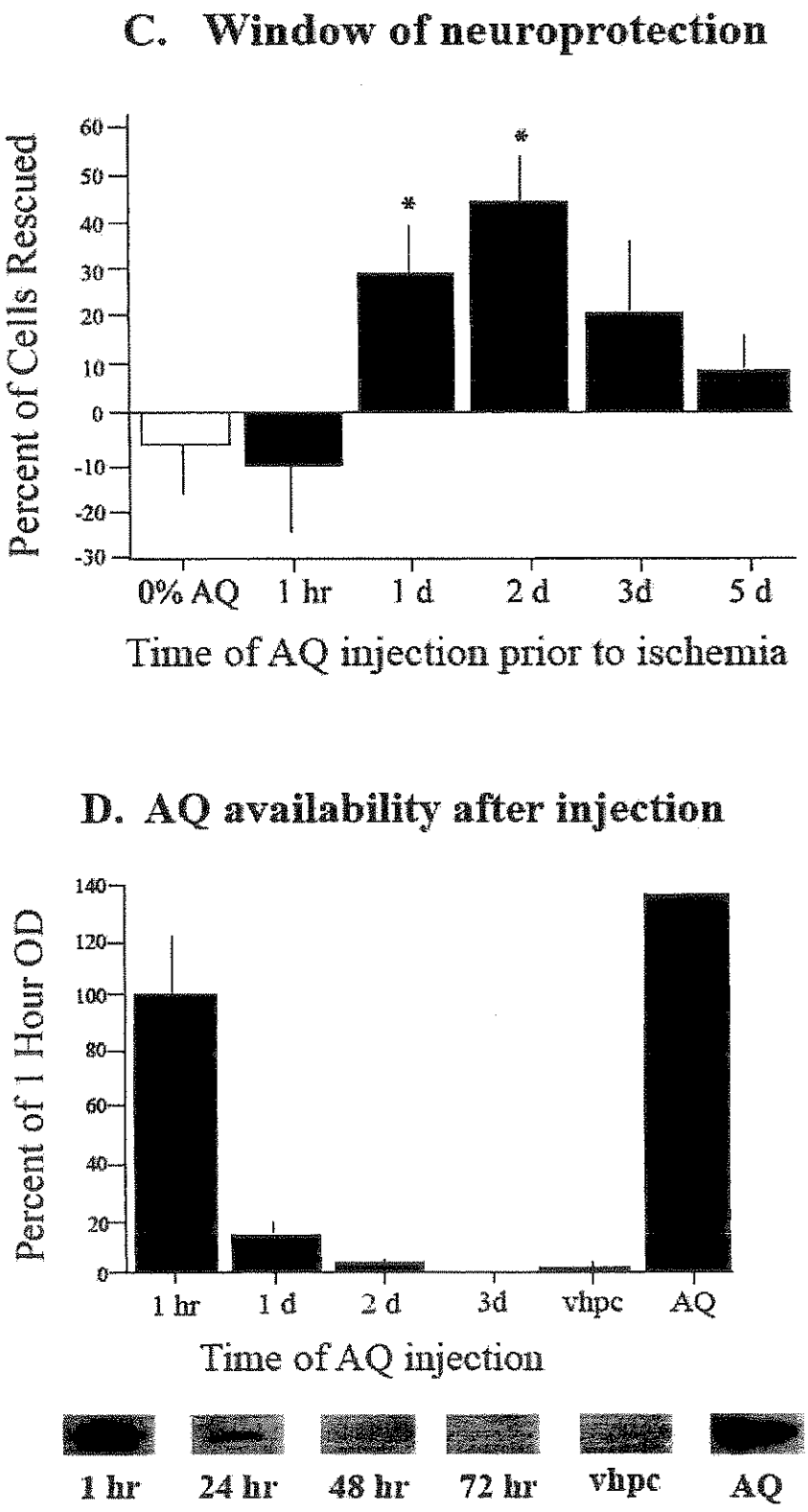
