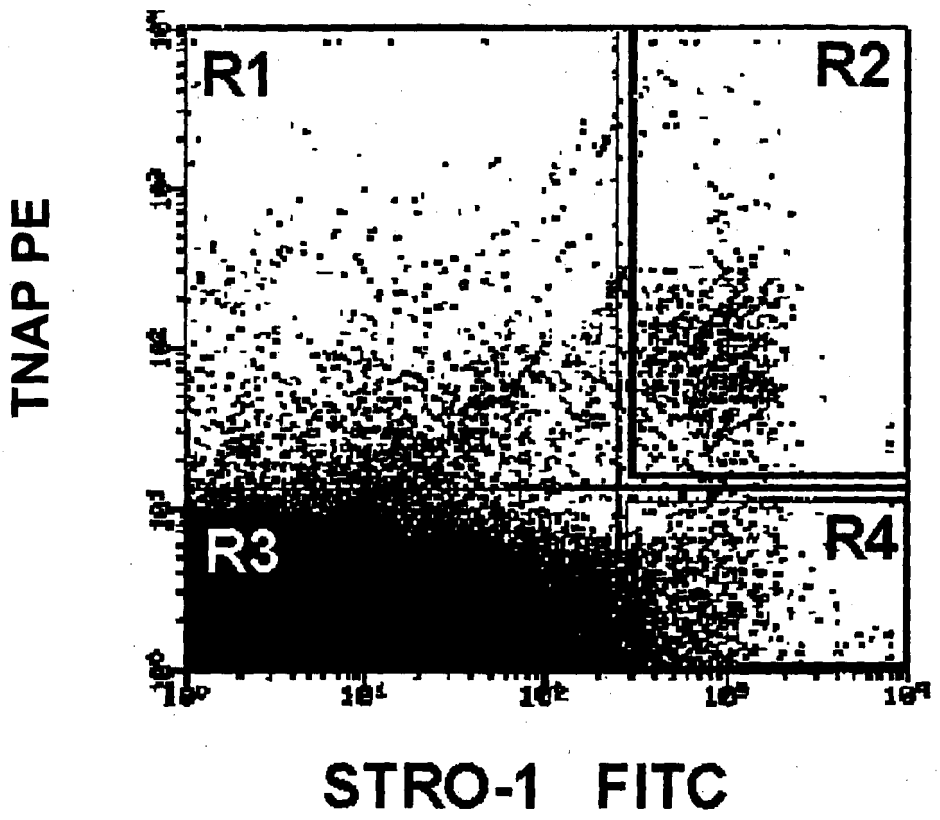
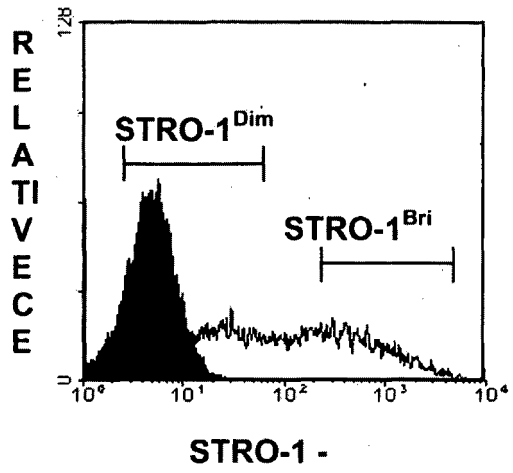


Figure 1

A


RELATIVE CE
STRO-1Dim
STRO-1Bri
10⁰
10¹
10²
10³
10⁴
STRO-1 -

B

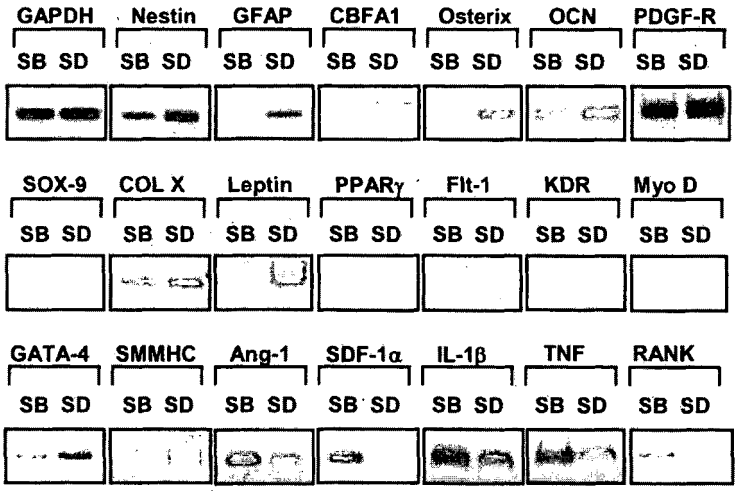

GAPDH Nestin GFAP CBFA1 Osterix OCN PDGF-R
SB SD SB SD SB SD SB SD SB SD SB SD SB SD
SOX-9 COL X Leptin PPARγ Flt-1 KDR Myo D
SB SD SB SD SB SD SB SD SB SD SB SD SB SD
GATA-4 SMMHC Ang-1 SDF-1α IL-1β TNF RANK
SB SD SB SD SB SD SB SD SB SD SB SD SB SD

Figure 2

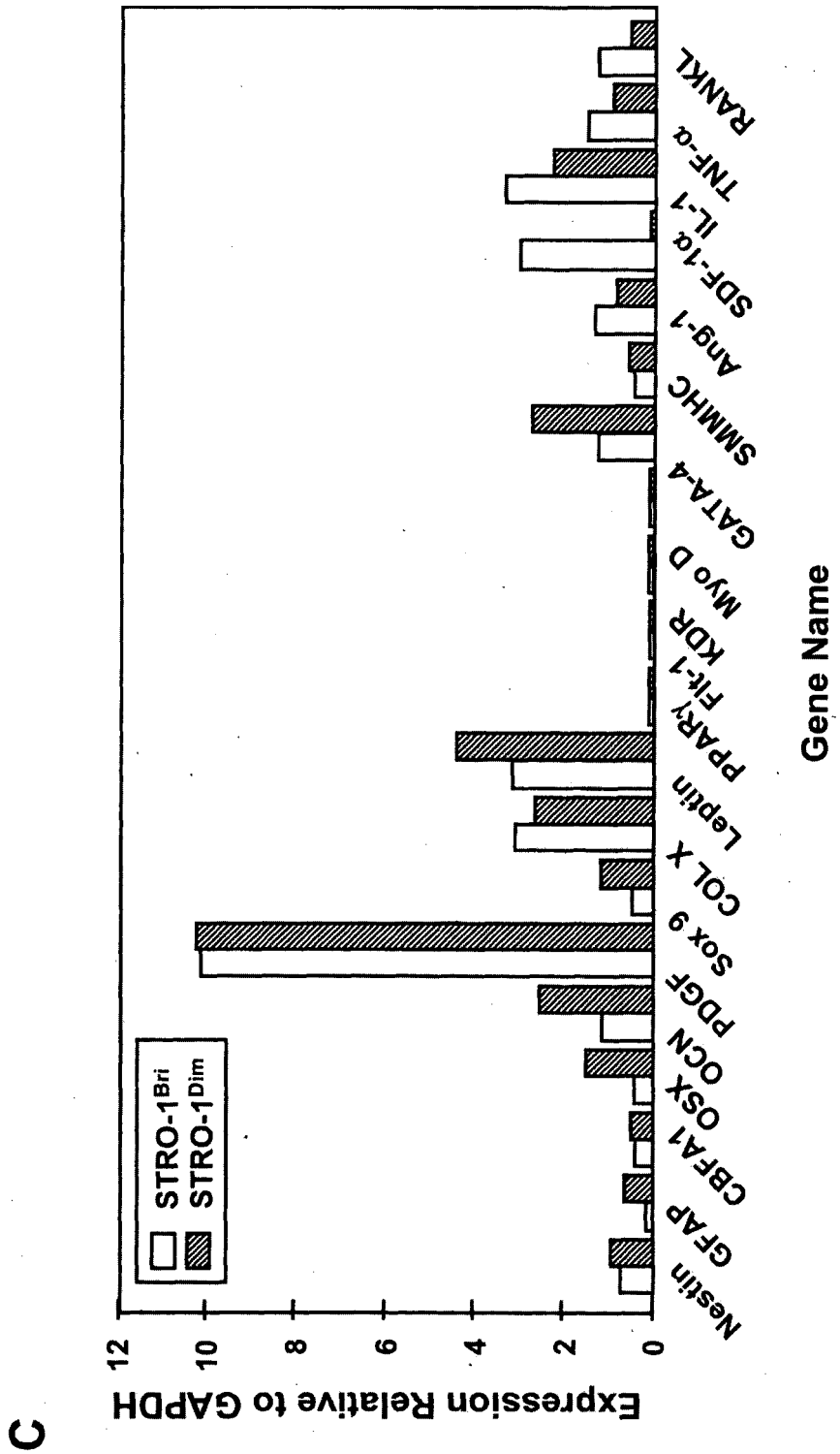


Figure 2 (continued)

