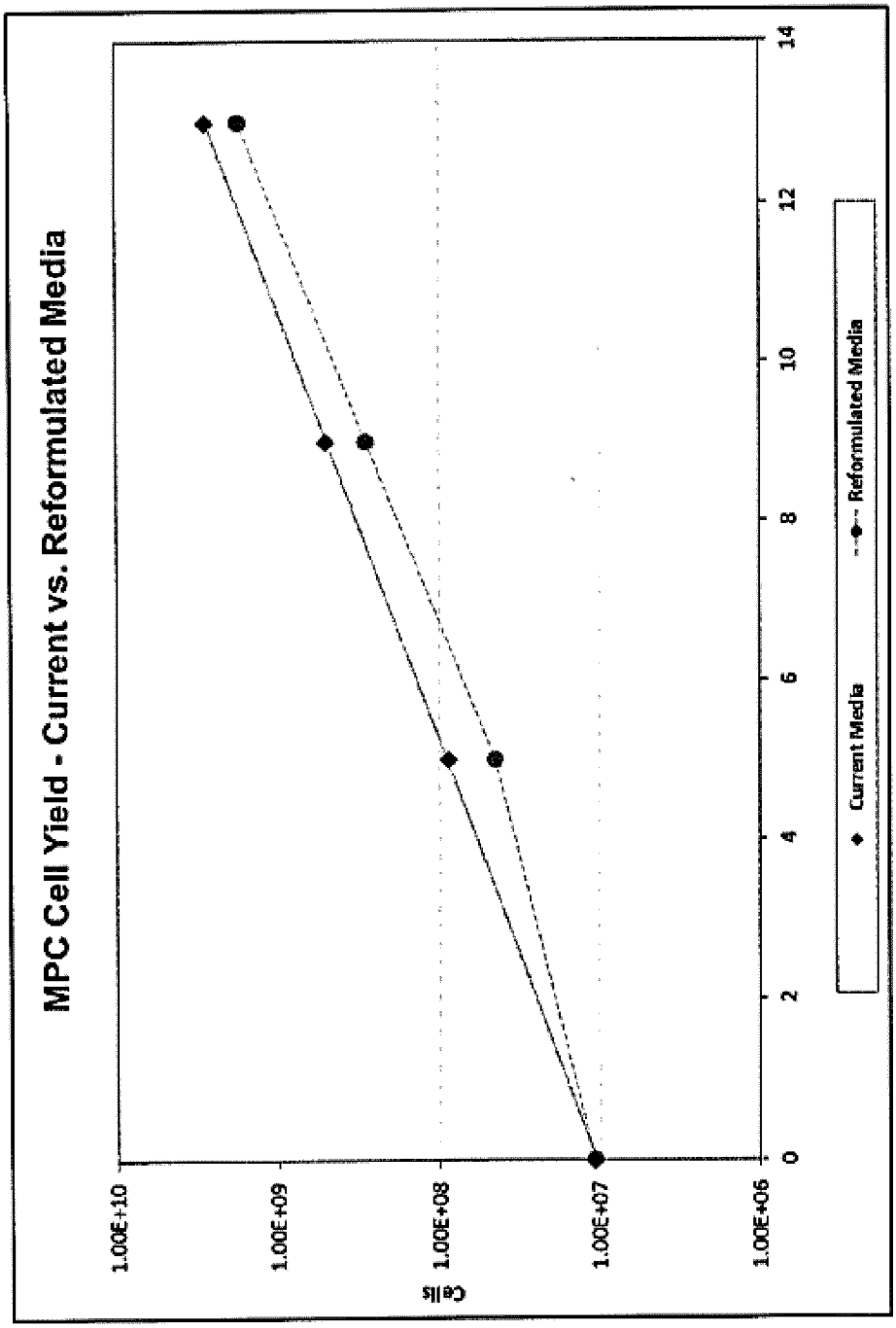

MPC Cell Yield - Current vs. Reformulated Media
Cells
1.00E+10
1.00E+09
1.00E+08
1.00E+07
1.00E+06
0
2
4
6
8
10
12
14
Days
Current Media
Reformulated Media

Figure 1

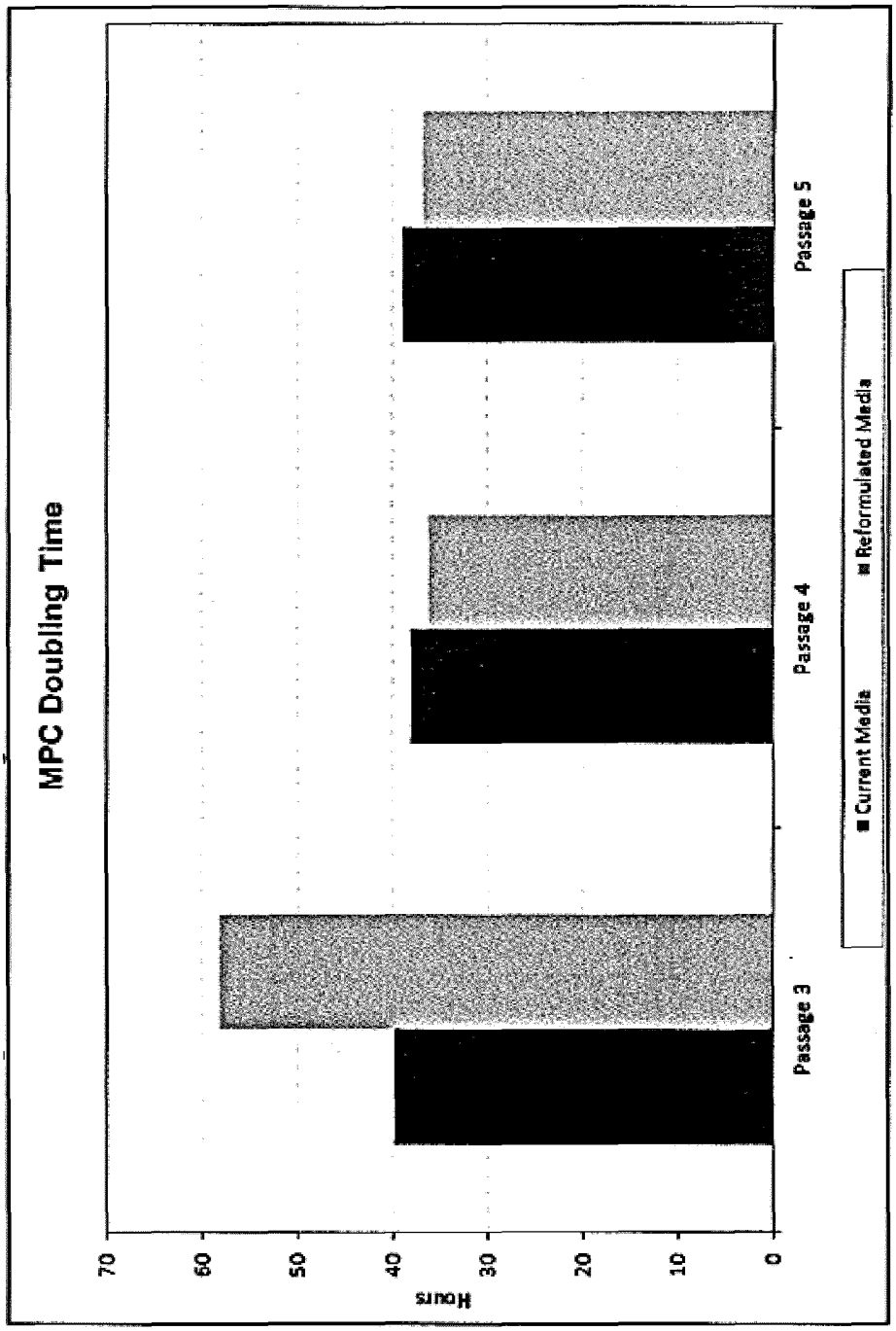

MPC Doubling Time
Hours
70
60
50
40
30
20
10
0
Passage 3
Passage 4
Passage 5
Current Media
Reformulated Media

Figure 2

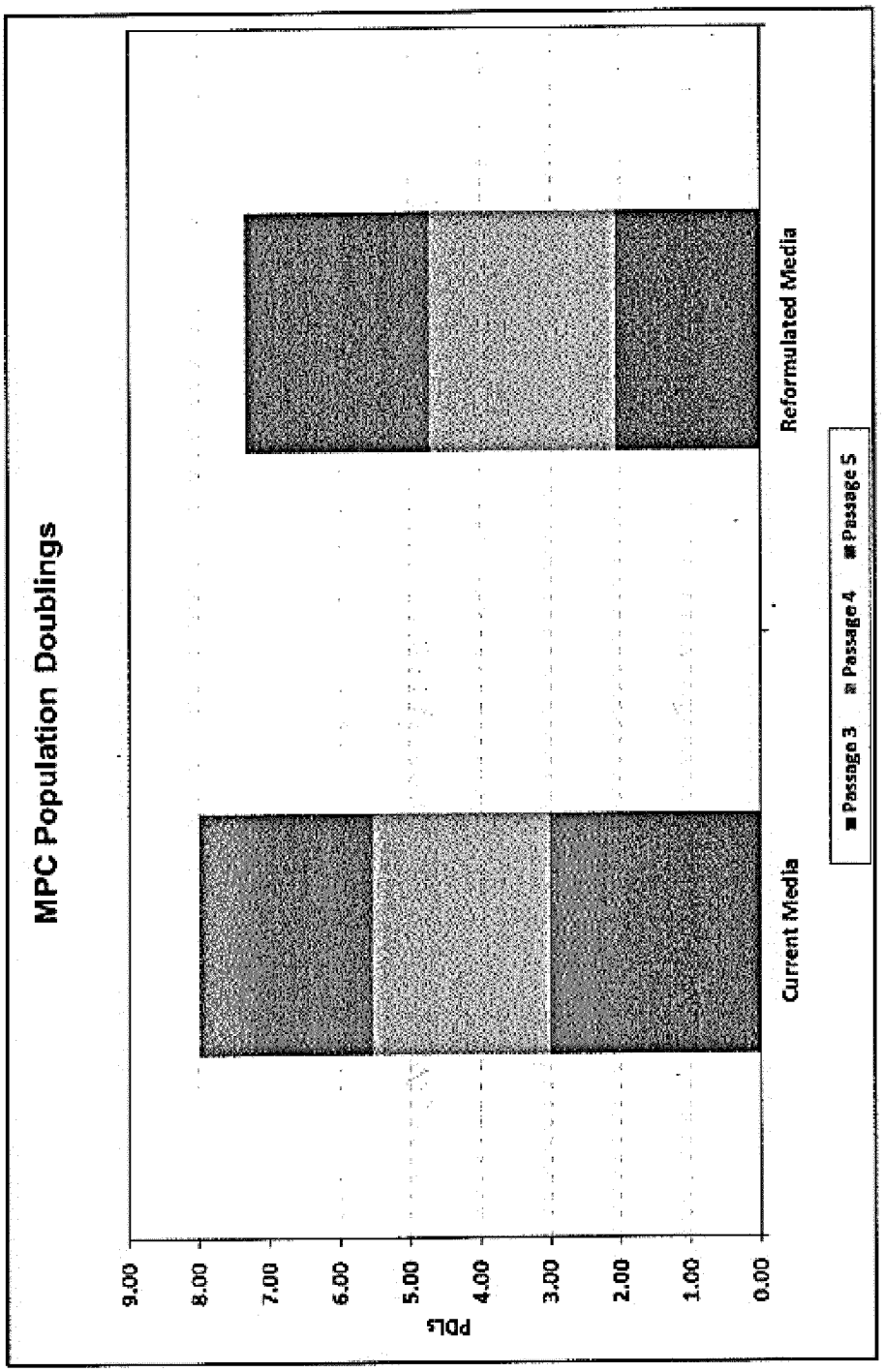

MPC Population Doublings
PDLs
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Current Media
Reformulated Media
Passage 3
Passage 4
Passage 5

Figure 3

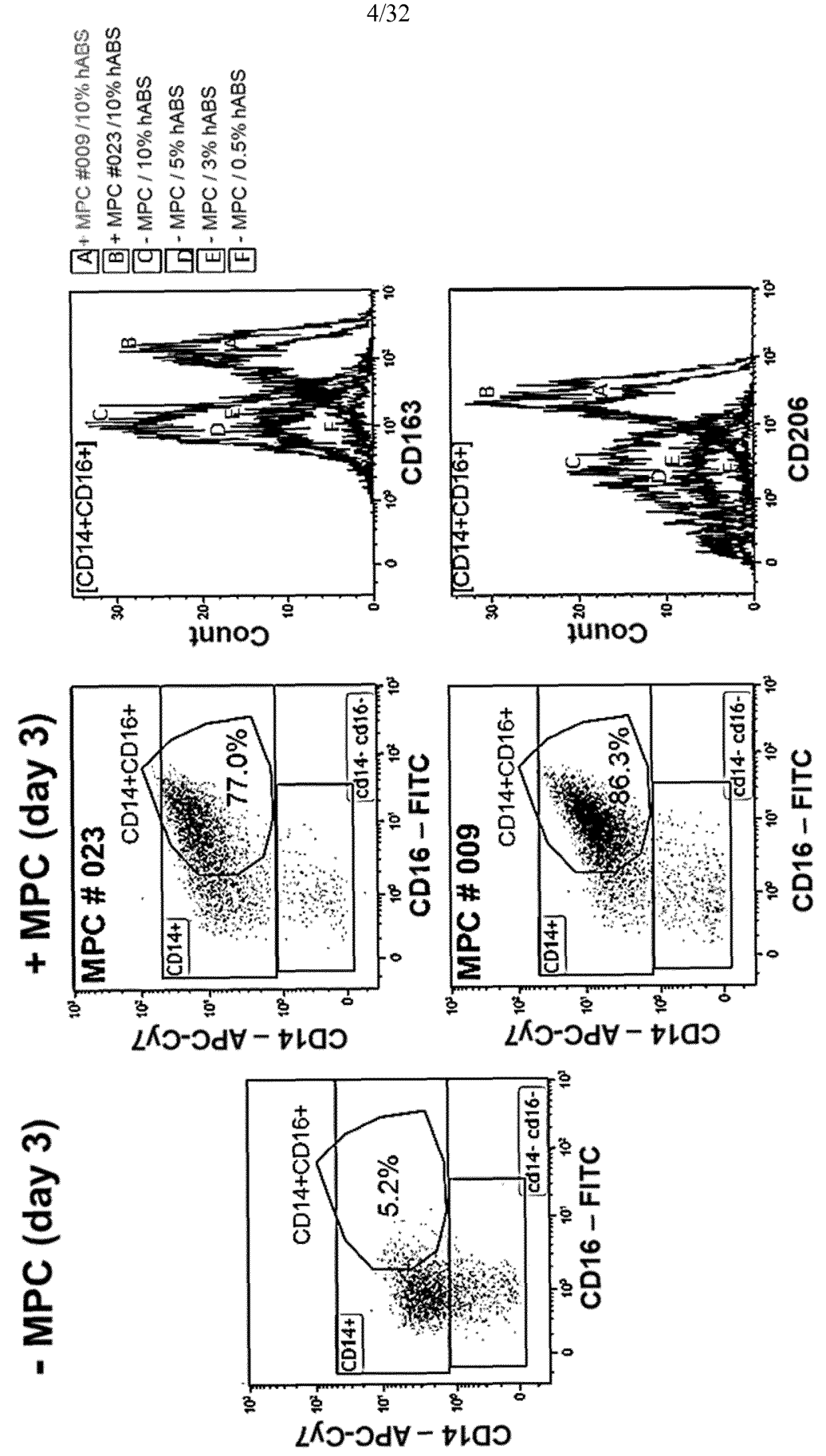

- MPC (day 3)
+ MPC (day 3)
MPC # 023
MPC # 009
CD14+CD16+
CD14+
cd14- cd16-
5.2%
77.0%
86.3%
CD14 – APC-Cy7
CD16 – FITC
[CD14+CD16+]
Count
CD163
CD206
A + MPC #009 /10% hABS
B + MPC #023 /10% hABS
C - MPC / 10% hABS
D - MPC / 5% hABS
E - MPC / 3% hABS
F - MPC / 0.5% hABS

