Figure 1

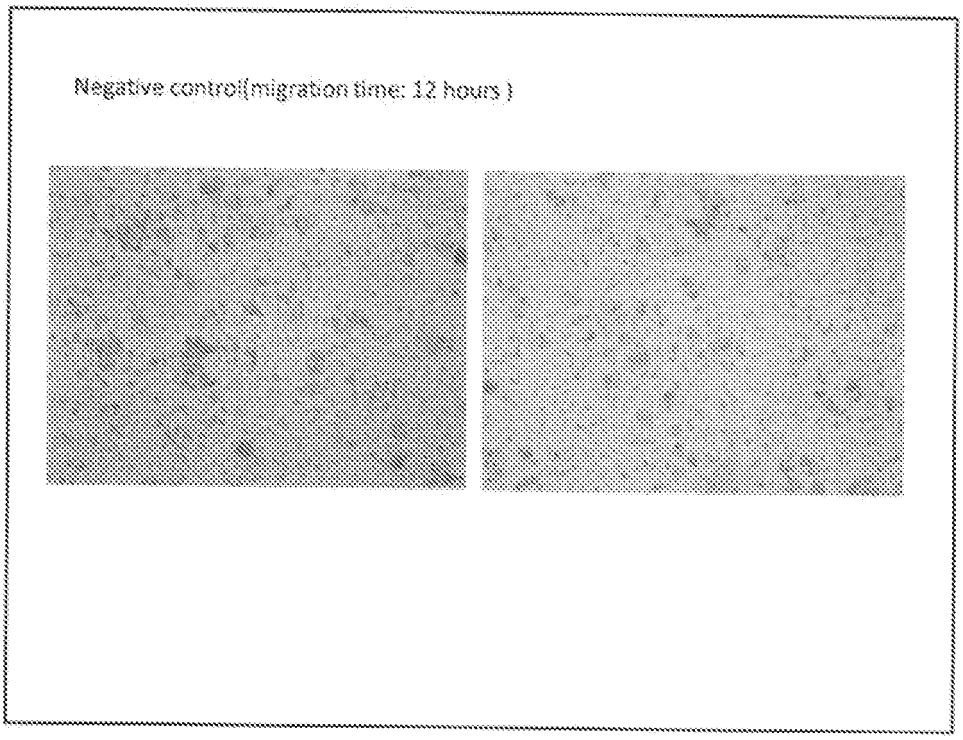


Figure 2A

Figure 2B

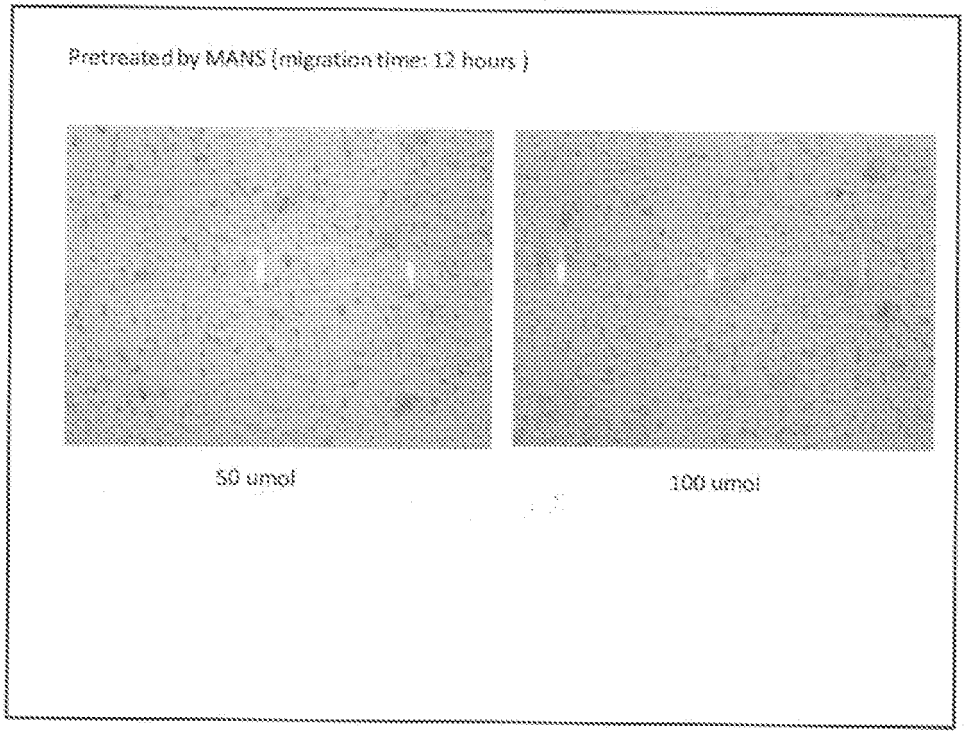