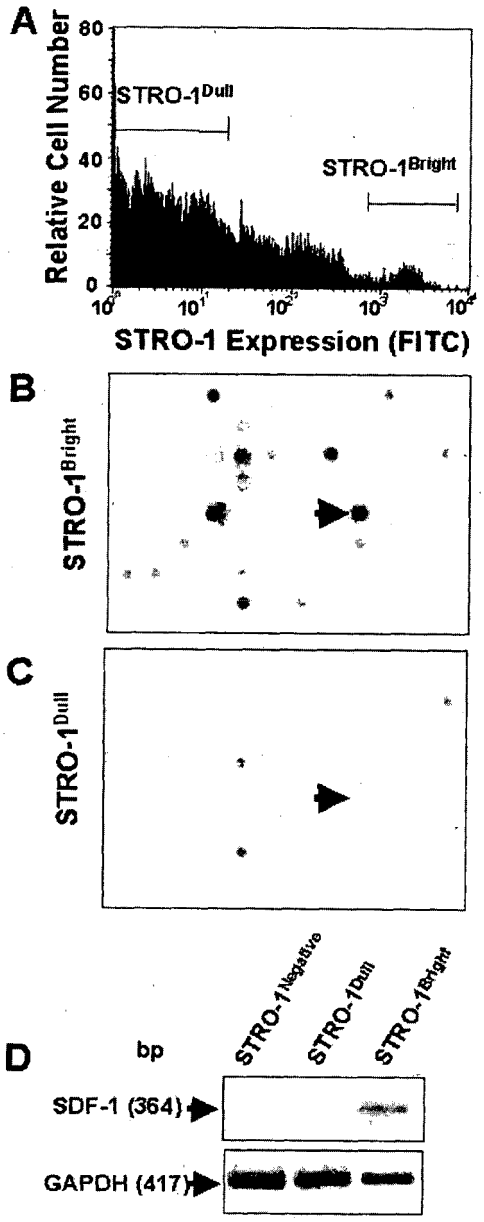

A
Relative Cell Number
80
60
40
20
0
STRO-1Dull
STRO-1Bright
STRO-1 Expression (FITC)
B
STRO-1Bright
C
STRO-1Dull
D
bp
STRO-1Negative
STRO-1Dull
STRO-1Bright
SDF-1 (364)
GAPDH (417)

Figure 3

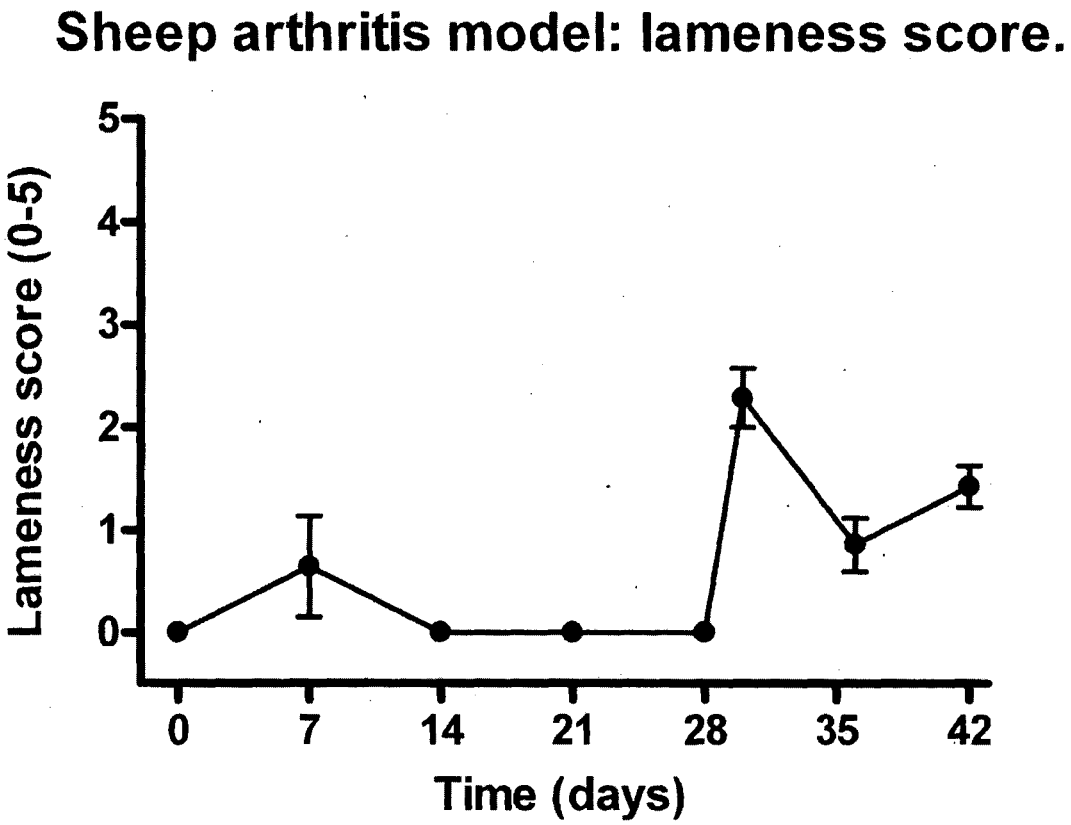

Sheep arthritis model: lameness score.
Lameness score (0-5)
5
4
3
2
1
0
0
7
14
21
28
35
42
Time (days)

Figure 4

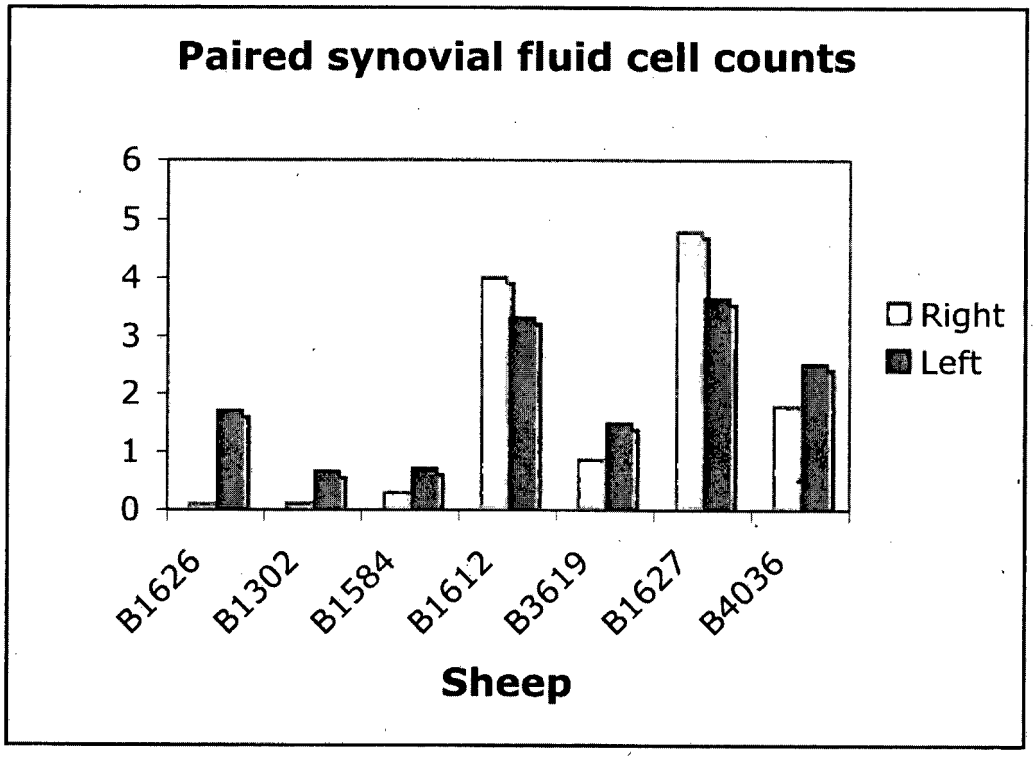

Paired synovial fluid cell counts
6
5
4
3
2
1
0
B1626
B1302
B1584
B1612
B3619
B1627
B4036
Sheep
Right
Left