Figure 4

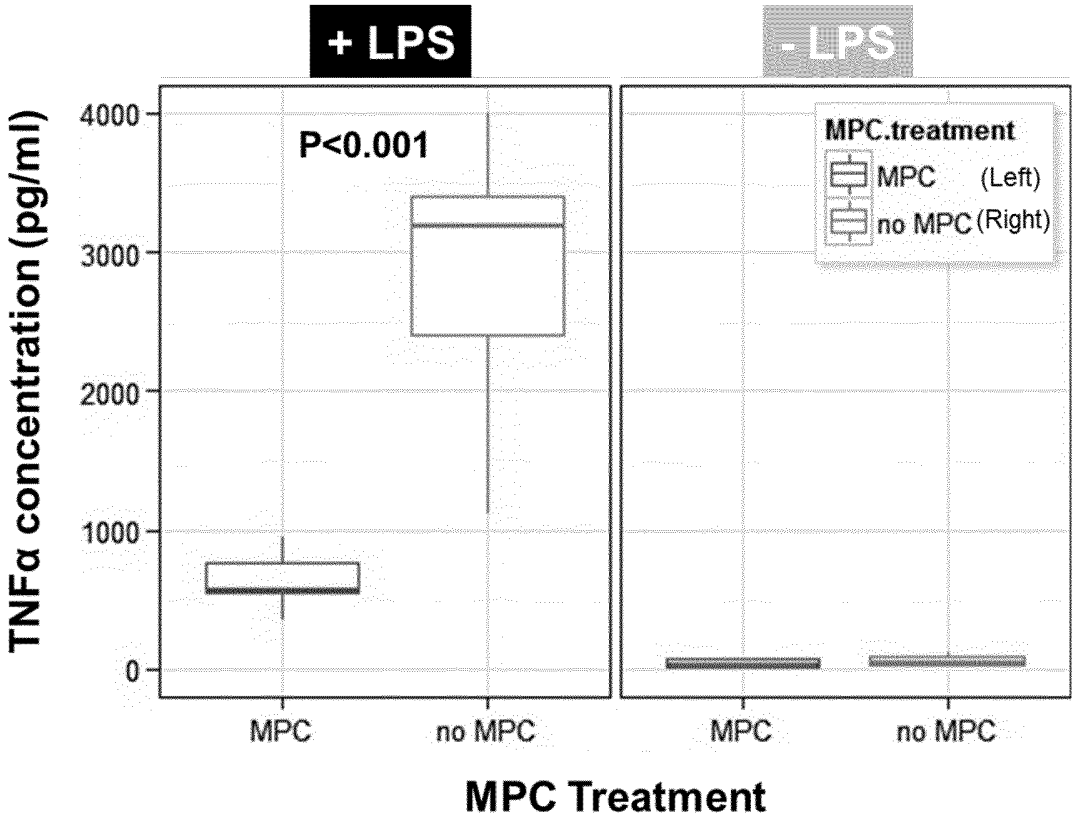

+ LPS
- LPS
P<0.001
MPC.treatment
MPC (Left)
no MPC (Right)
TNFα concentration (pg/ml)
4000
3000
2000
1000
0
MPC
no MPC
MPC
no MPC
MPC Treatment

Figure 5

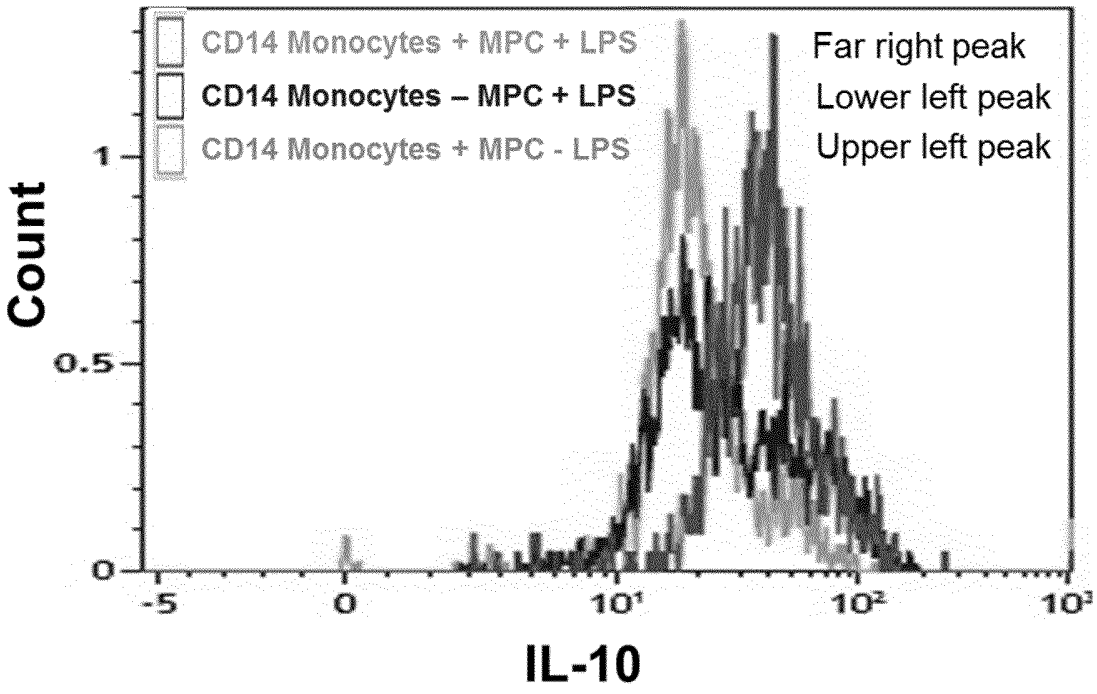

CD14 Monocytes + MPC + LPS
CD14 Monocytes – MPC + LPS
CD14 Monocytes + MPC - LPS
Far right peak
Lower left peak
Upper left peak
Count
1
0.5
0
-5
0
10¹
10²
10³
IL-10

Figure 6

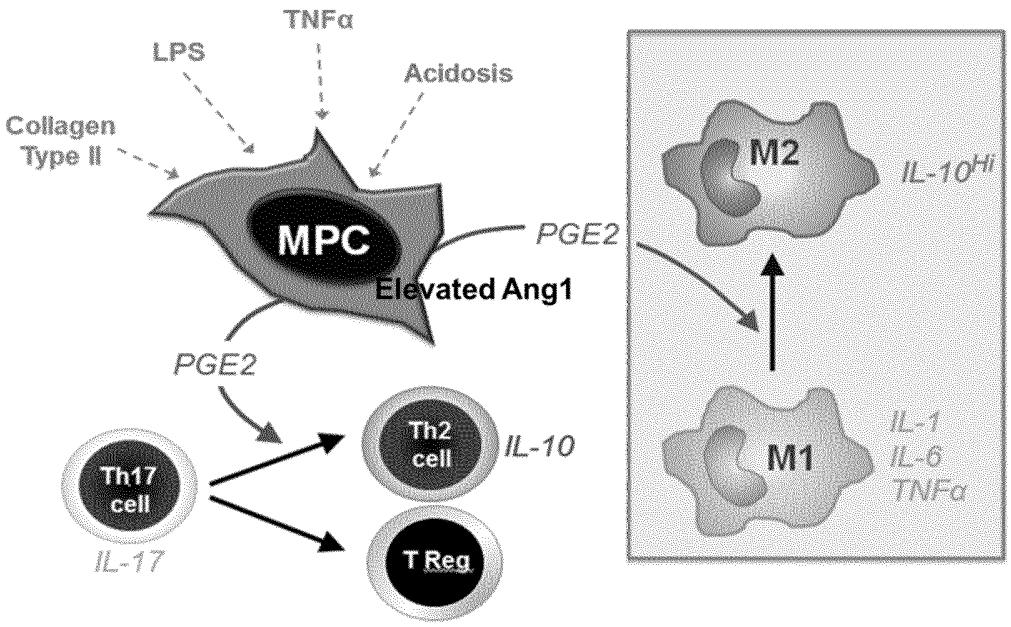

TNFα
LPS
Acidosis
Collagen
Type II
MPC
PGE2
Elevated Ang1
PGE2
Th17
cell
IL-17
Th2
cell
IL-10
T Reg
M2
IL-10Hi
M1
IL-1
IL-6
TNFα

Figure 7

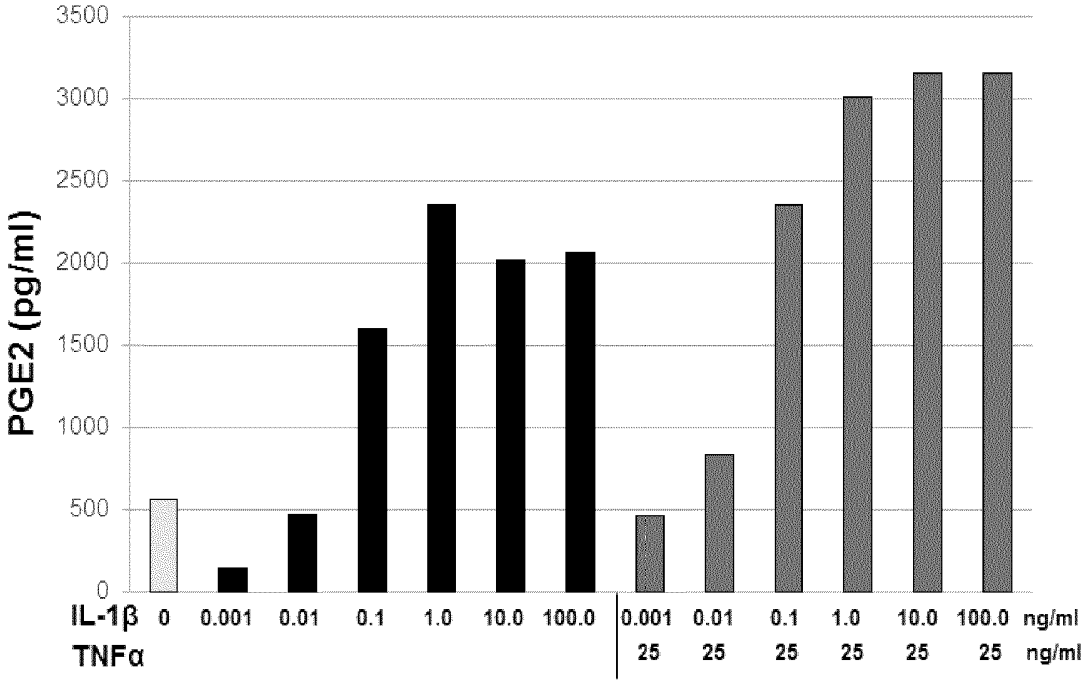

PGE2 (pg/ml)
3500
3000
2500
2000
1500
1000
500
0
IL-1β 0 0.001 0.01 0.1 1.0 10.0 100.0 0.001 0.01 0.1 1.0 10.0 100.0 ng/ml
TNFα 25 25 25 25 25 25 ng/ml