Figure 3A Figure 3B

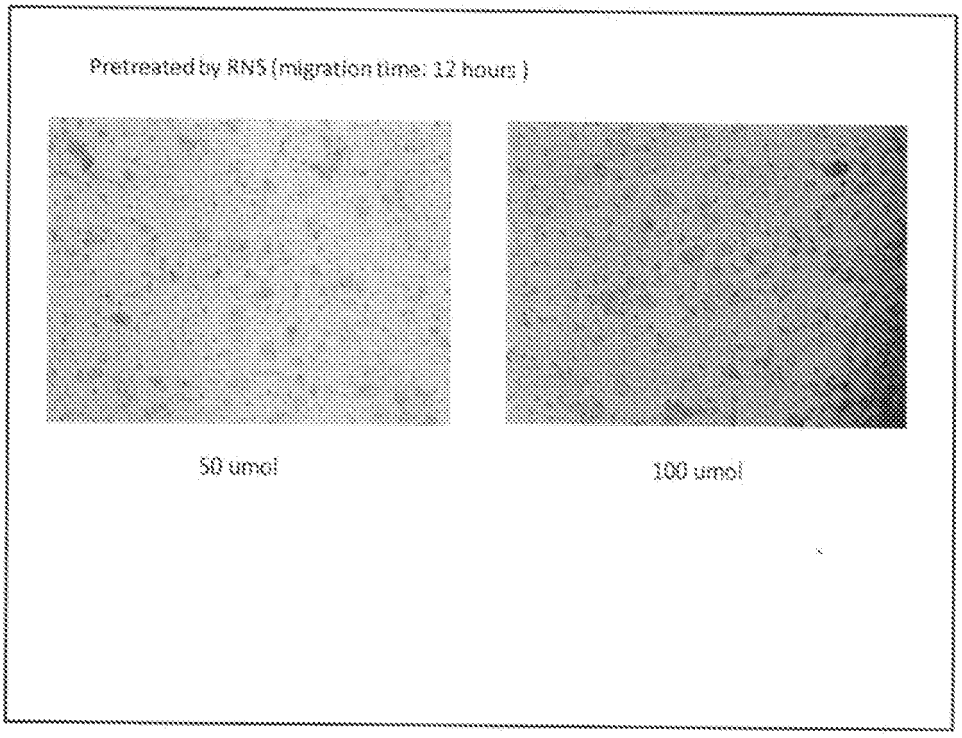


Figure 4A Figure 4B