Figure 5

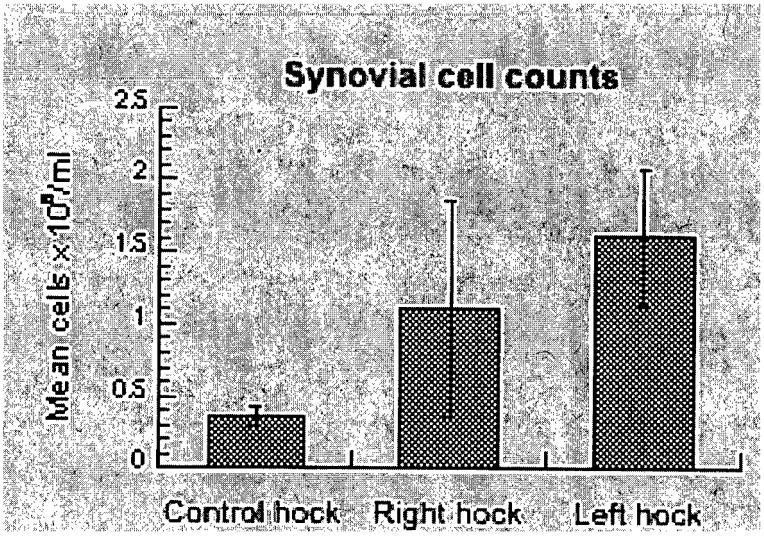
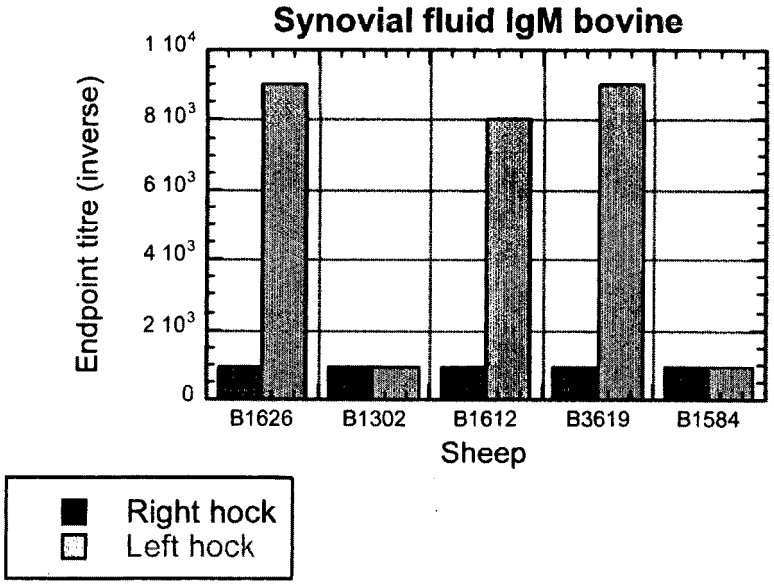

Synovial cell counts
Mean cells x10⁶/ml
2.5
2
1.5
1
0.5
0
Control hock
Right hock
Left hock

Figure 6


Synovial fluid IgM bovine
Endpoint titre (inverse)
1 10^4
8 10^3
6 10^3
4 10^3
2 10^3
0
B1626
B1302
B1612
B3619
B1584
Sheep
Right hock
Left hock

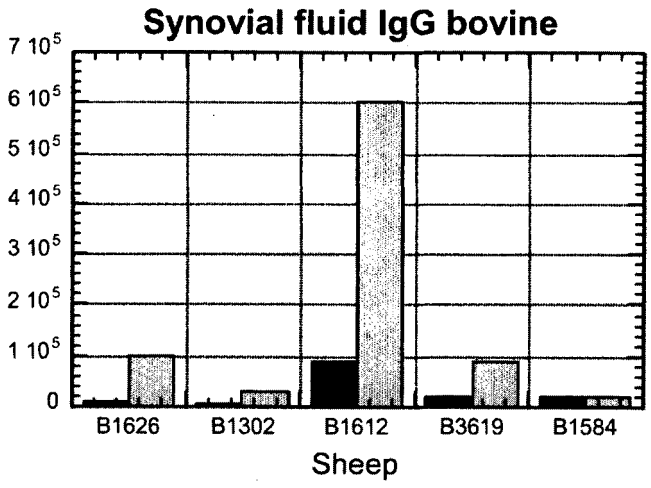

Synovial fluid IgG bovine
7 10^5
6 10^5
5 10^5
4 10^5
3 10^5
2 10^5
1 10^5
0
B1626
B1302
B1612
B3619
B1584
Sheep

Figure 7A

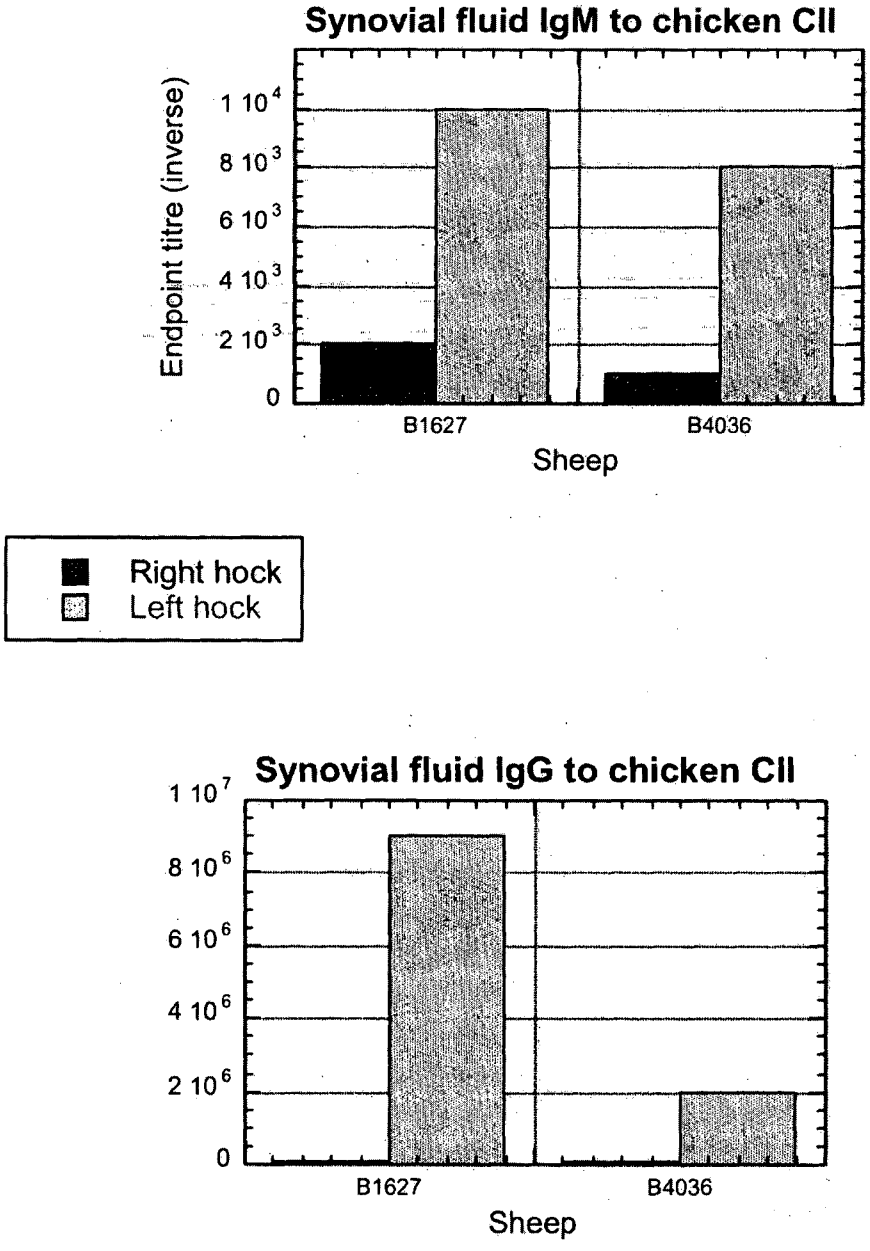

Synovial fluid IgM to chicken CII
Endpoint titre (inverse)
1 10^4
8 10^3
6 10^3
4 10^3
2 10^3
0
B1627
B4036
Sheep
Right hock
Left hock
Synovial fluid IgG to chicken CII
1 10^7
8 10^6
6 10^6
4 10^6
2 10^6
0
B1627
B4036
Sheep