Figure 8

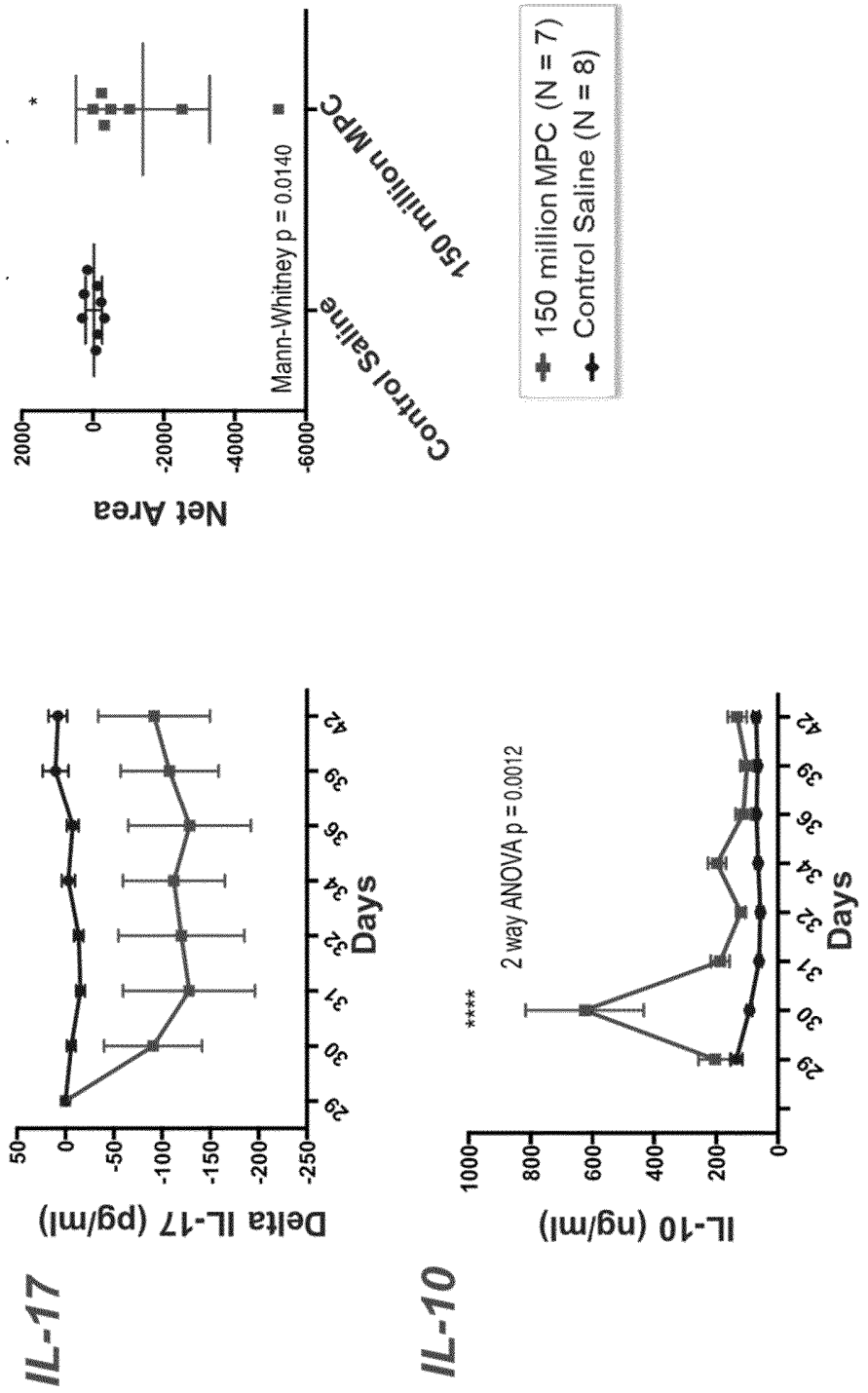

Net Area
2000
0
-2000
-4000
-6000
*
Mann-Whitney p = 0.0140
Control Saline
150 million MPC
150 million MPC (N = 7)
Control Saline (N = 8)
IL-17
Delta IL-17 (pg/ml)
50
0
-50
-100
-150
-200
-250
29
30
31
32
34
36
39
42
Days
IL-10
IL-10 (ng/ml)
1000
800
600
400
200
0
****
2 way ANOVA p = 0.0012
29
30
31
32
34
36
39
42
Days

Figure 9

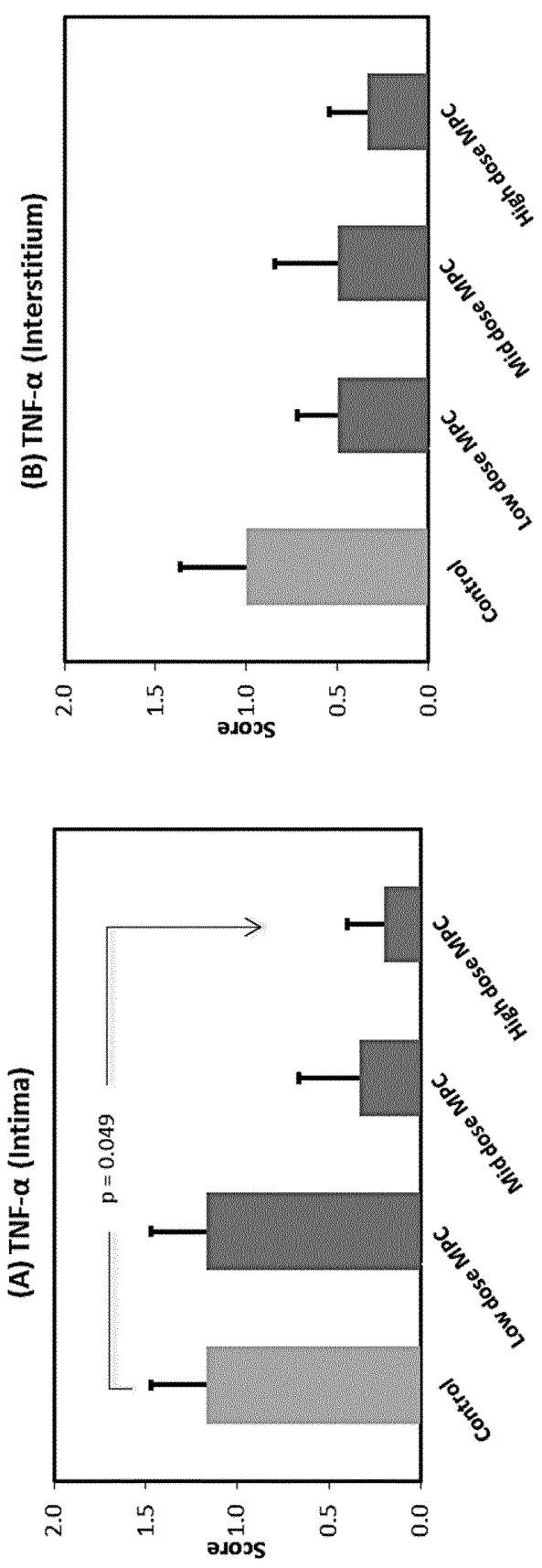

(A) TNF-α (Intima)
p = 0.049
Score
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC
(B) TNF-α (Interstitium)
Score
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC

Figure 10-1

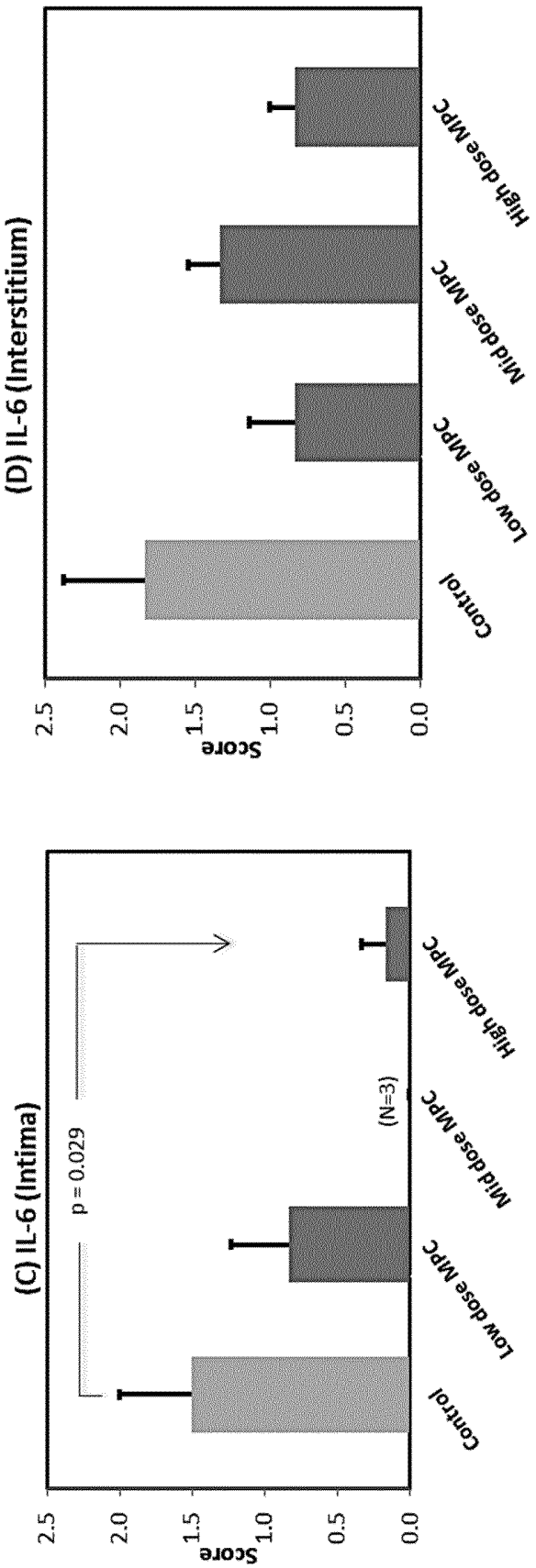

(C) IL-6 (Intima)
p = 0.029
(N=3)
Score
2.5
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC
(D) IL-6 (Interstitium)
Score
2.5
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC

Figure 10-2

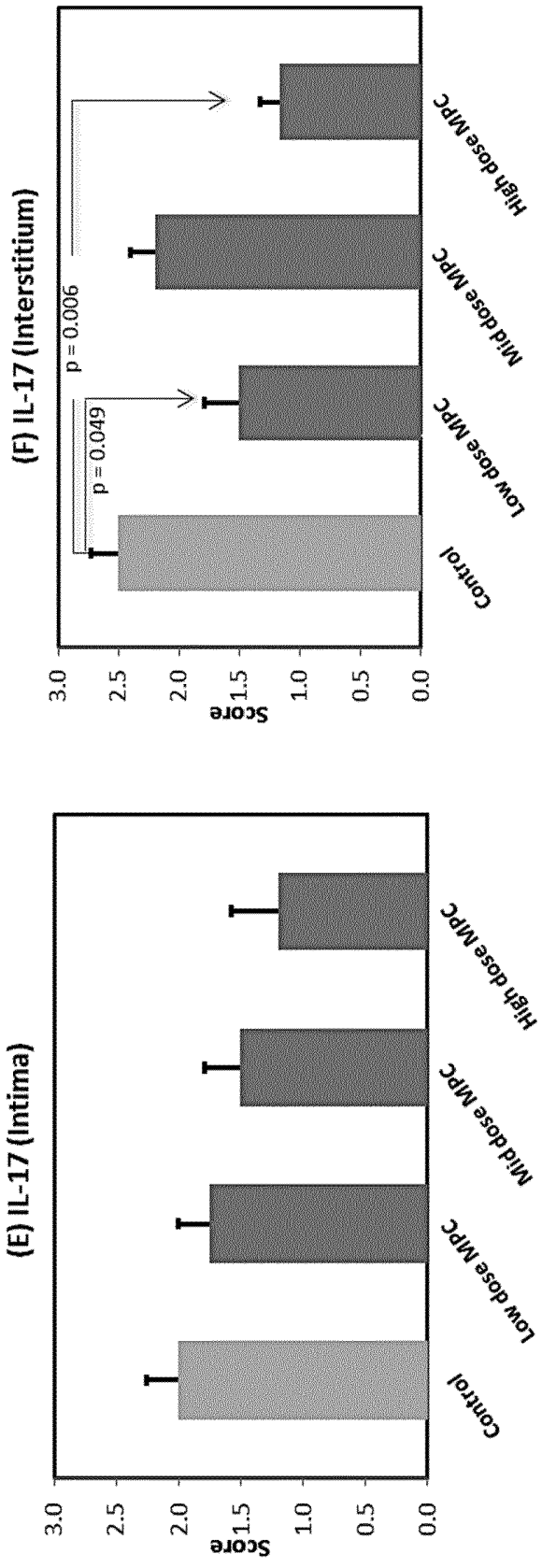

(F) IL-17 (Interstitium)
Score
3.0
2.5
2.0
1.5
1.0
0.5
0.0
p = 0.049
p = 0.006
Control
Low dose MPC
Mid dose MPC
High dose MPC
(E) IL-17 (Intima)
Score
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Control
Low dose MPC
Mid dose MPC
High dose MPC

Figure 10-3

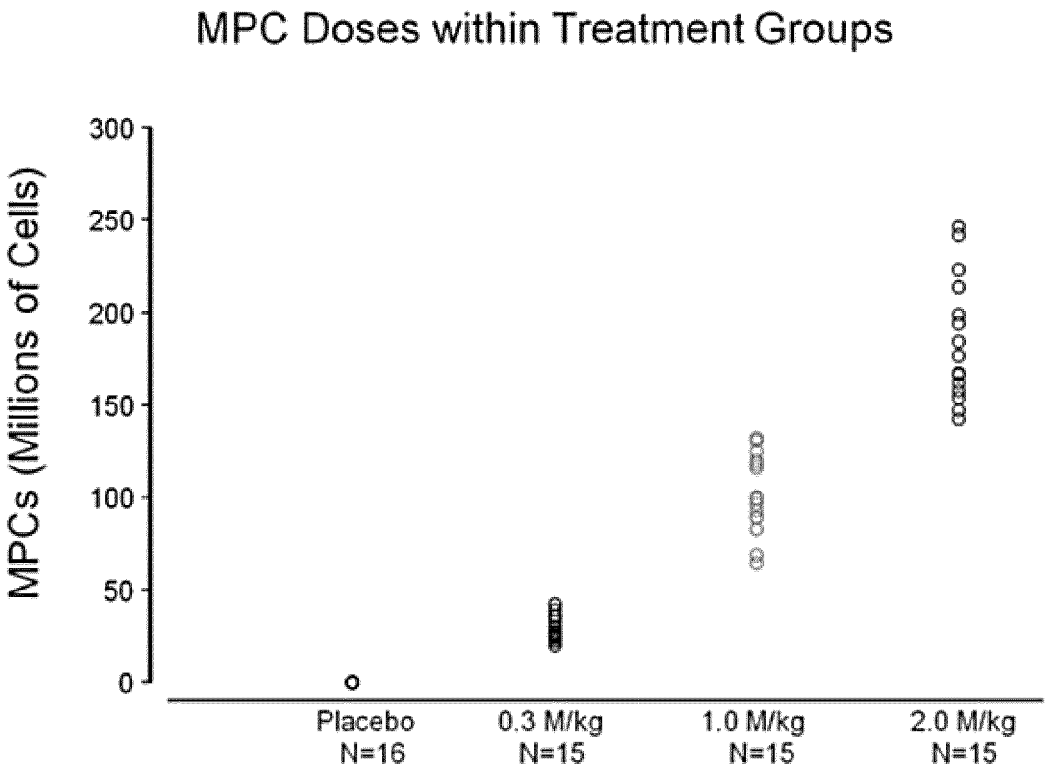

MPC Doses within Treatment Groups
MPCs (Millions of Cells)
300
250
200
150
100
50
0
Placebo
N=16
0.3 M/kg
N=15
1.0 M/kg
N=15
2.0 M/kg
N=15