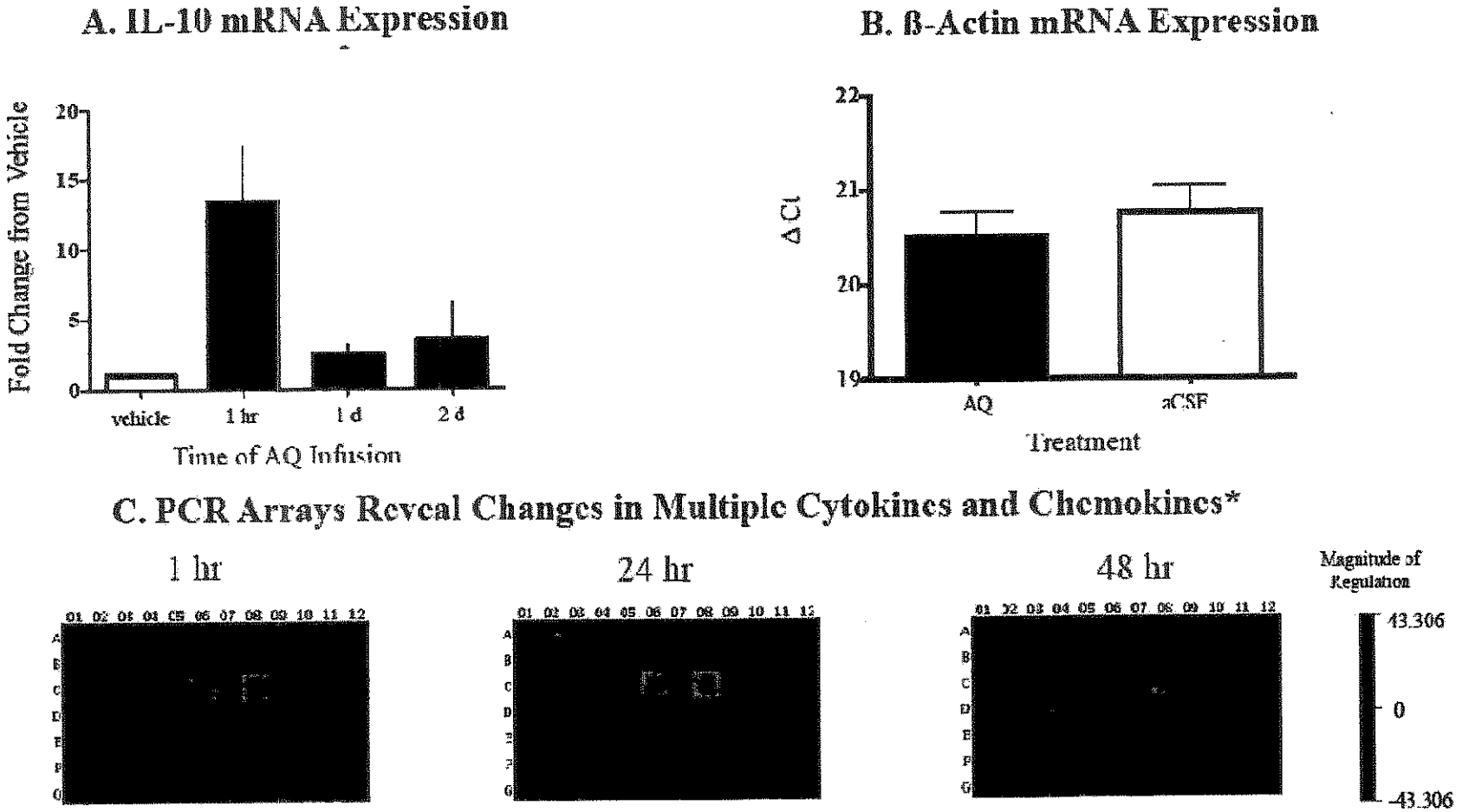