Figure 7B

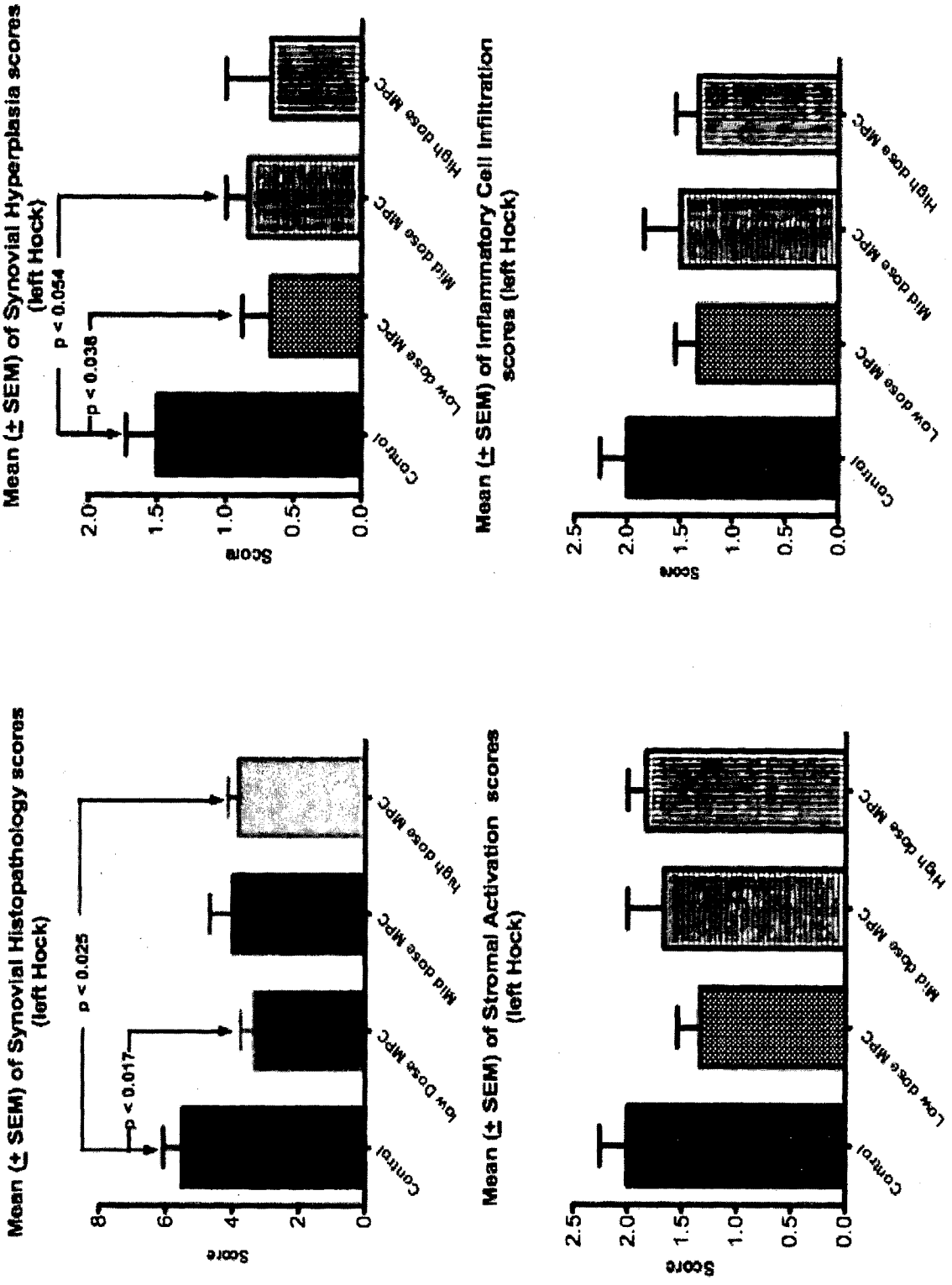

Mean (± SEM) of Synovial Hyperplasia scores (left Hock)
p < 0.054
p < 0.038
Score
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC
Mean (± SEM) of Inflammatory Cell Infiltration scores (left Hock)
Score
2.5
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC
Mean (± SEM) of Synovial Histopathology scores (left Hock)
p < 0.025
p < 0.017
Score
8
6
4
2
0
Control
Low Dose MPC
Mid dose MPC
High dose MPC
Mean (± SEM) of Stromal Activation scores (left Hock)
Score
2.5
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC

Figure 8A

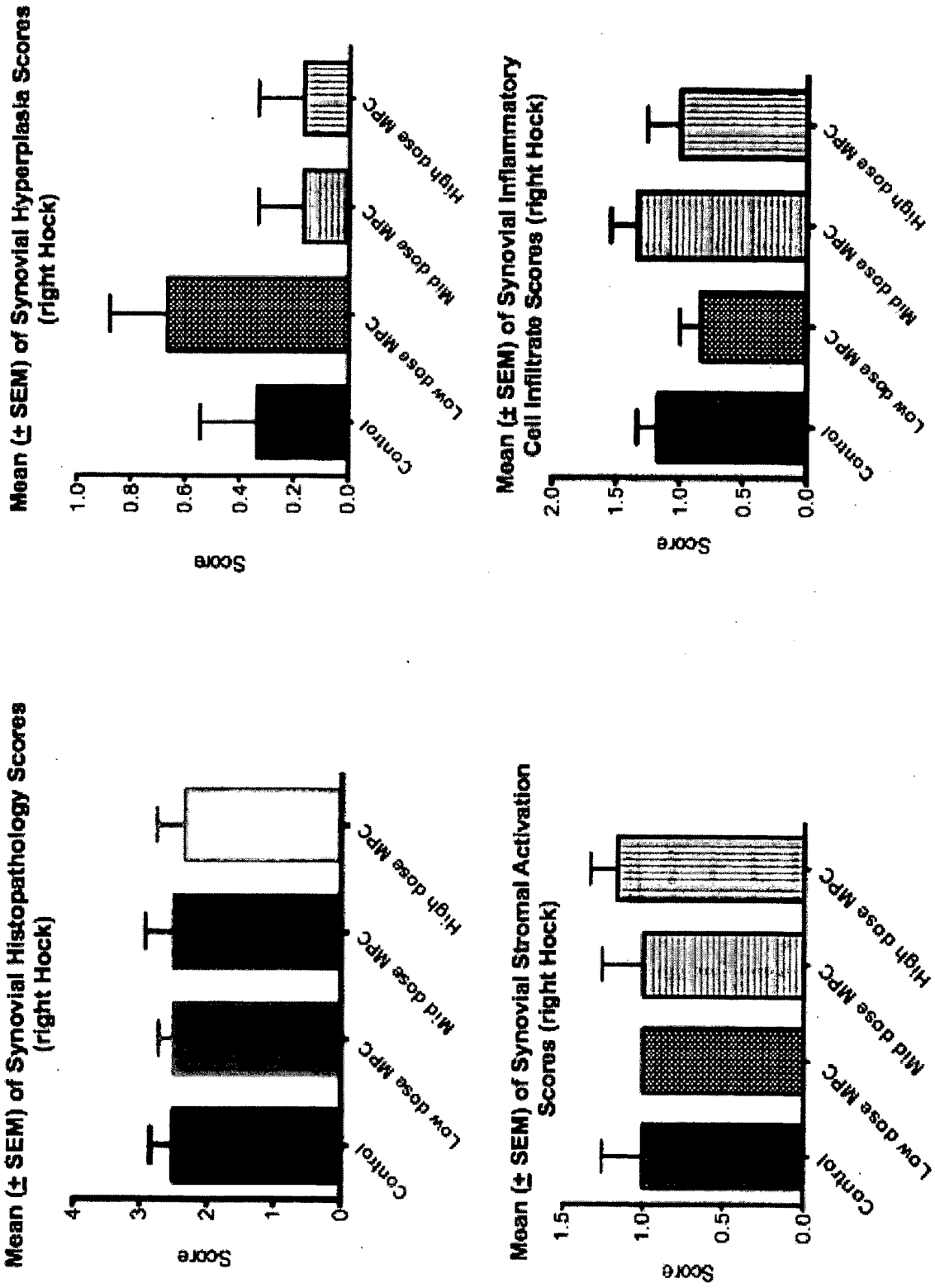
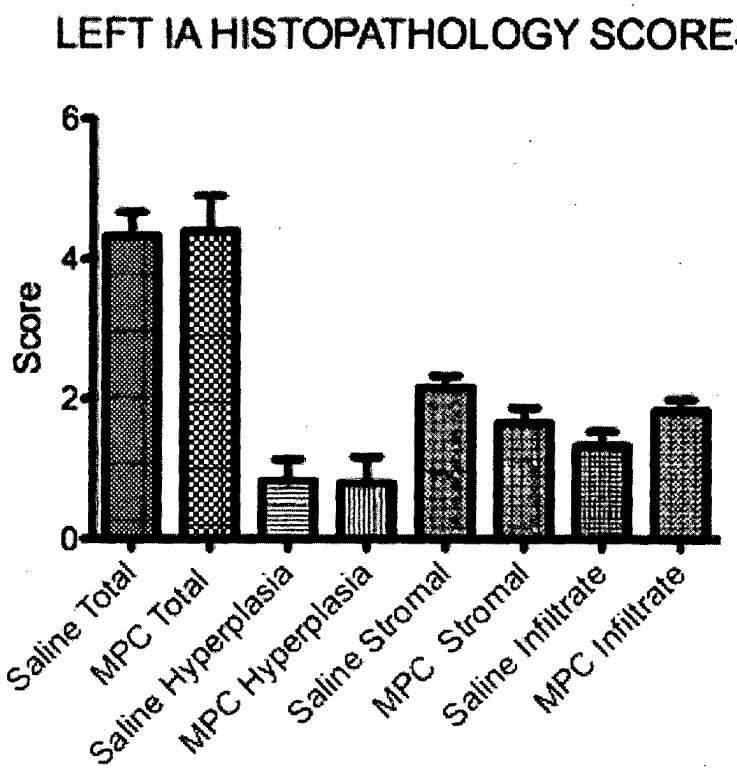