Figure 11

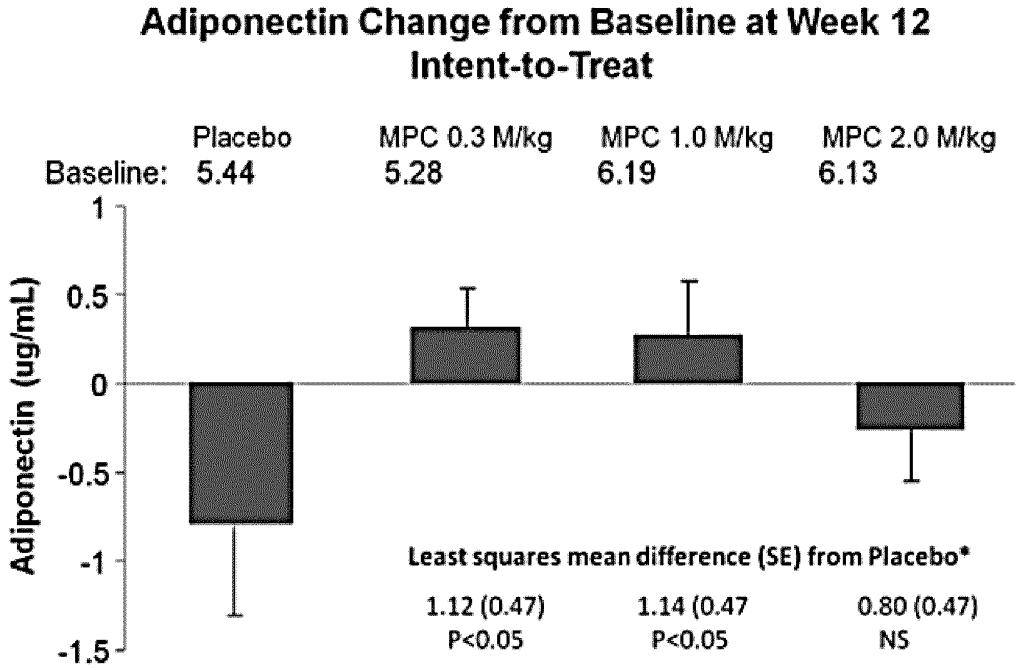

Adiponectin Change from Baseline at Week 12
Intent-to-Treat
Placebo
MPC 0.3 M/kg
MPC 1.0 M/kg
MPC 2.0 M/kg
Baseline:
5.44
5.28
6.19
6.13
Adiponectin (ug/mL)
1
0.5
0
-0.5
-1
-1.5
Least squares mean difference (SE) from Placebo*
1.12 (0.47)
P<0.05
1.14 (0.47
P<0.05
0.80 (0.47)
NS

Figure 12

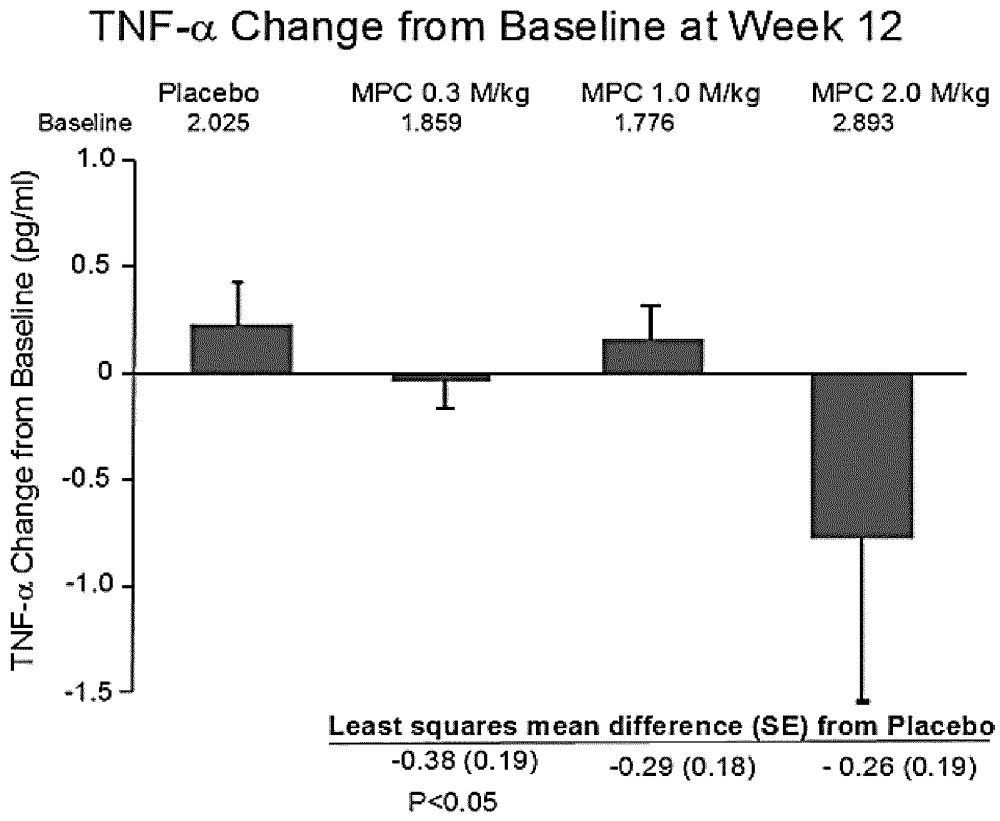

TNF-α Change from Baseline at Week 12
Placebo
MPC 0.3 M/kg
MPC 1.0 M/kg
MPC 2.0 M/kg
Baseline
2.025
1.859
1.776
2.893
1.0
0.5
0
-0.5
-1.0
-1.5
TNF-α Change from Baseline (pg/ml)
Least squares mean difference (SE) from Placebo
-0.38 (0.19)
-0.29 (0.18)
- 0.26 (0.19)
P<0.05

Figure 13

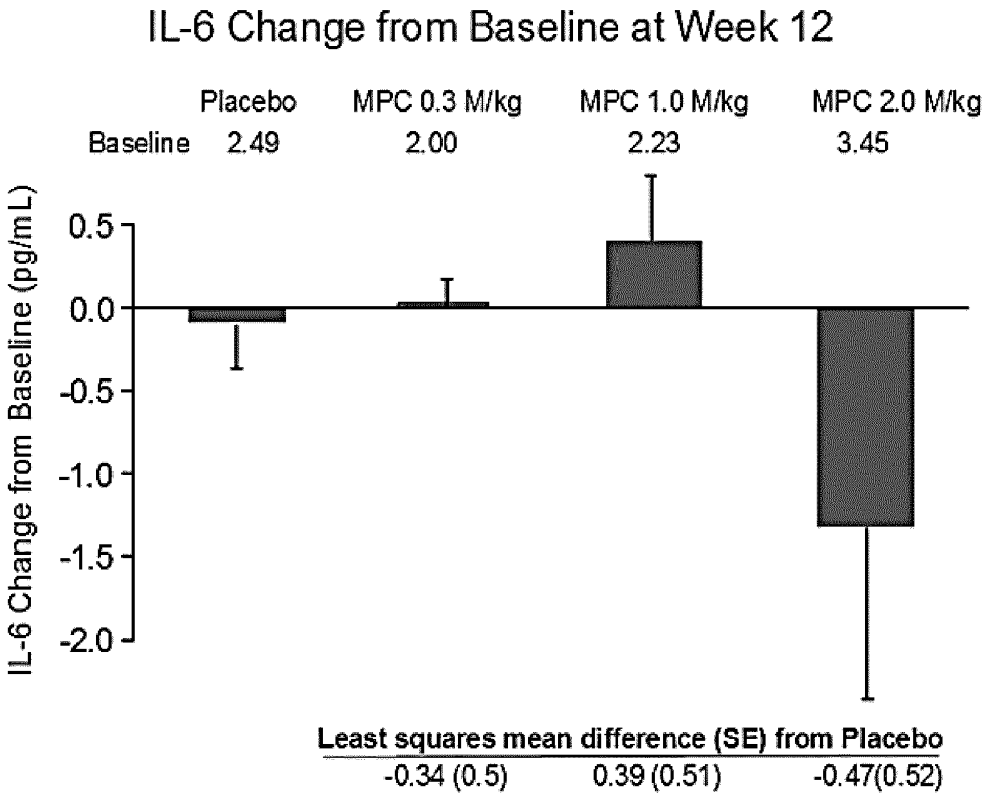

IL-6 Change from Baseline at Week 12
Placebo
MPC 0.3 M/kg
MPC 1.0 M/kg
MPC 2.0 M/kg
Baseline
2.49
2.00
2.23
3.45
IL-6 Change from Baseline (pg/mL)
0.5
0.0
-0.5
-1.0
-1.5
-2.0
Least squares mean difference (SE) from Placebo
-0.34 (0.5)
0.39 (0.51)
-0.47(0.52)

Figure 14

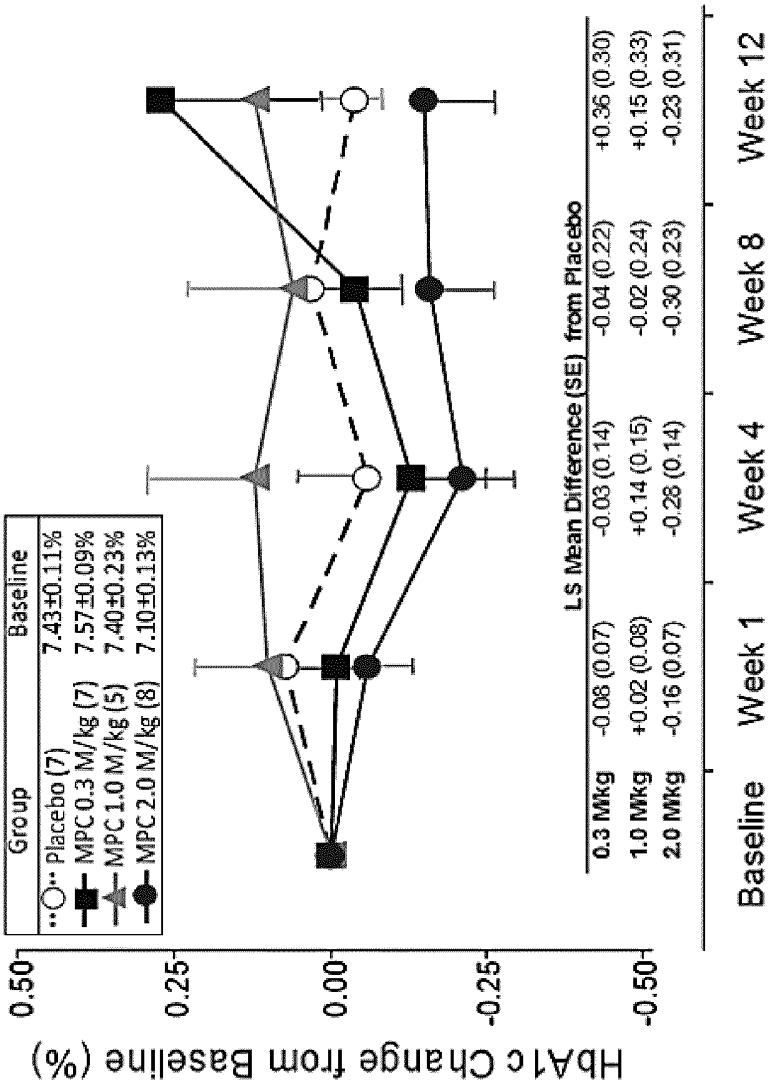

Subjects with Baseline <8%
Group
Baseline
Placebo (7)
7.43±0.11%
MPC 0.3 M/kg (7)
7.57±0.09%
MPC 1.0 M/kg (5)
7.40±0.23%
MPC 2.0 M/kg (8)
7.10±0.13%
HbA1c Change from Baseline (%)
0.50
0.25
0.00
-0.25
-0.50
LS Mean Difference (SE) from Placebo
0.3 Mkg
-0.08 (0.07)
-0.03 (0.14)
-0.04 (0.22)
+0.36 (0.30)
1.0 Mkg
+0.02 (0.08)
+0.14 (0.15)
-0.02 (0.24)
+0.15 (0.33)
2.0 Mkg
-0.16 (0.07)
-0.28 (0.14)
-0.30 (0.23)
-0.23 (0.31)
Baseline
Week 1
Week 4
Week 8
Week 12