C. Window of neuroprotection
Percent of Cells Rescued
60
50
40
30
20
10
0
-10
-20
-30
*
*
0% AQ
1 hr
1 d
2 d
3d
5 d
Time of AQ injection prior to ischemia
D. AQ availability after injection
Percent of 1 Hour OD
140
120
100
80
60
40
20
0
1 hr
1 d
2 d
3d
vhpc
AQ
Time of AQ injection
1 hr
24 hr
48 hr
72 hr
vhpc
AQ

Fig. 3



Representative heat maps of 96-Well PCR Array Plates and how the genes change in response to AQ injection (each square represents a different gene)

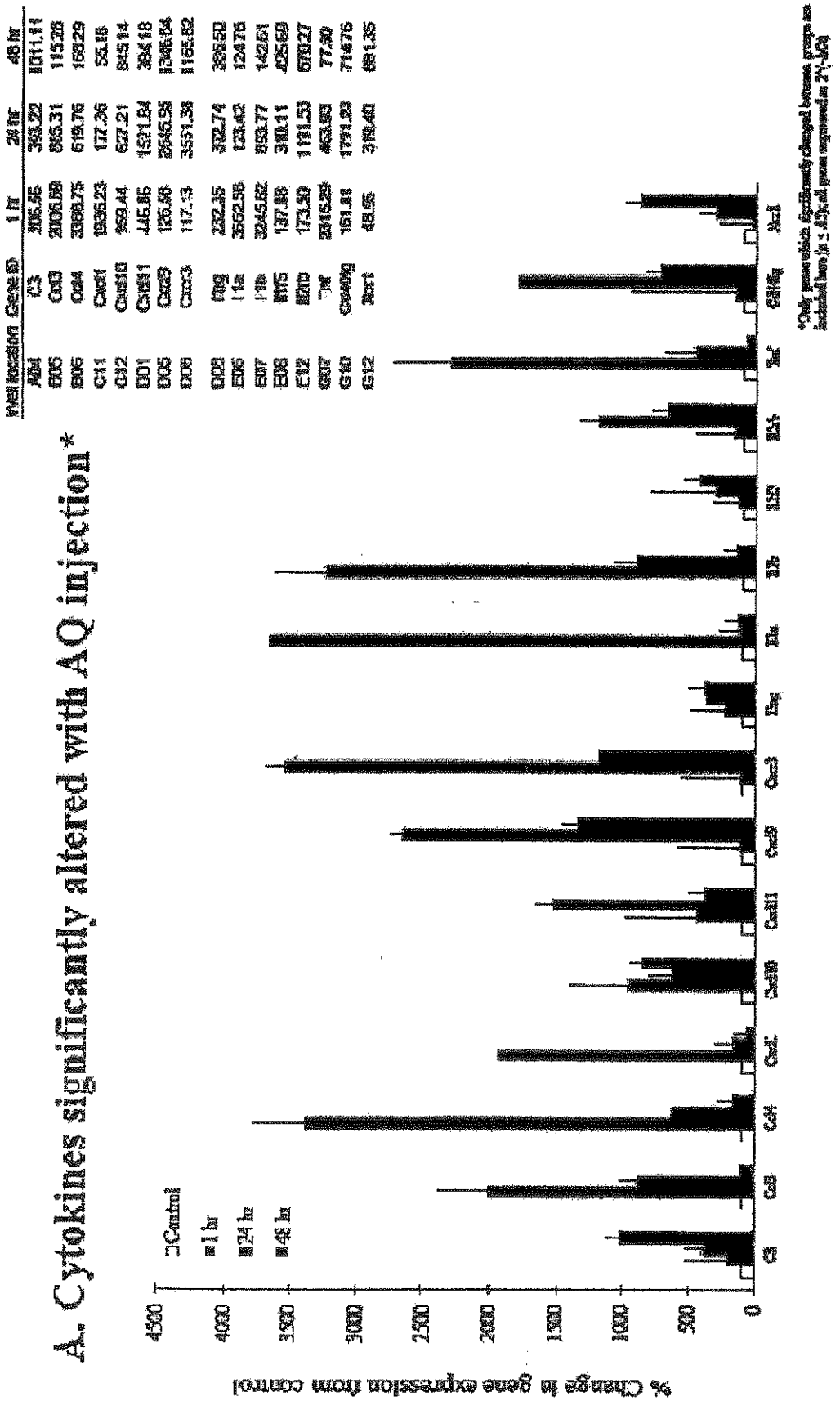

A. Cytokines significantly altered with AQ injection*
% Change in gene expression from control
Control
1 hr
24 hr
48 hr
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Well location
Gene ID
1 hr
24 hr
48 hr
A04 C3 305.95 353.22 1011.11
B05 Ccl3 2106.89 855.31 115.28
B06 Ccl4 3369.75 619.76 16.29
C11 Ccl1 1936.23 137.36 55.15
C12 Ccl10 959.44 627.21 845.14
D01 Ccl11 445.85 1521.84 384.18
D05 Ccl20 126.86 2545.95 1246.84
D06 Ccl3 117.13 3551.38 1165.82
D08 Ifng 232.35 332.74 389.50
E06 Il1a 3562.56 133.42 12.76
E07 Il1b 3045.82 853.77 142.61
E08 Il15 137.88 310.11 425.69
E12 Il20 173.50 191.53 670.27
F07 Tnf 2315.23 453.53 77.39
G10 Cxcl9 161.81 1791.23 714.75
G12 Xcr1 48.55 319.41 881.35
*Only genes which significantly changed between groups are included here (p ≤ .05) All genes represented in Pathway