Mean (± SEM) of Synovial Hyperplasia Scores (right Hock)
Score
1.0
0.8
0.6
0.4
0.2
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC
Mean (± SEM) of Synovial Inflammatory Cell Infiltrate Scores (right Hock)
Score
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC
Mean (± SEM) of Synovial Histopathology Scores (right Hock)
Score
4
3
2
1
0
Control
Low dose MPC
Mid dose MPC
High dose MPC
Mean (± SEM) of Synovial Stromal Activation Scores (right Hock)
Score
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC

Figure 8B


LEFT IA HISTOPATHOLOGY SCORES
Score
6
4
2
0
Saline Total
MPC Total
Saline Hyperplasia
MPC Hyperplasia
Saline Stromal
MPC Stromal
Saline Infiltrate
MPC Infiltrate

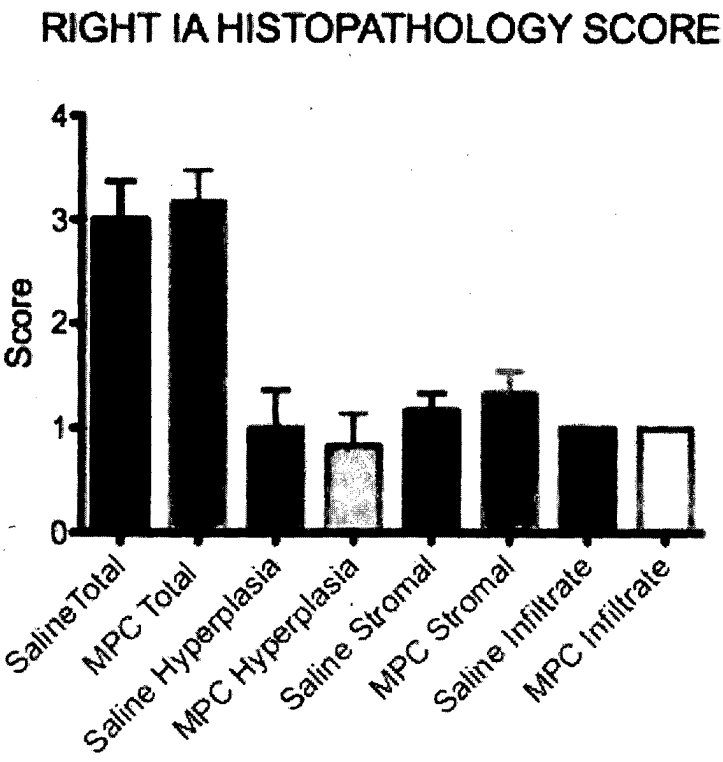

RIGHT IA HISTOPATHOLOGY SCORES
Score
4
3
2
1
0
SalineTotal
MPC Total
Saline Hyperplasia
MPC Hyperplasia
Saline Stromal
MPC Stromal
Saline Infiltrate
MPC Infiltrate

Figure 8C

CD14 scoring system
(intima scoring scheme after Mo et al, 2011)

Intima score	% CD14 cells
0	absent
1	1-25%
2	26-50%
3	51-75%
4	76-100%

Figure 9A

Discrete cell scoring scheme applied to CD4, CD8, Gamma-delta TCR, CD79a, and Ki-67

Subset score	Incidence
0	absent
+	A few cells in the entire section
++	Occasional cells or a small cluster
+++	More numerous cells and/or clusters
++++	Numerous individual cells or clusters/large cluster or clusters

Figure 9B

Cytokine and adhesion molecule scoring system applied to VCAM-1, IL-6, IL-10, IL-1β, IL-17, TNF-α, and interstitial CD14

Intima score	Description	Tissue score	Description
0	Unstained	0	Unstained
1	A few, or weakly stained cells	1	A few scattered cells
2	Stronger stained	2	Occasional cells or a small cluster
3	Thickened OR densely stained	3	More numerous cells and/or clusters
4	Thickened AND densely stained	4	Widespread or densely stained cells

Figure 9C

Mean ± SD Immunohistological scores for Left Hock joint synovial tissues for the Control and MPC injected groups

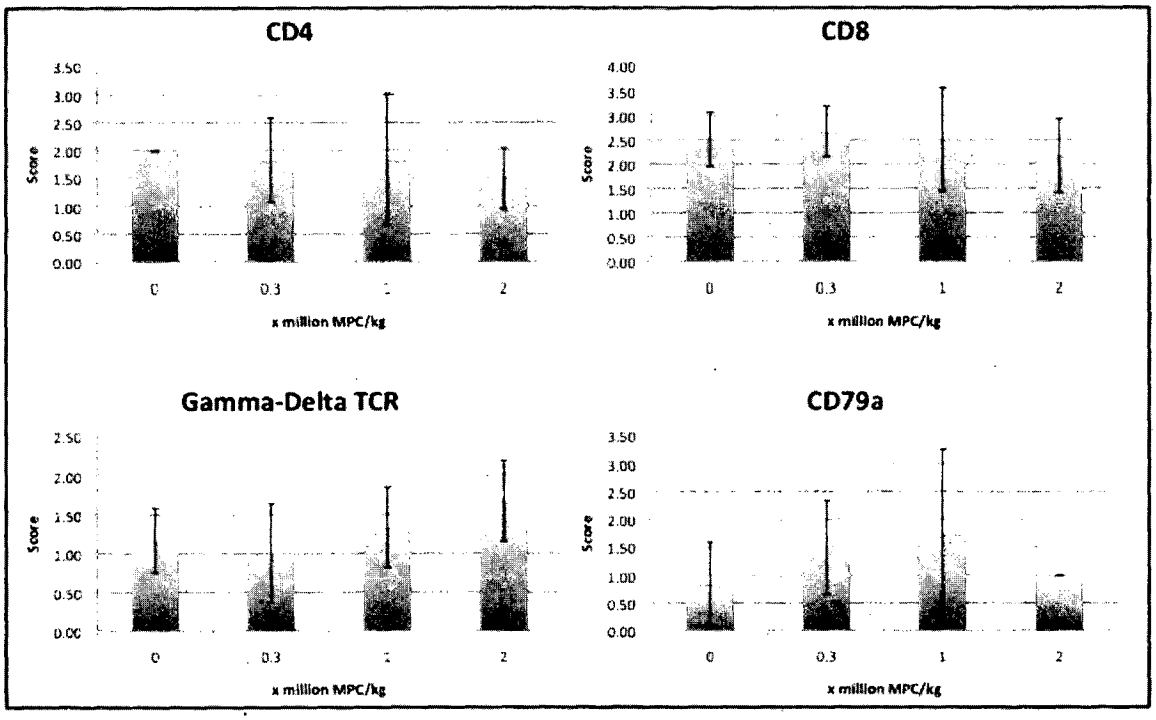


Figure 10A

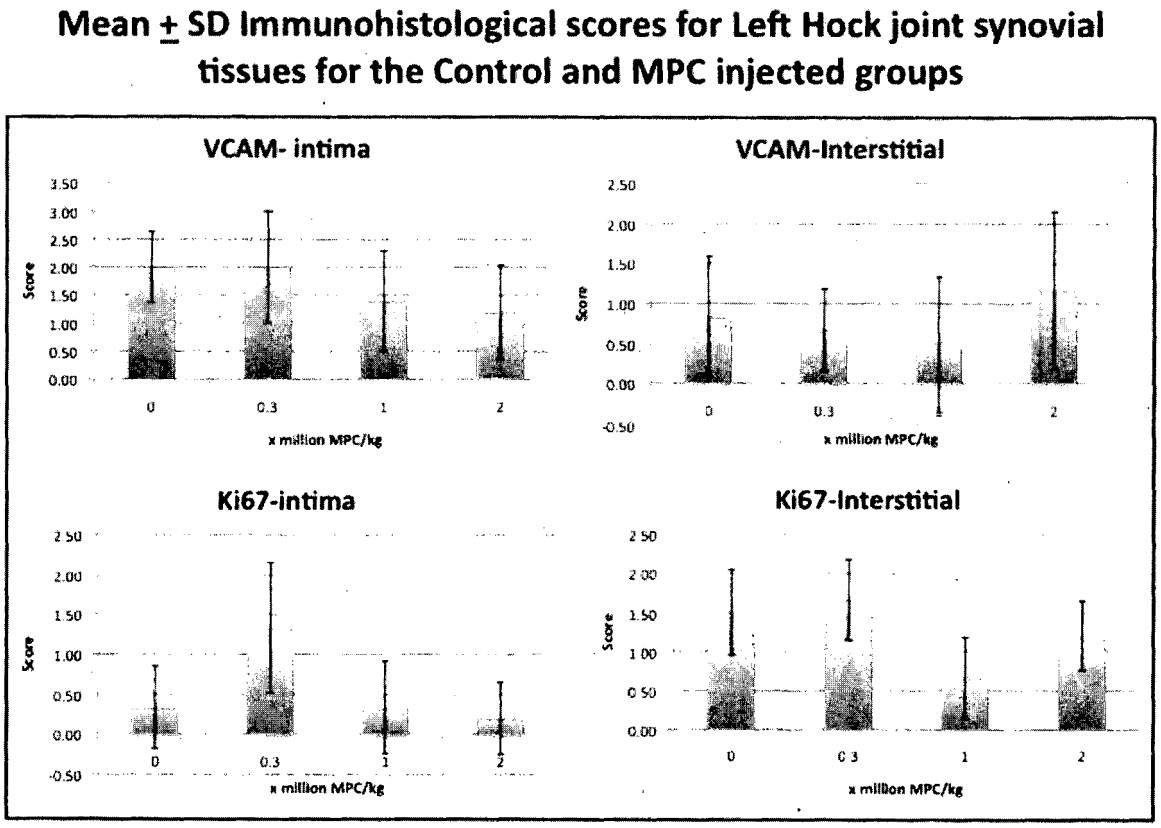

Mean ± SD Immunohistological scores for Left Hock joint synovial tissues for the Control and MPC injected groups
VCAM- intima
VCAM-Interstitial
Ki67-intima
Ki67-Interstitial
Score
x million MPC/kg
0
0.3
1
2