Figure 15-1

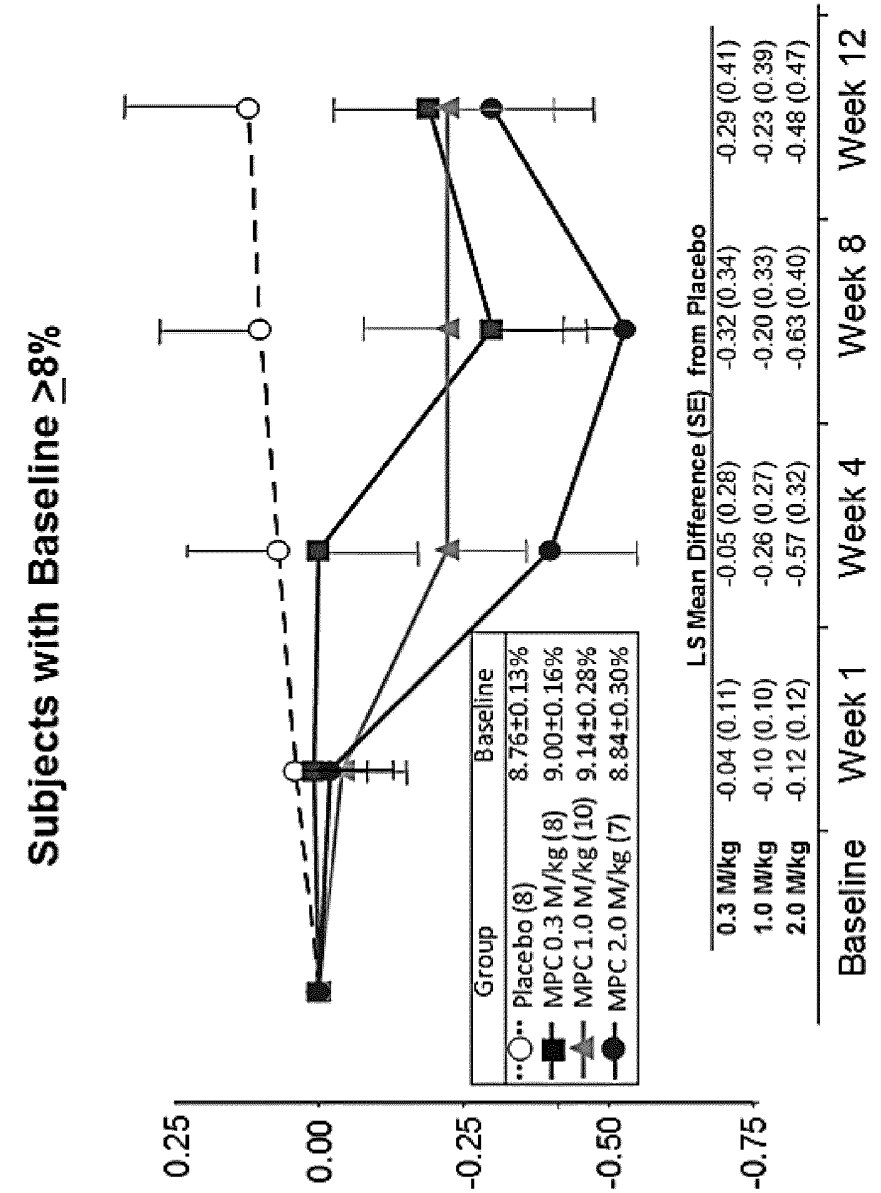

Subjects with Baseline ≥8%
0.25
0.00
-0.25
-0.50
-0.75
Group
Baseline
Placebo (8)
8.76±0.13%
MPC 0.3 M/kg (8)
9.00±0.16%
MPC 1.0 M/kg (10)
9.14±0.28%
MPC 2.0 M/kg (7)
8.84±0.30%
LS Mean Difference (SE) from Placebo
0.3 M/kg
-0.04 (0.11)
-0.05 (0.28)
-0.32 (0.34)
-0.29 (0.41)
1.0 M/kg
-0.10 (0.10)
-0.26 (0.27)
-0.20 (0.33)
-0.23 (0.39)
2.0 M/kg
-0.12 (0.12)
-0.57 (0.32)
-0.63 (0.40)
-0.48 (0.47)
Baseline
Week 1
Week 4
Week 8
Week 12

Figure 15-2

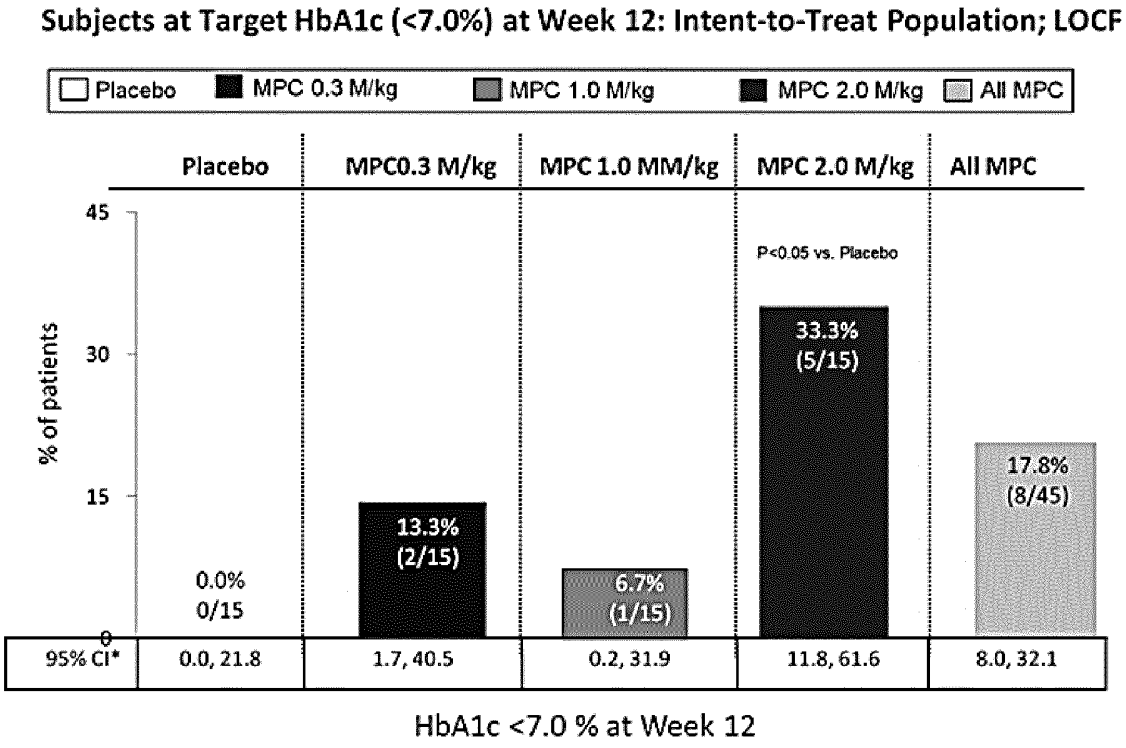

Subjects at Target HbA1c (<7.0%) at Week 12: Intent-to-Treat Population; LOCF
Placebo
MPC 0.3 M/kg
MPC 1.0 M/kg
MPC 2.0 M/kg
All MPC
Placebo
MPC0.3 M/kg
MPC 1.0 MM/kg
MPC 2.0 M/kg
All MPC
45
30
15
0
% of patients
P<0.05 vs. Placebo
0.0%
0/15
13.3%
(2/15)
6.7%
(1/15)
33.3%
(5/15)
17.8%
(8/45)
95% CI*
0.0, 21.8
1.7, 40.5
0.2, 31.9
11.8, 61.6
8.0, 32.1
HbA1c <7.0 % at Week 12
*The 95% CI (exact) was obtained from one-sample binomial distribution
Source: Table D15.2.5.1

Figure 16

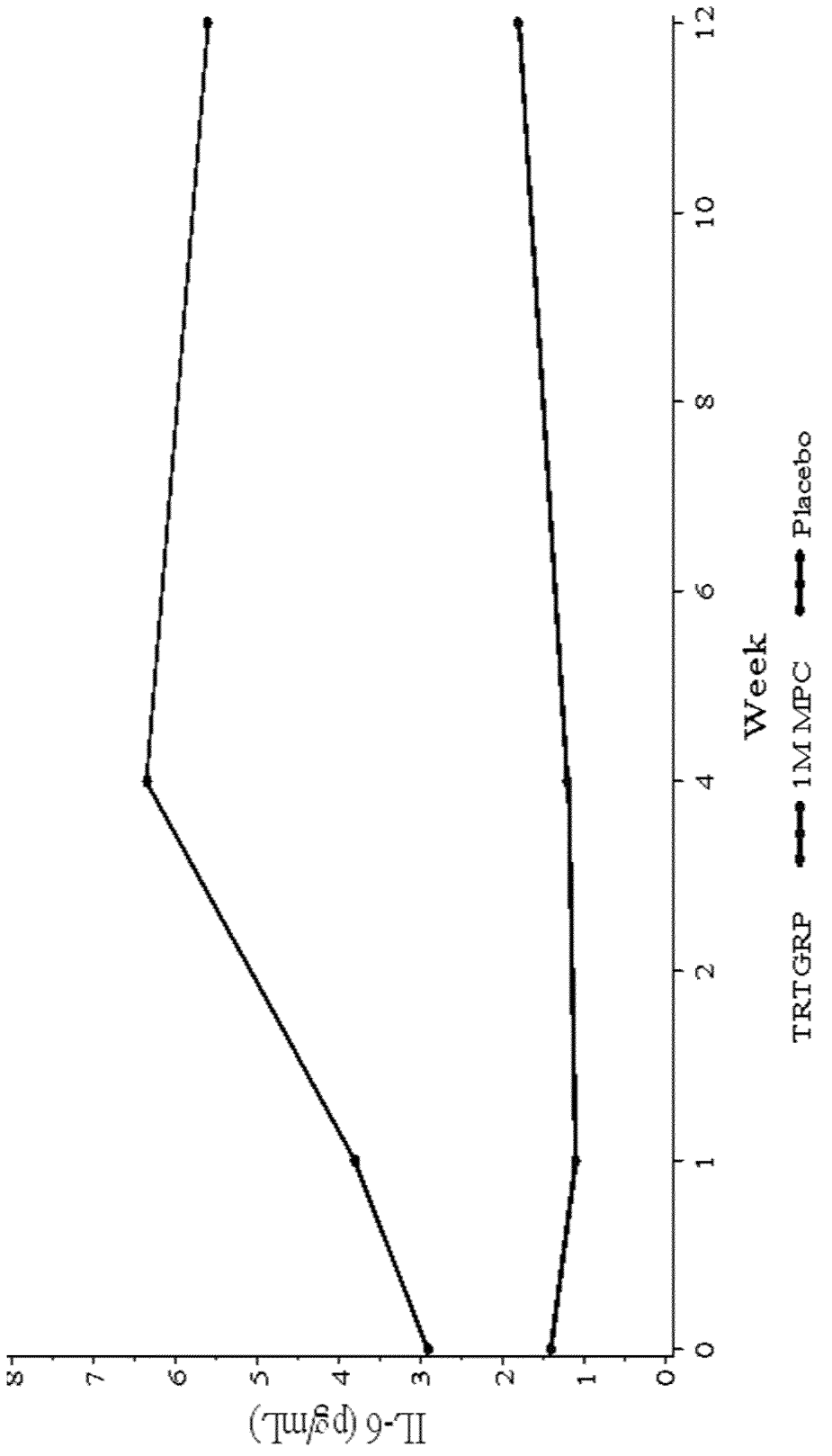


Figure 17-1

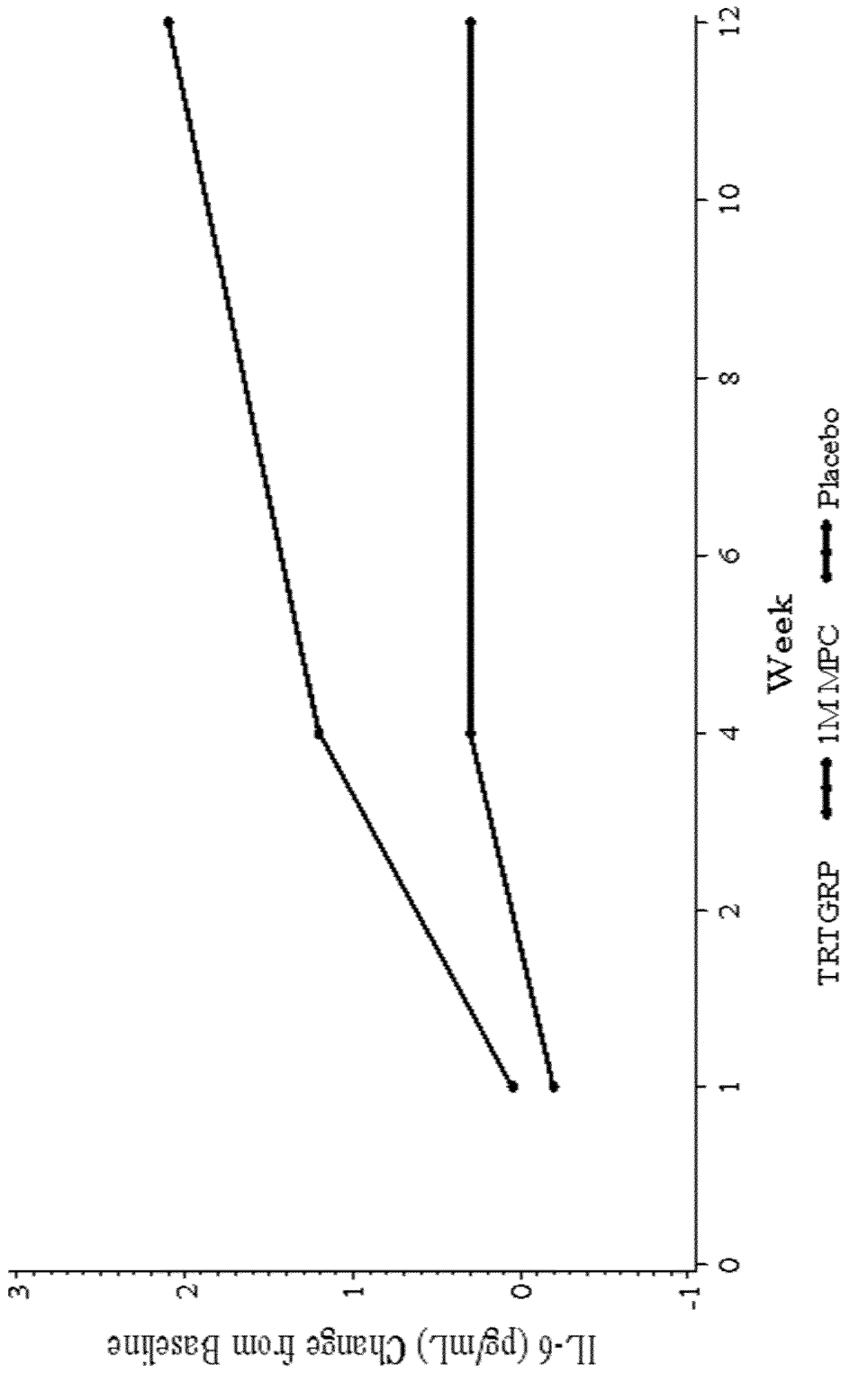

IL-6 (pg/mL) Change from Baseline
3
2
1
0
-1
0
2
4
6
8
10
12
Week
TRTGRP
1MMPC
Placebo