Fig. 4

Fig. 5

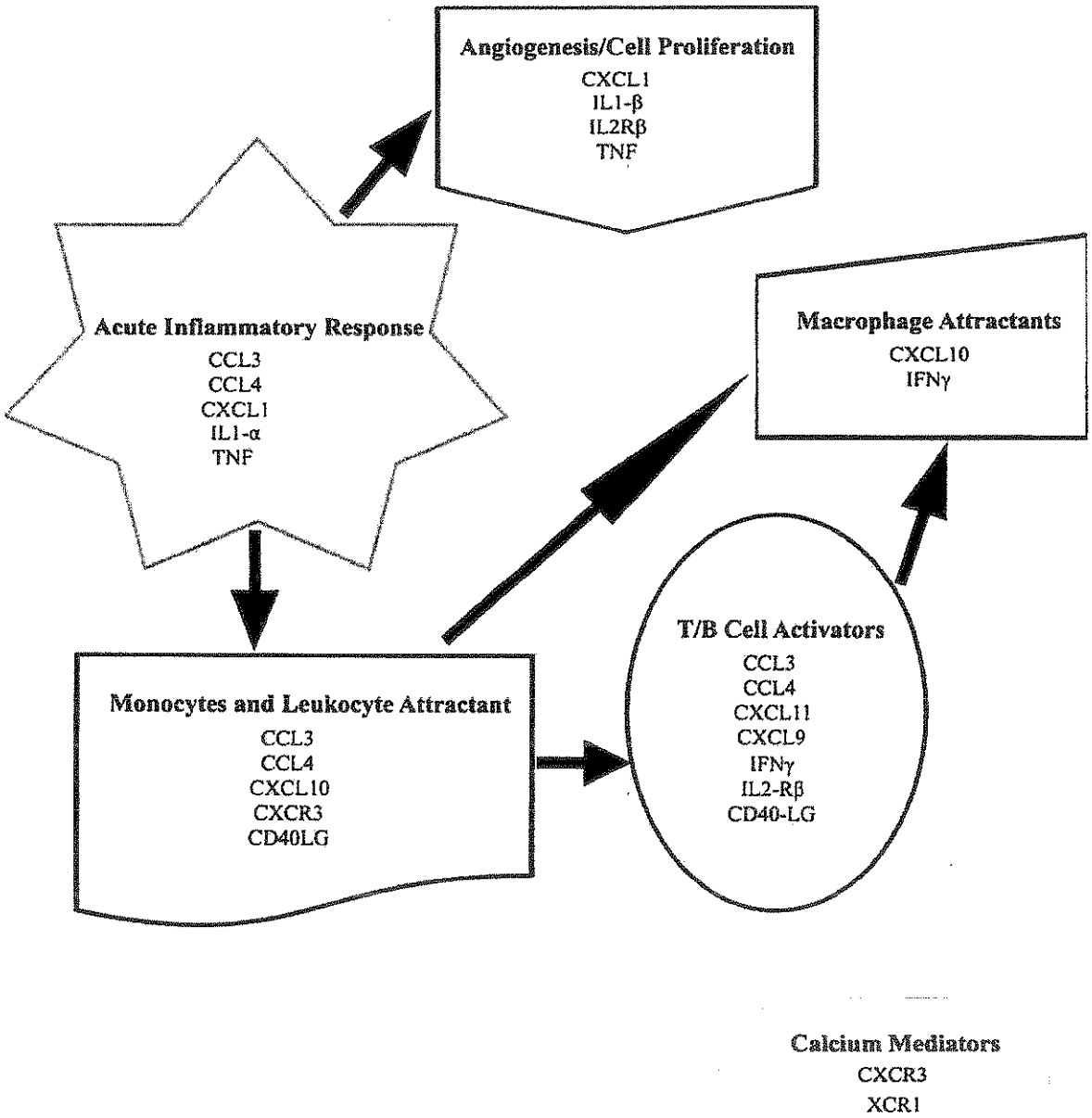
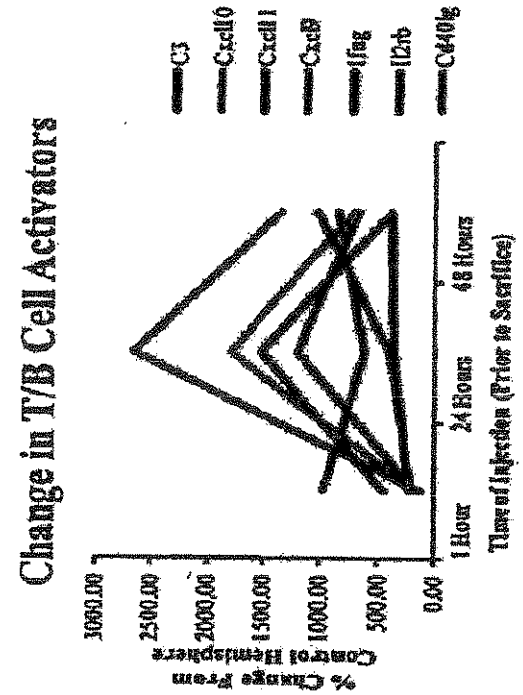

Angiogenesis/Cell Proliferation
CXCL1
IL1-β
IL2Rβ
TNF
Acute Inflammatory Response
CCL3
CCL4
CXCL1
IL1-α
TNF
Macrophage Attractants
CXCL10
IFNγ
Monocytes and Leukocyte Attractant
CCL3
CCL4
CXCL10
CXCR3
CD40LG
T/B Cell Activators
CCL3
CCL4
CXCL11
CXCL9
IFNγ
IL2-Rβ
CD40-LG
Calcium Mediators
CXCR3
XCR1

Fig. 6


Change in T/B Cell Activators
C3
Cxcl10
Cxcl1
Cxcl9
Ifng
Il2rb
Ctla4lg
% Change From Control Hemisphere
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
1 Hour
24 Hours
48 Hours
Time of Injection (Prior to Sacrifice)