Figure 10B

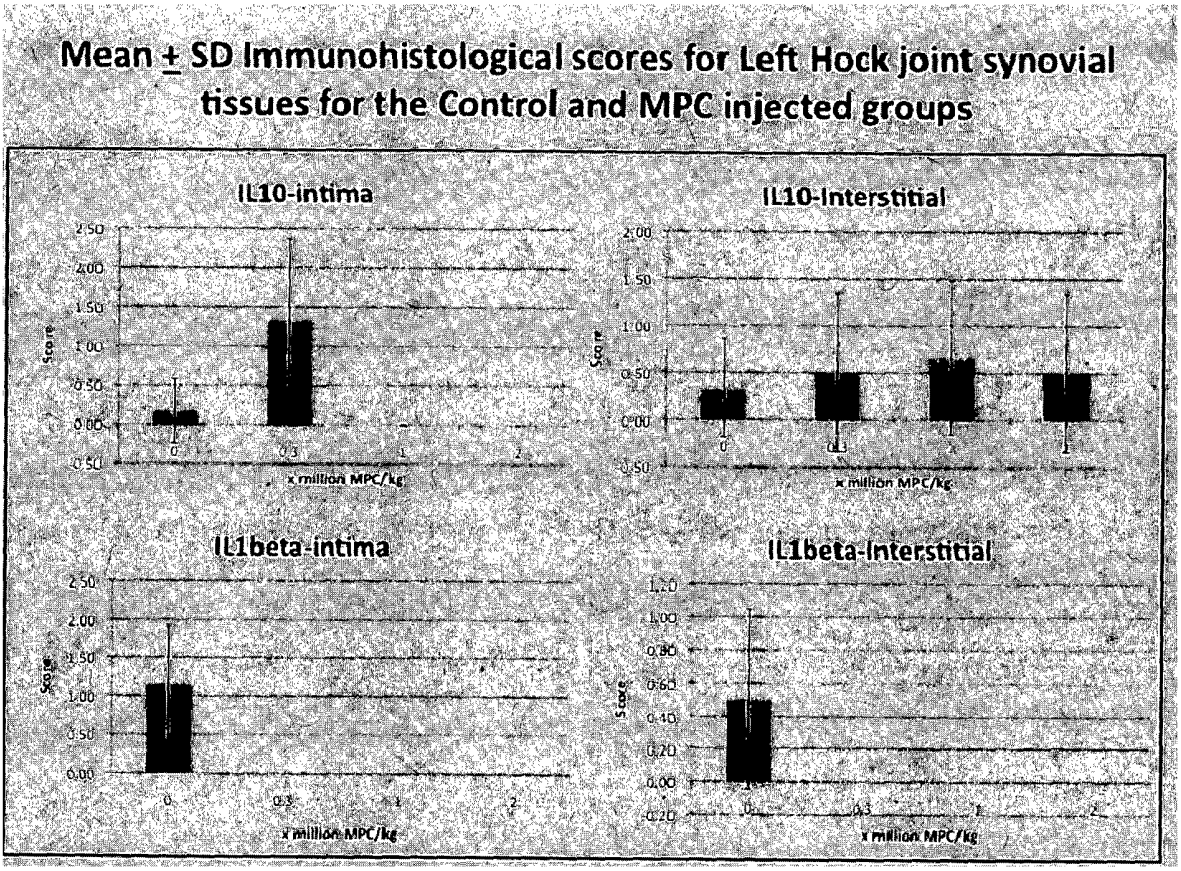

Mean ± SD Immunohistological scores for Left Hock joint synovial tissues for the Control and MPC injected groups
IL10-intima
IL10-Interstitial
IL1beta-intima
IL1beta-Interstitial
Score
x million MPC/kg

Figure 10C

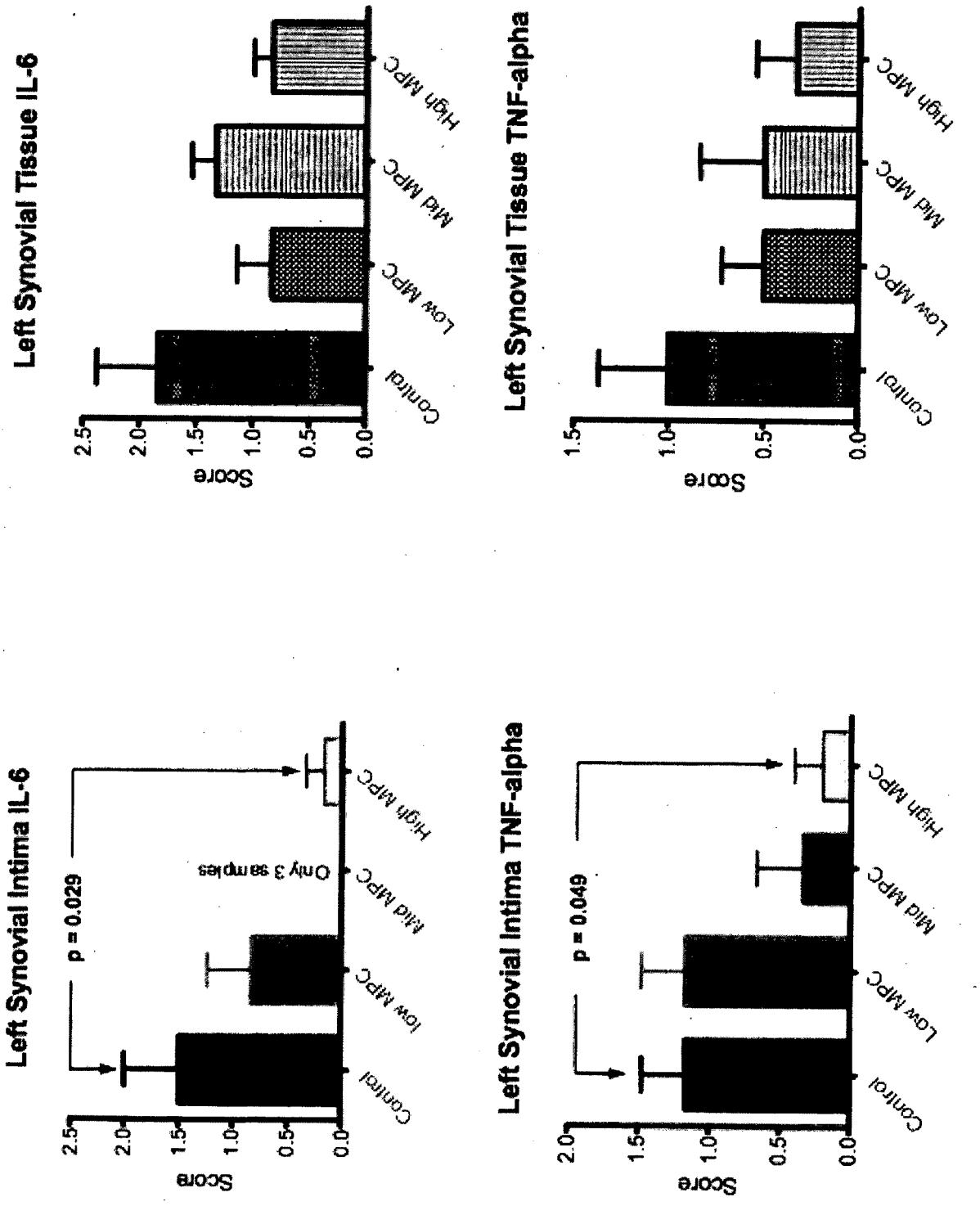

Left Synovial Tissue IL-6
Score
2.5
2.0
1.5
1.0
0.5
0.0
Control
Low MPC
Mid MPC
High MPC
Left Synovial Tissue TNF-alpha
Score
1.5
1.0
0.5
0.0
Control
Low MPC
Mid MPC
High MPC
Left Synovial Intima IL-6
p = 0.029
Only 3 samples
Score
2.5
2.0
1.5
1.0
0.5
0.0
Control
low MPC
Mid MPC
High MPC
Left Synovial Intima TNF-alpha
p = 0.049
Score
2.0
1.5
1.0
0.5
0.0
Control
Low MPC
Mid MPC
High MPC