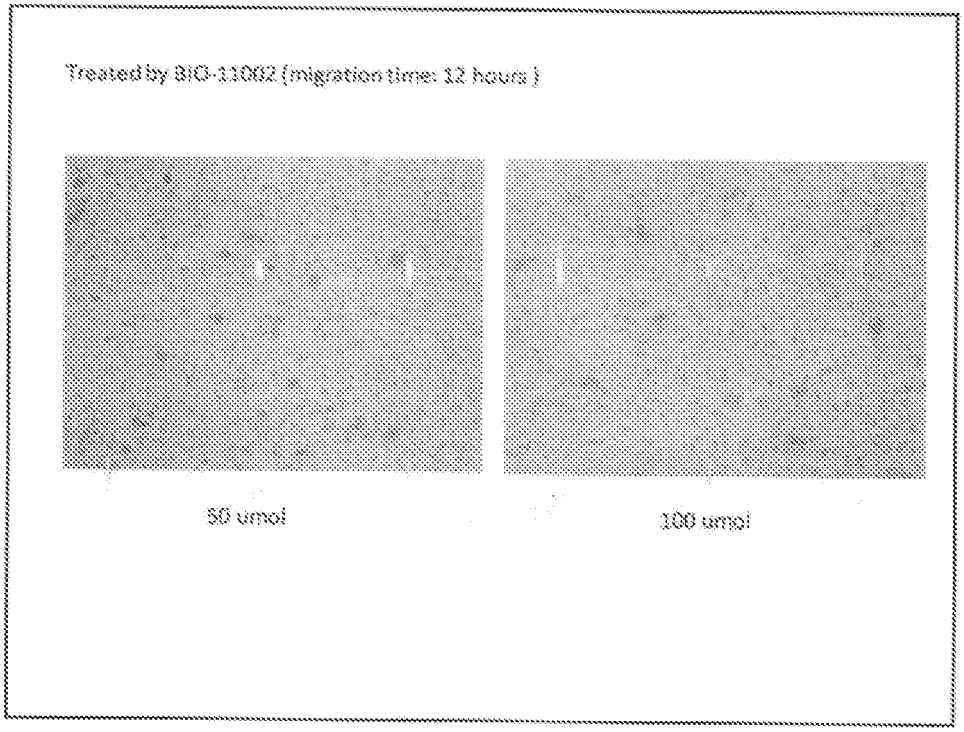


Figure 5A Figure 5B

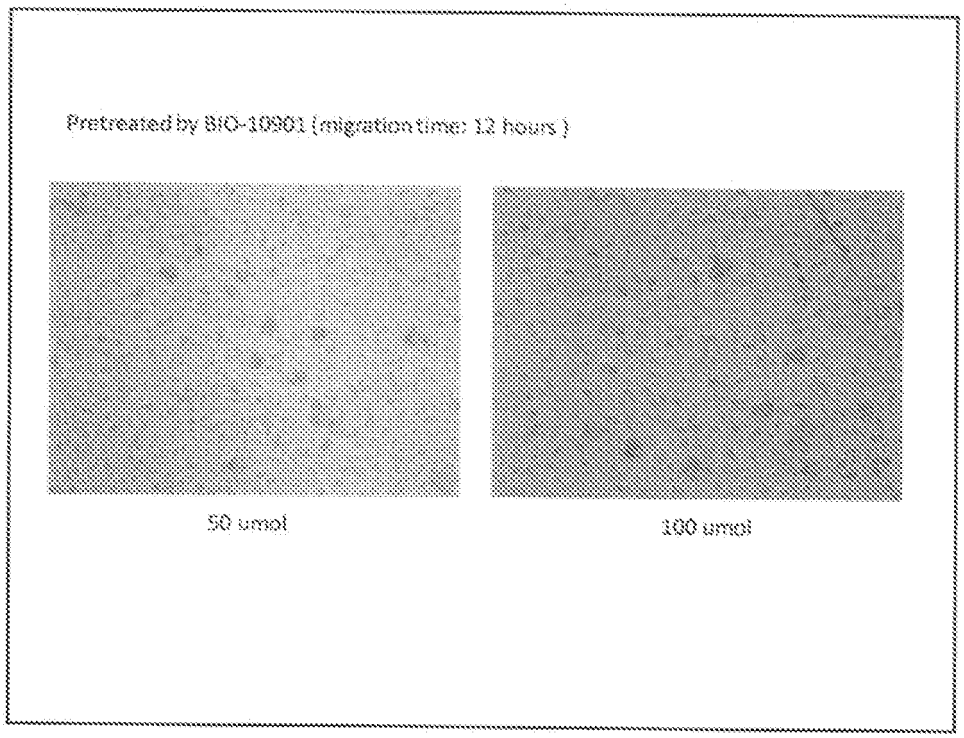