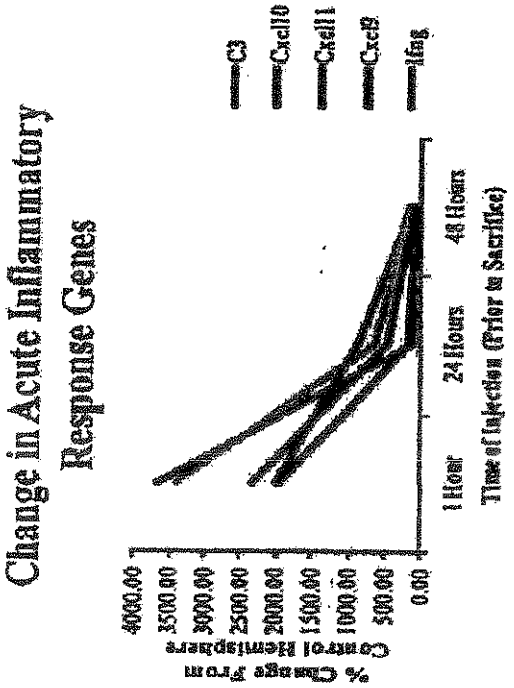

Change in Acute Inflammatory Response Genes
C3
Cxcl10
Cxcl1
Cxcl9
Ifng
% Change From Control Hemisphere
4000.00
3500.00
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
1 Hour
24 Hours
48 Hours
Time of Injection (Prior to Sacrifice)

Fig. 6 cont.