Figure 10D

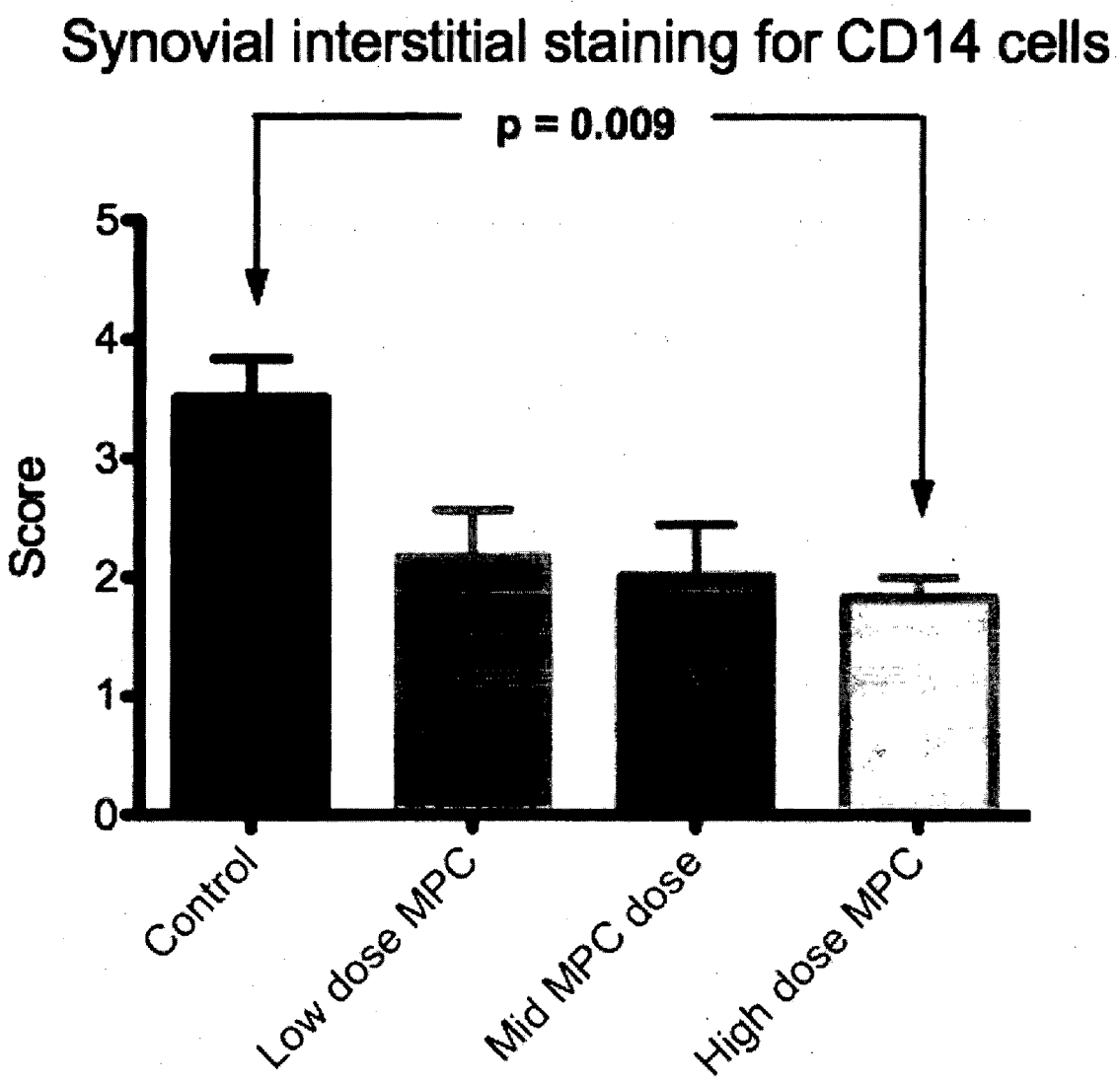

Synovial interstitial staining for CD14 cells
p = 0.009
Score
5
4
3
2
1
0
Control
Low dose MPC
Mid MPC dose
High dose MPC

Figure 10E

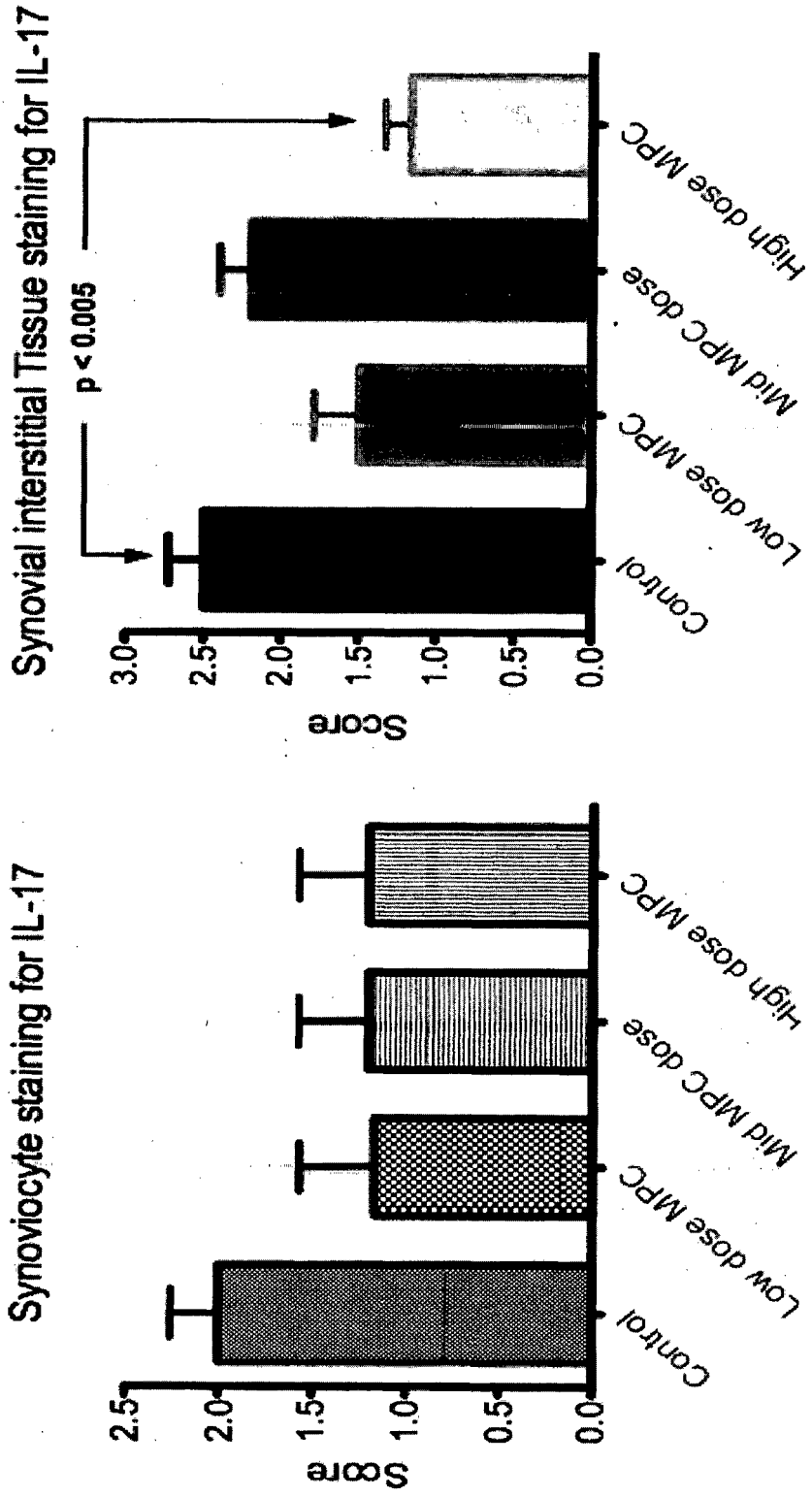

Synovial interstitial Tissue staining for IL-17
p < 0.005
Score
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid MPC dose
High dose MPC
Synoviocyte staining for IL-17
Score
2.5
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid MPC dose
High dose MPC