Figure 6A Figure 6B

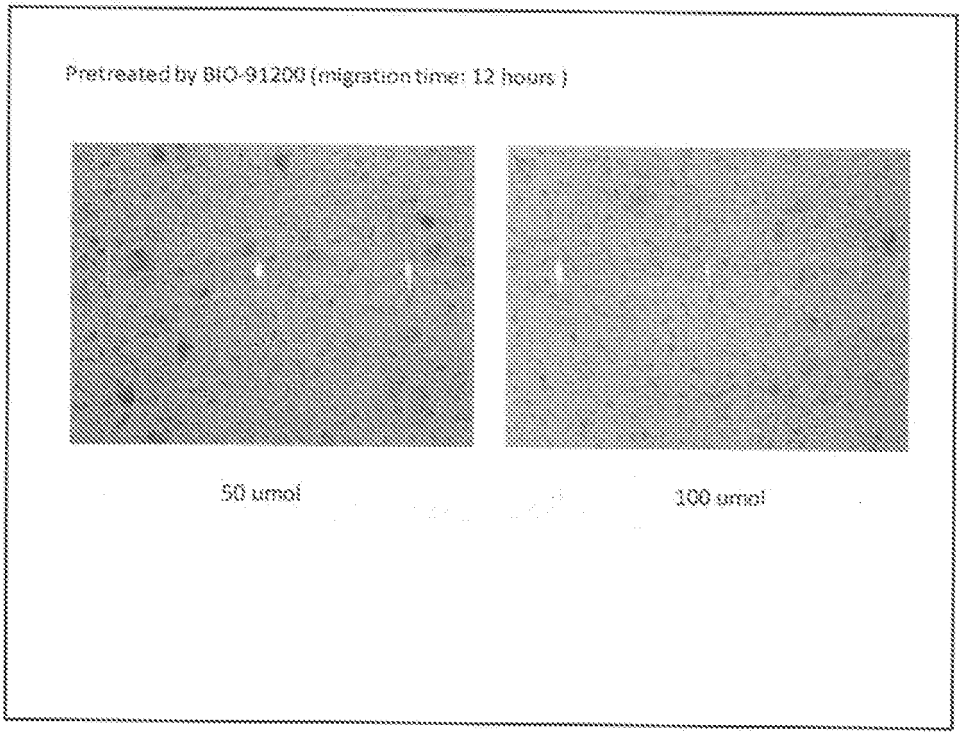


Figure 7A

Figure 7B