Figure 17-2

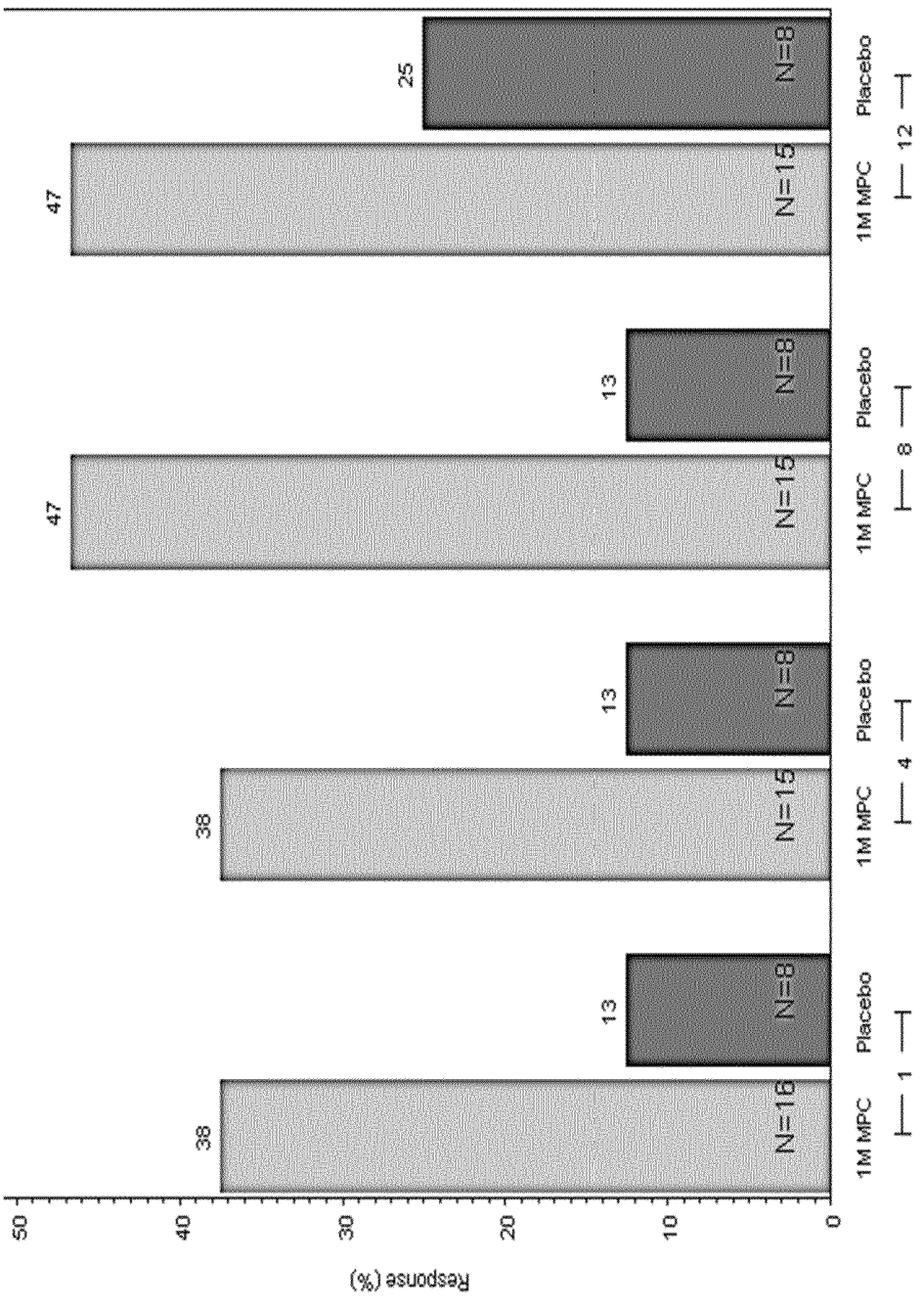

Response (%)
0
10
20
30
40
50
38
13
38
13
47
13
47
25
N=16
N=8
N=15
N=8
N=15
N=8
N=15
N=8
1M MPC
Placebo
1M MPC
Placebo
1M MPC
Placebo
1M MPC
Placebo
1
4
8
12

Figure 18

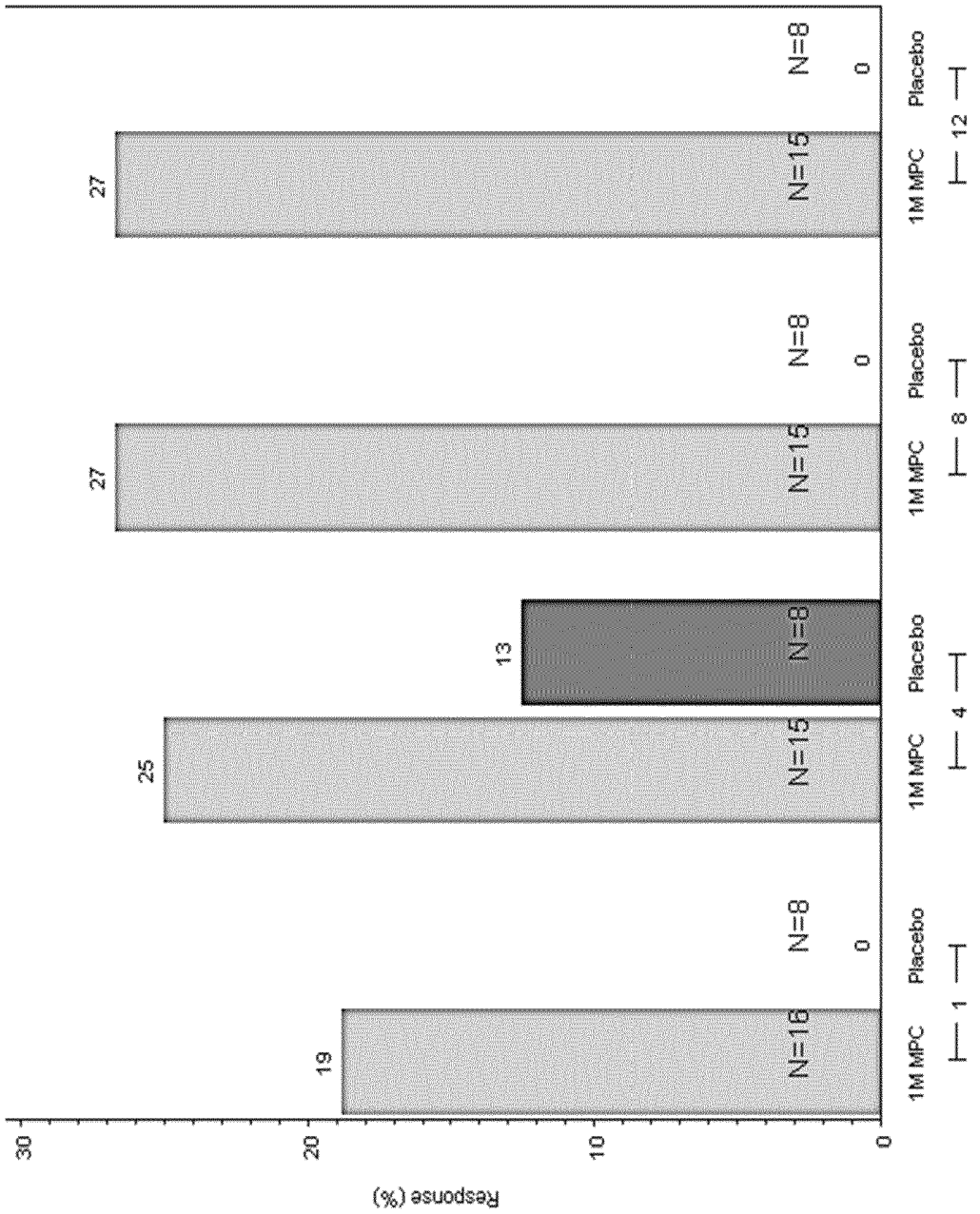

Response (%)
30
20
10
0
19
25
13
27
27
N=16
N=8
N=15
N=8
N=15
N=8
N=15
N=8
0
0
0
0
1M MPC
Placebo
1M MPC
Placebo
1M MPC
Placebo
1M MPC
Placebo
1
4
8
12

Figure 19

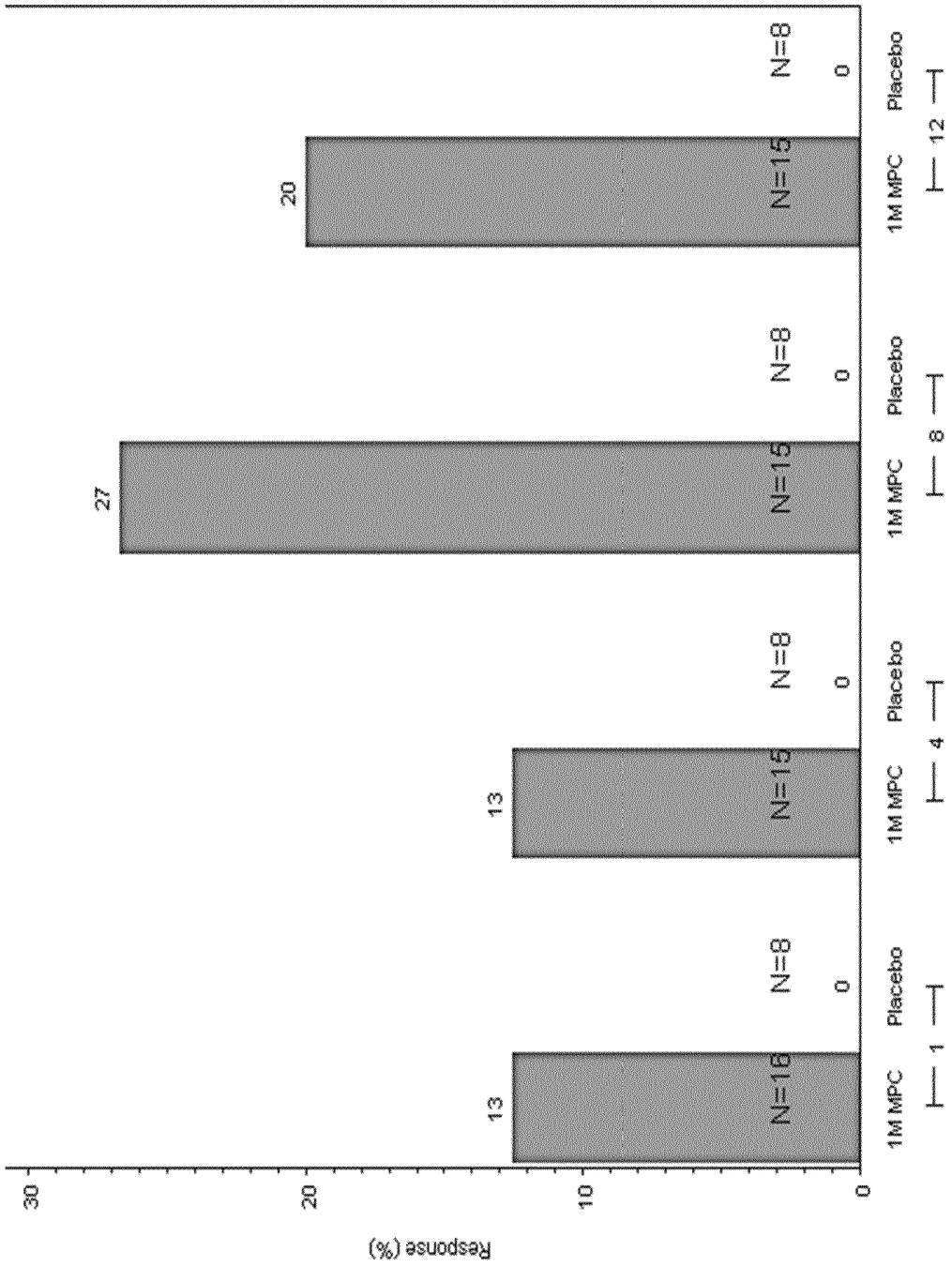

Response (%)
0
10
20
30
13
N=16
0
N=8
13
N=15
0
N=8
27
N=15
0
N=8
20
N=15
0
N=8
1M MPC
Placebo
1M MPC
Placebo
1M MPC
Placebo
1M MPC
Placebo
1
4
8
12