Figure 10F

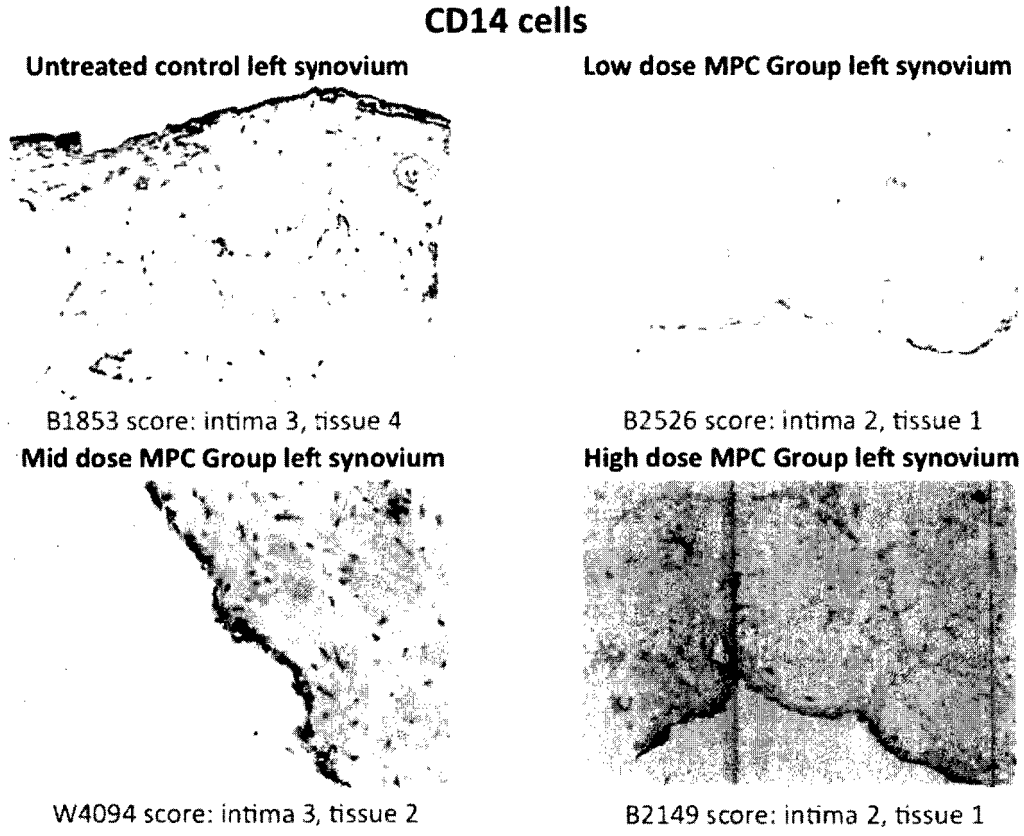

CD14 cells
Untreated control left synovium
Low dose MPC Group left synovium
B1853 score: intima 3, tissue 4
B2526 score: intima 2, tissue 1
Mid dose MPC Group left synovium
High dose MPC Group left synovium
W4094 score: intima 3, tissue 2
B2149 score: intima 2, tissue 1

Figure 11A

TNF-α

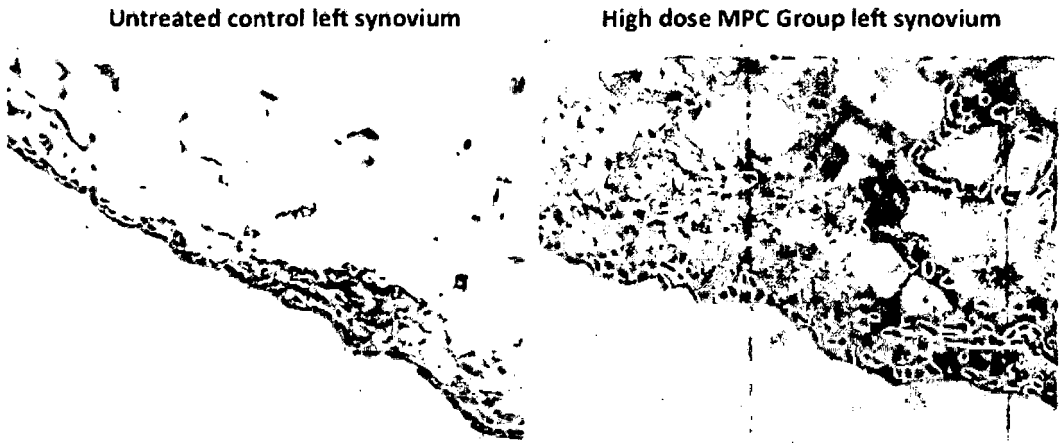


Figure 11B

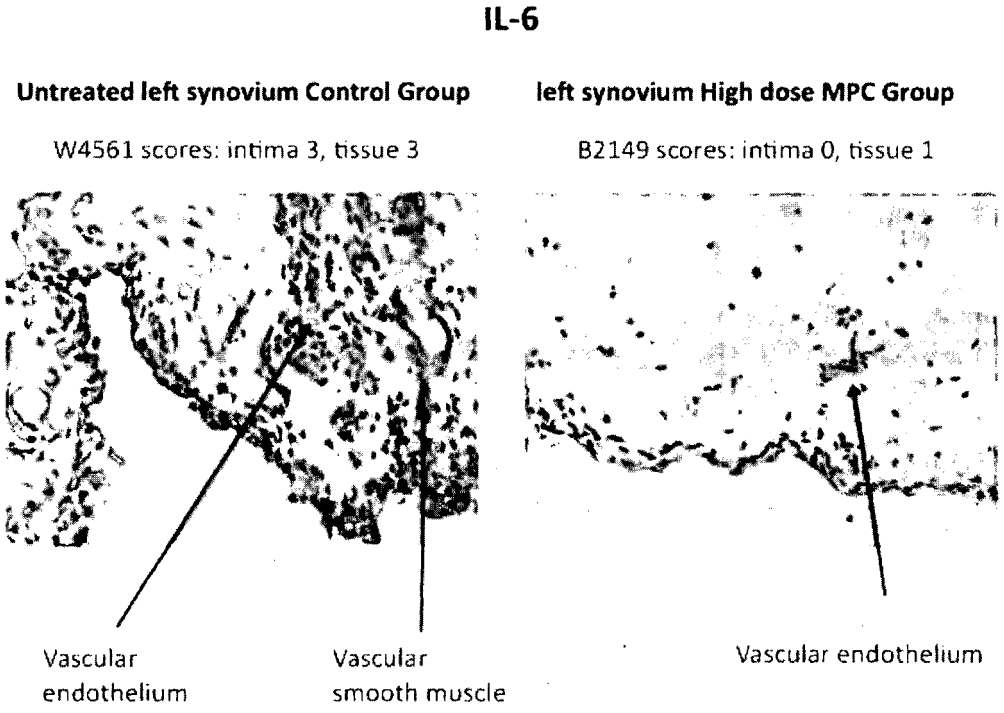

IL-6
Untreated left synovium Control Group
W4561 scores: intima 3, tissue 3
left synovium High dose MPC Group
B2149 scores: intima 0, tissue 1
Vascular endothelium
Vascular smooth muscle
Vascular endothelium

Figure 11C

IL-17

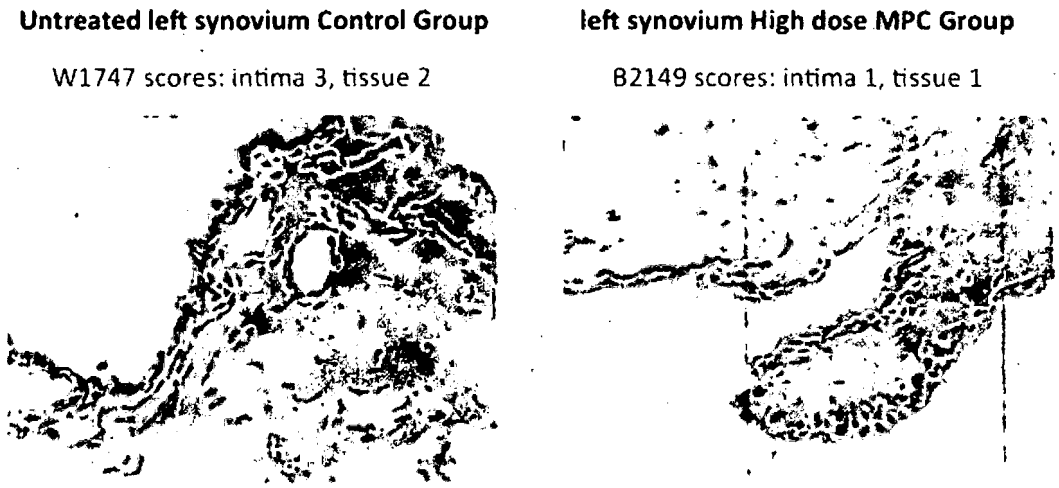


Figure 11D

IL-10

Untreated left synovium Control Group

W2833 scores: Intima 0, tissue 0



left synovium High dose MPC Group

B2230 scores: Intima 1, tissue 0

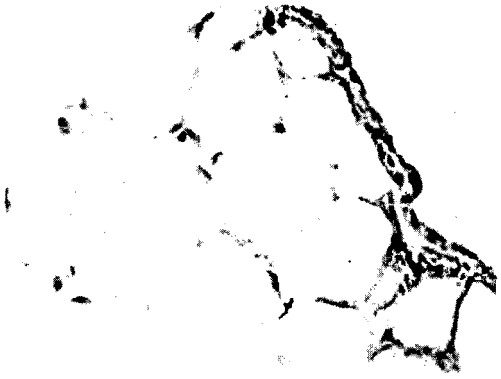


Figure 11E