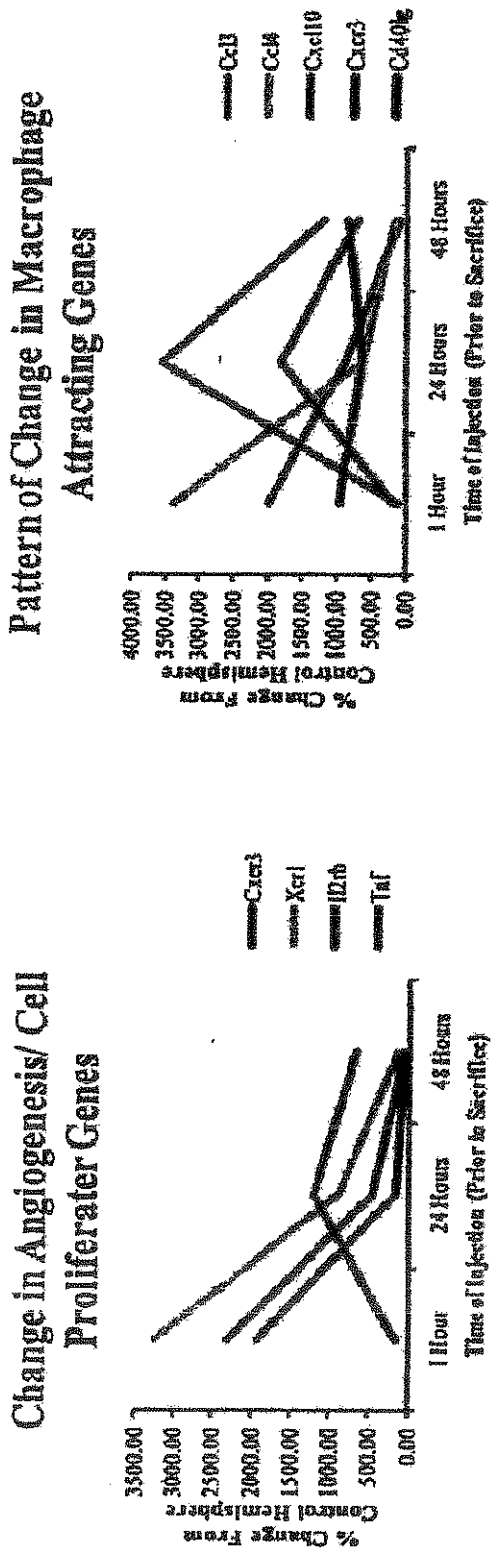
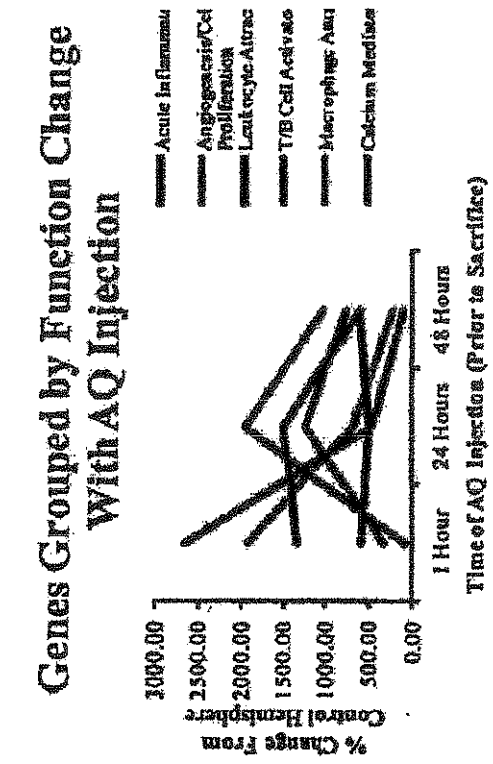
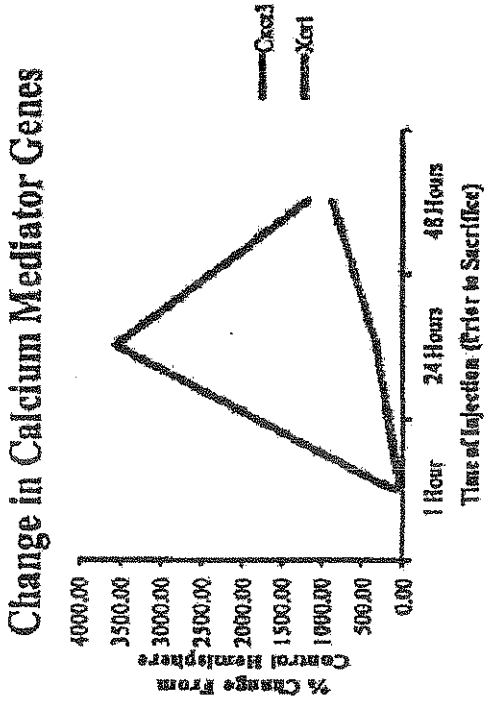

Pattern of Change in Macrophage Attracting Genes
Ccl3
Ccl4
Cxcl10
Cxcr3
Cd40lg
% Change From Control Hemisphere
4000.00
3500.00
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
1 Hour
24 Hours
48 Hours
Time of Injection (Prior to Sacrifice)
Change in Angiogenesis/ Cell Proliferater Genes
Cxcr3
Xcr1
Il2rb
Taf
% Change From Control Hemisphere
3500.00
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
1 Hour
24 Hours
48 Hours
Time of Injection (Prior to Sacrifice)

Fig. 6 cont.


Genes Grouped by Function Change With AQ Injection
Acute Inflammation
Angiogenesis/Cell Proliferation
Leukocyte Attrac
T/B Cell Activatio
Macrophage Attr
Calcium Mediate
% Change From Control Hemisphere
1000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
1 Hour
24 Hours
48 Hours
Time of AQ Injection (Prior to Sacrifice)


Change in Calcium Mediator Genes
Cacna1
Xdh1
% Change From Control Hemisphere
4000.00
3500.00
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
1 Hour
24 Hours
48 Hours
Time of Injection (Prior to Sacrifice)