Figure 20

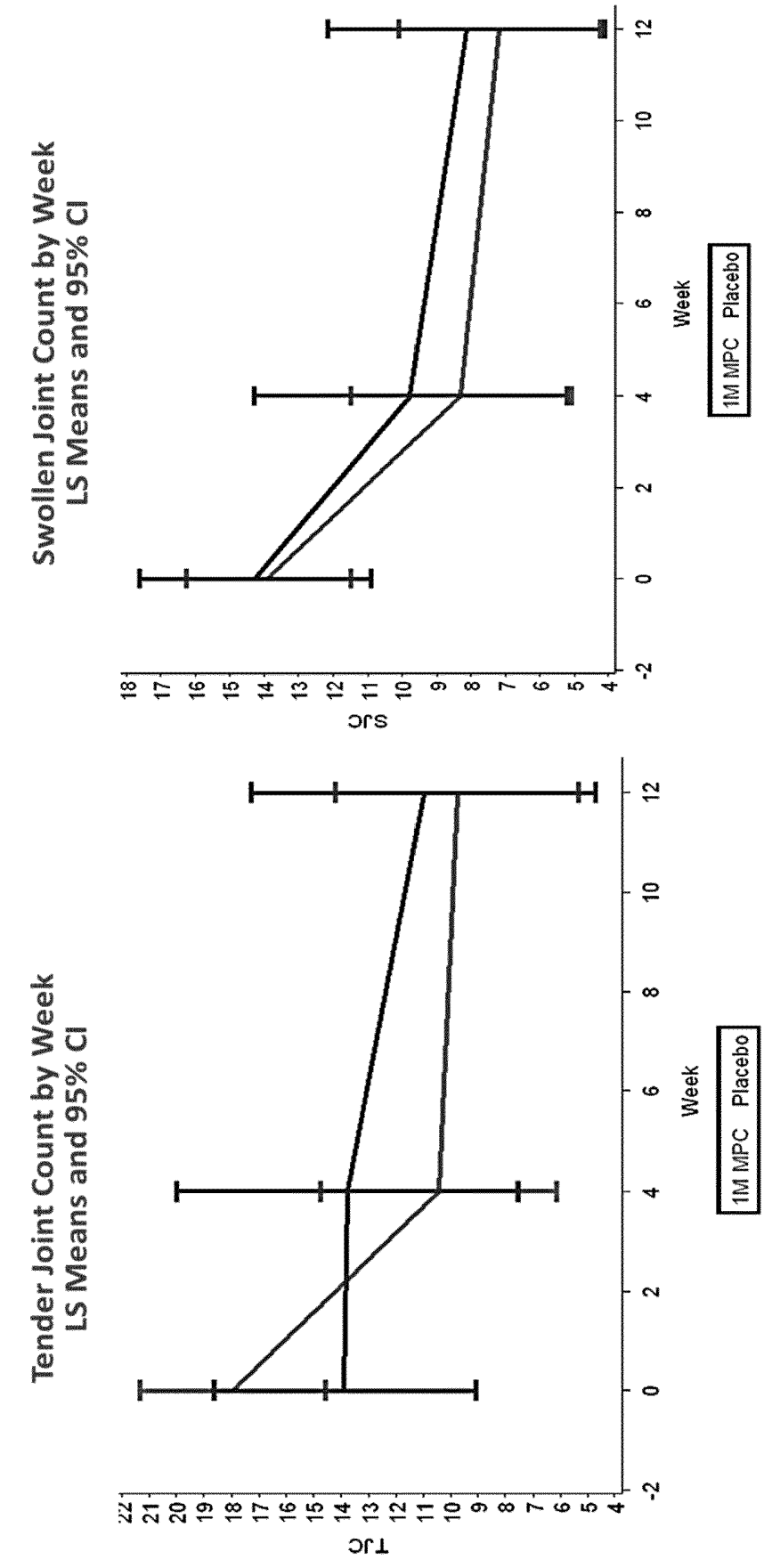

Swollen Joint Count by Week
LS Means and 95% CI
SJC
Week
1M MPC
Placebo
Tender Joint Count by Week
LS Means and 95% CI
TJC
Week
1M MPC
Placebo

Figure 21

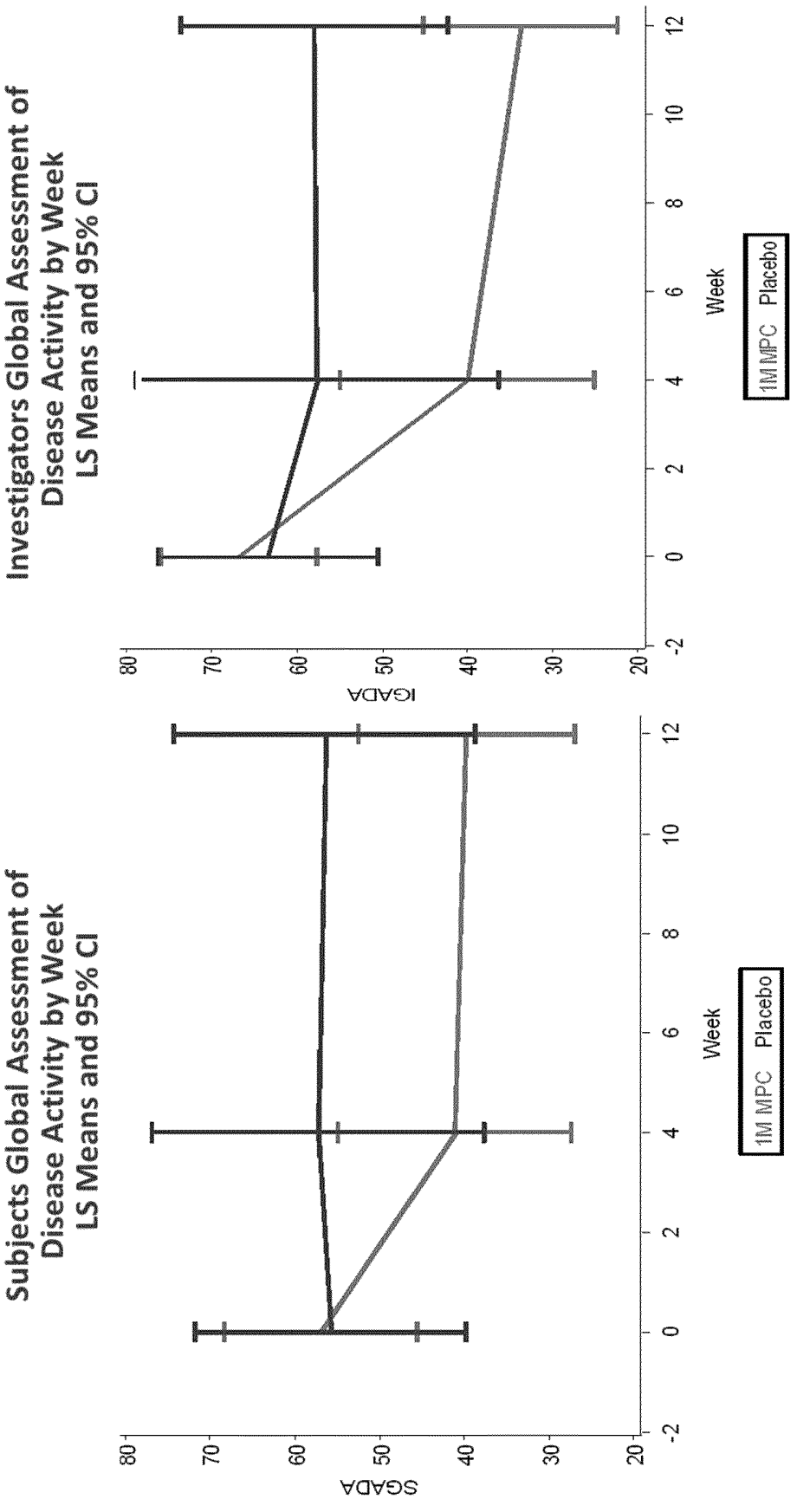

Investigators Global Assessment of Disease Activity by Week LS Means and 95% CI
IGADA
80
70
60
50
40
30
20
-2
0
2
4
6
8
10
12
Week
1M MPC
Placebo
Subjects Global Assessment of Disease Activity by Week LS Means and 95% CI
SGADA
80
70
60
50
40
30
20
-2
0
2
4
6
8
10
12
Week
1M MPC
Placebo

Figure 22

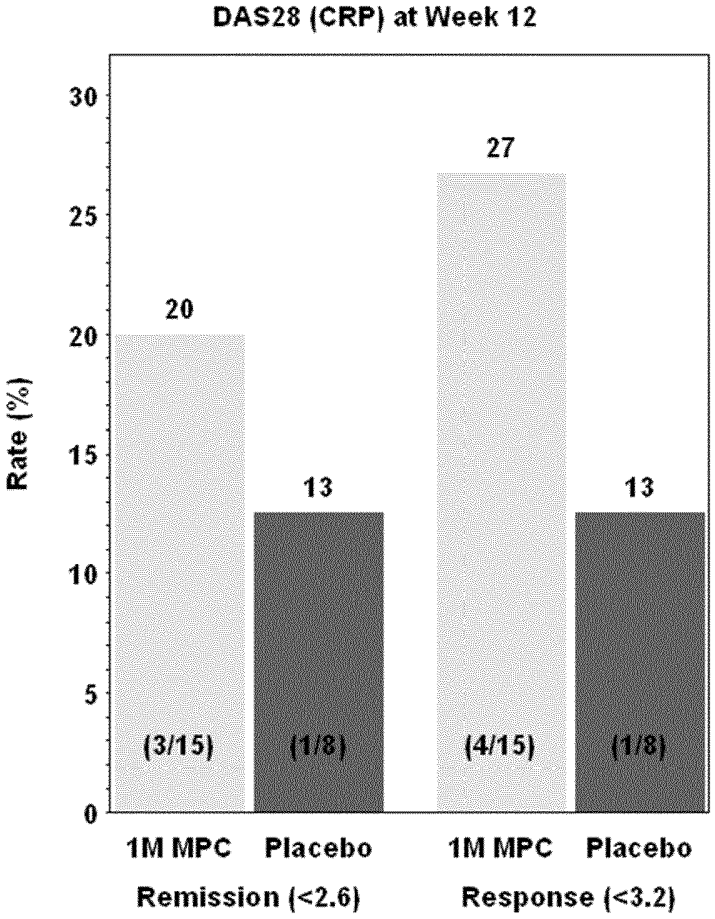

DAS28 (CRP) at Week 12
Rate (%)
30
25
20
15
10
5
0
20
13
27
13
(3/15)
(1/8)
(4/15)
(1/8)
1M MPC
Placebo
1M MPC
Placebo
Remission (<2.6)
Response (<3.2)

Figure 23

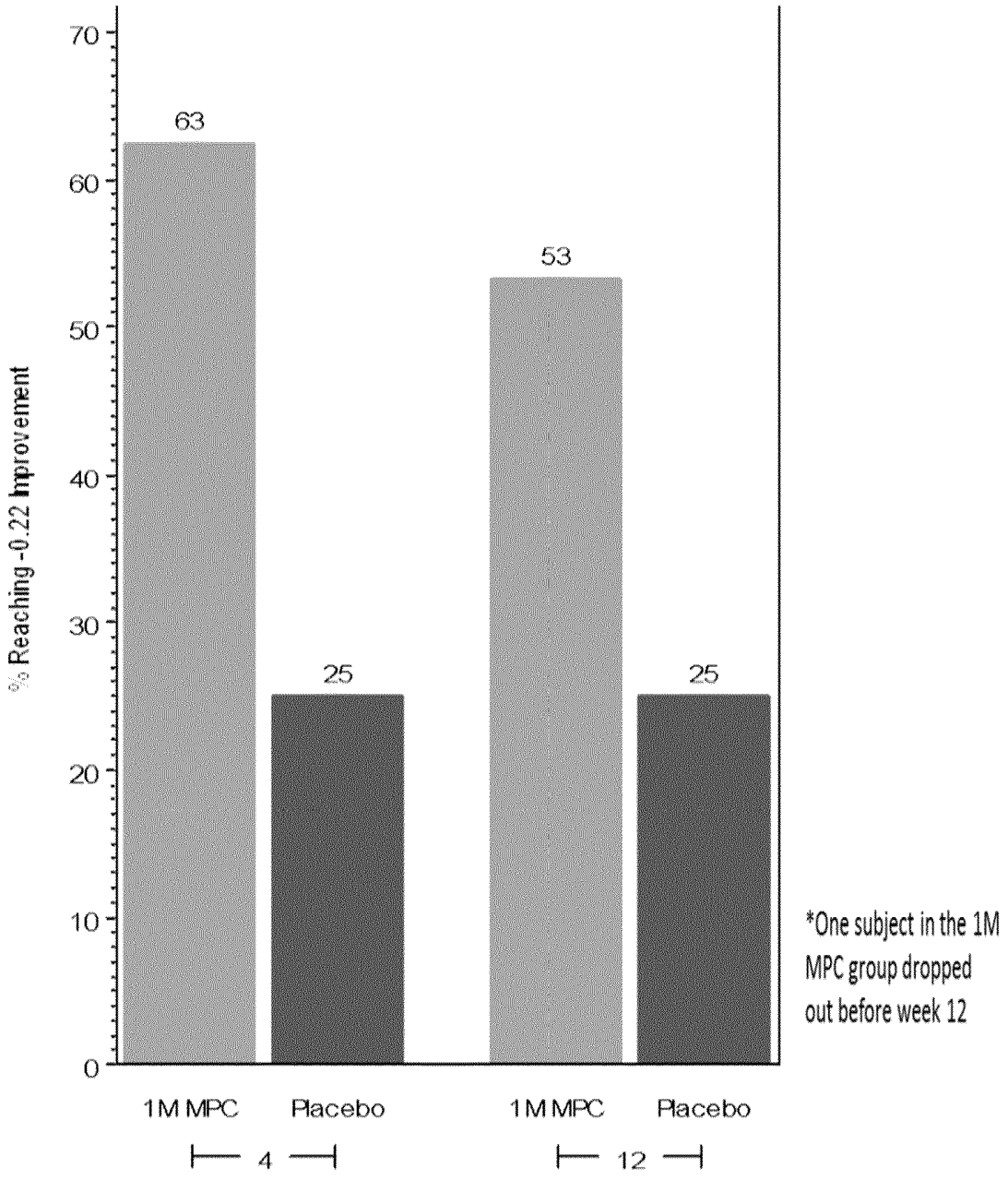

70
60
50
40
30
20
10
0
% Reaching -0.22 Improvement
63
25
53
25
1M MPC
Placebo
1M MPC
Placebo
4
12
*One subject in the 1M MPC group dropped out before week 12

Figure 24

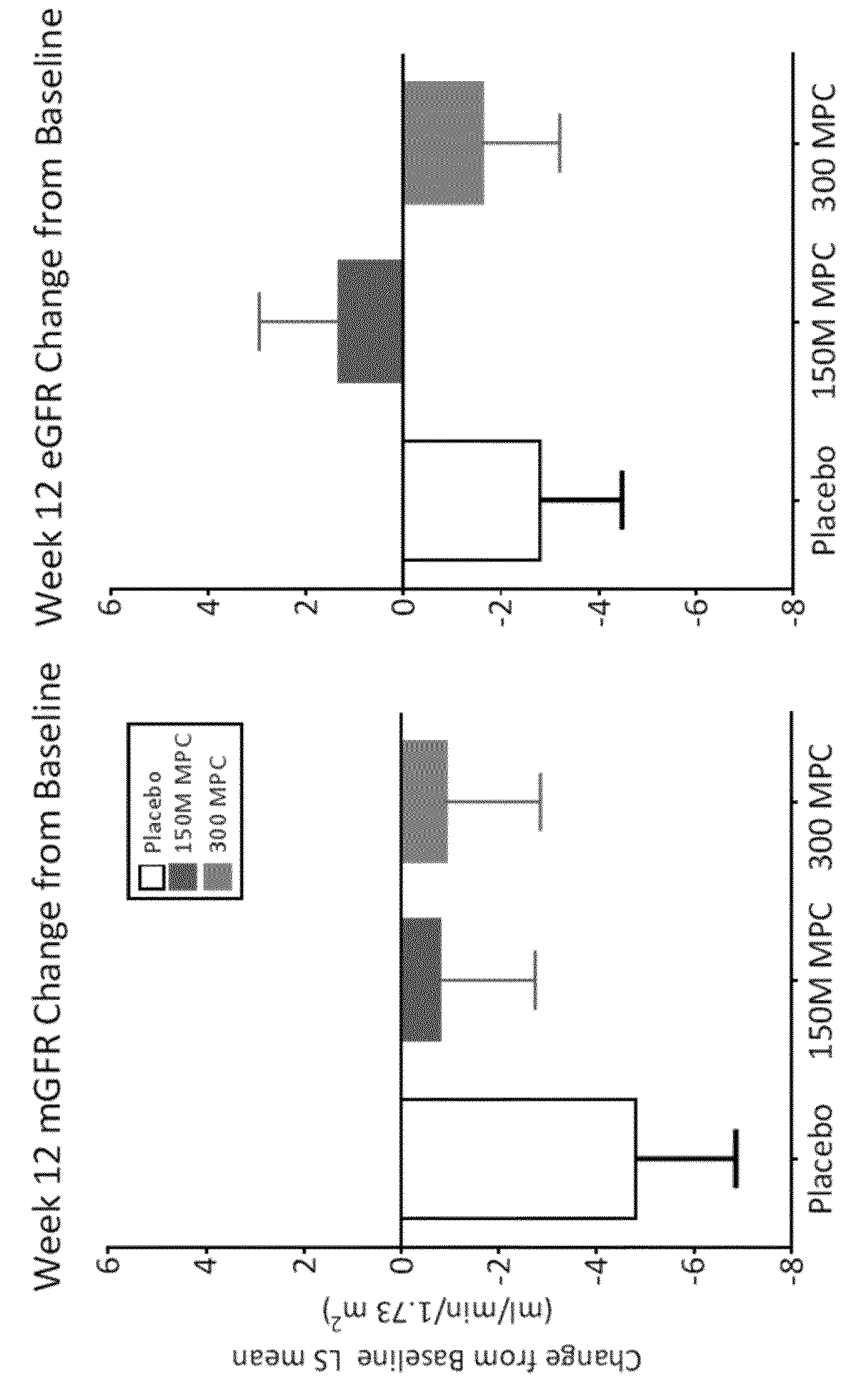

Week 12 mGFR Change from Baseline
Week 12 eGFR Change from Baseline
Change from Baseline LS mean
(ml/min/1.73 m²)
Placebo
150M MPC
300 MPC
6
4
2
0
-2
-4
-6
-8
Placebo
150M MPC
300 MPC

Figure 25

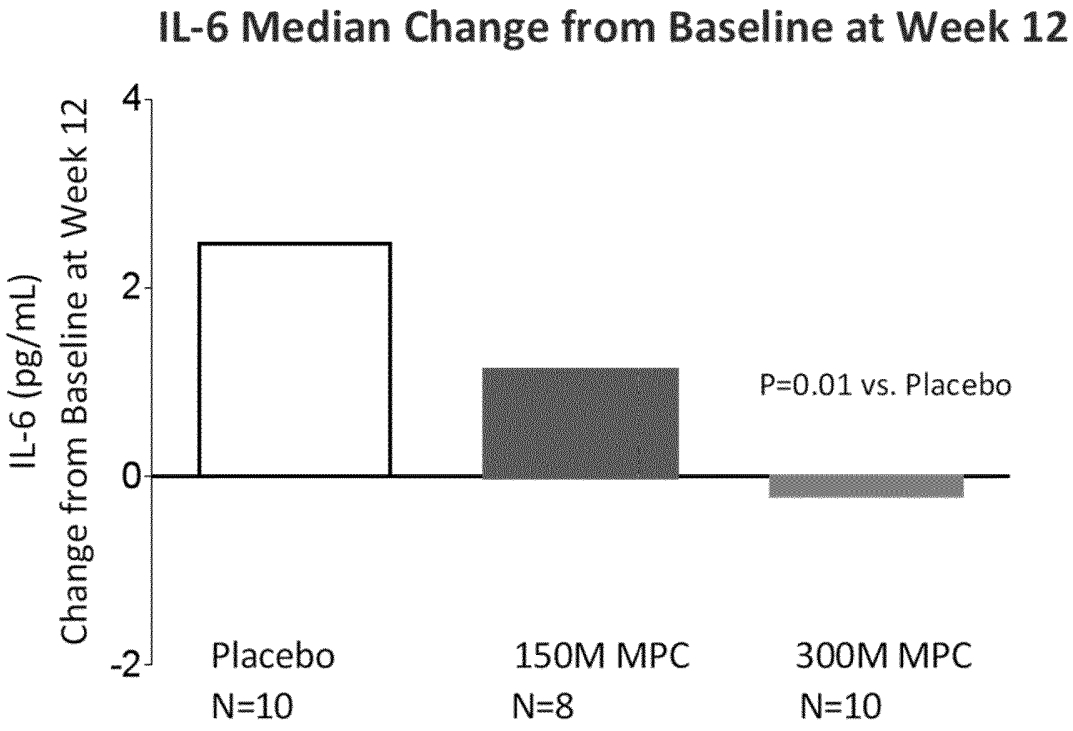

IL-6 Median Change from Baseline at Week 12
IL-6 (pg/mL)
Change from Baseline at Week 12
4
2
0
-2
P=0.01 vs. Placebo
Placebo
N=10
150M MPC
N=8
300M MPC
N=10

Figure 26

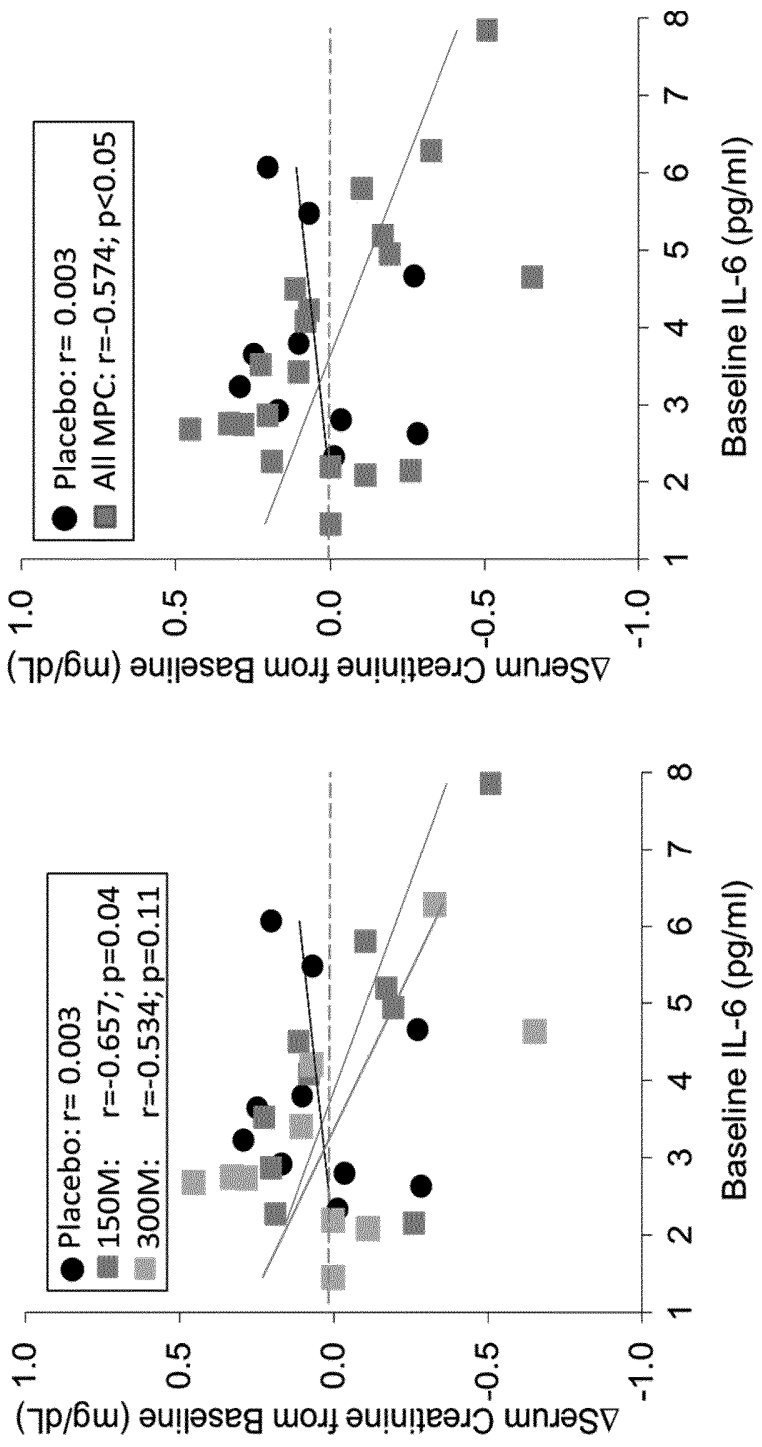

ΔSerum Creatinine from Baseline (mg/dL)
1.0
0.5
0.0
-0.5
-1.0
1
2
3
4
5
6
7
8
Baseline IL-6 (pg/ml)
Placebo: r= 0.003
150M: r=-0.657; p=0.04
300M: r=-0.534; p=0.11
Placebo: r= 0.003
All MPC: r=-0.574; p<0.05

Figure 27

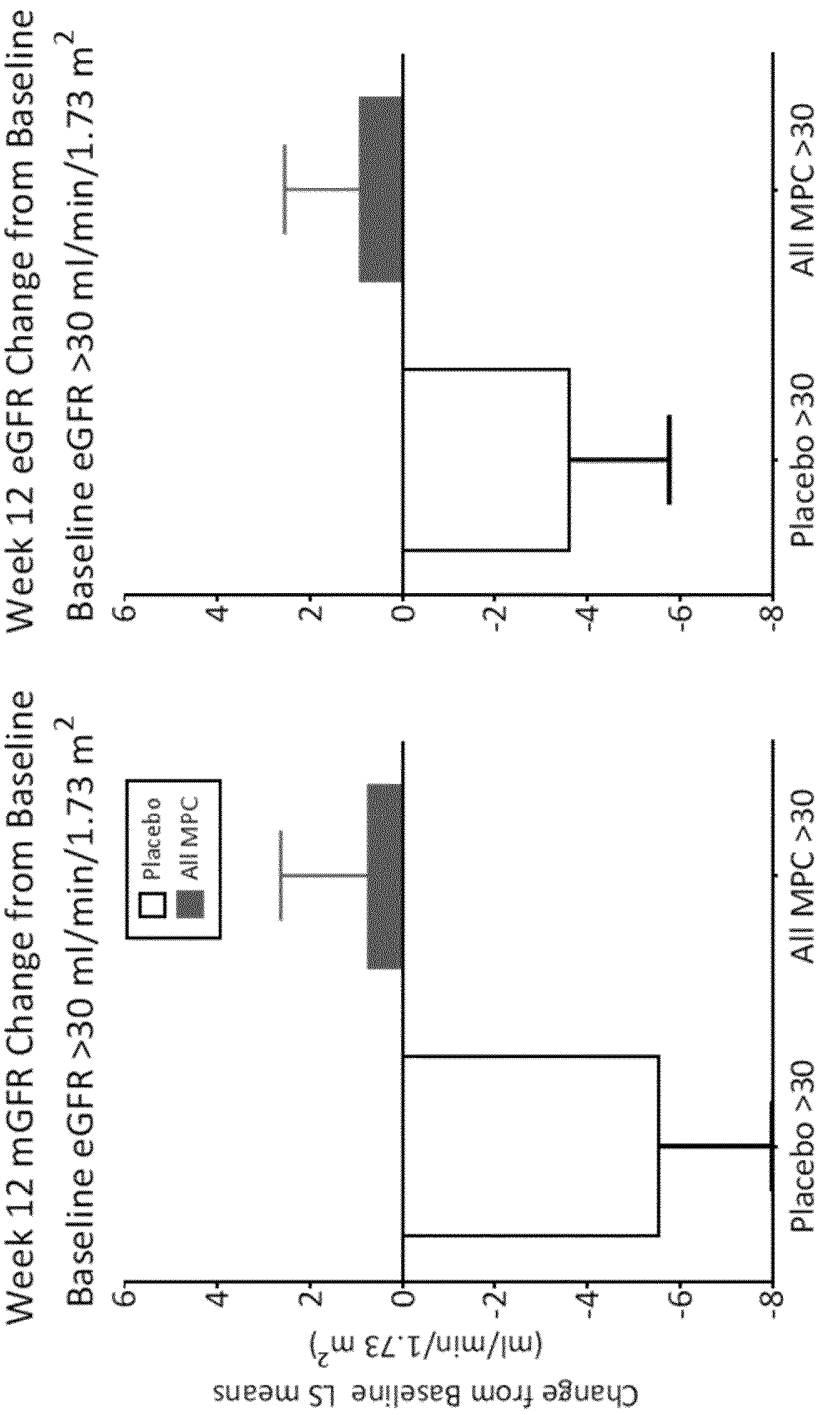

Week 12 mGFR Change from Baseline
Baseline eGFR >30 ml/min/1.73 m2
Week 12 eGFR Change from Baseline
Baseline eGFR >30 ml/min/1.73 m2
Placebo
All MPC
Change from Baseline LS means
(ml/min/1.73 m2)
6
4
2
0
-2
-4
-6
-8
Placebo >30
All MPC >30

Figure 28