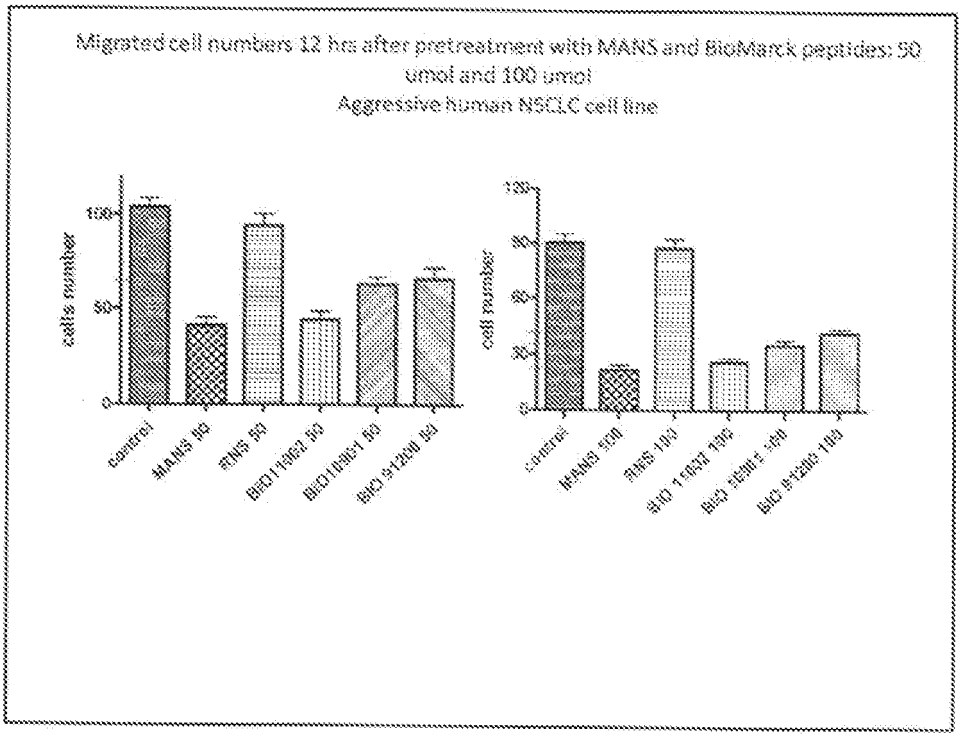


Figure 8A

Figure 8B

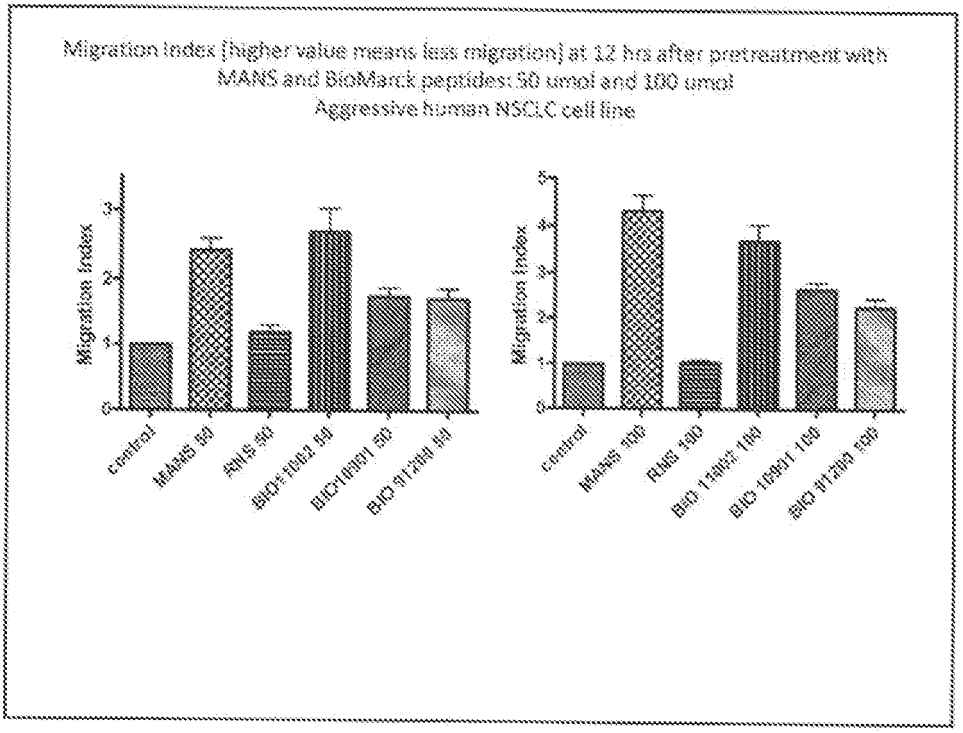


Figure 9

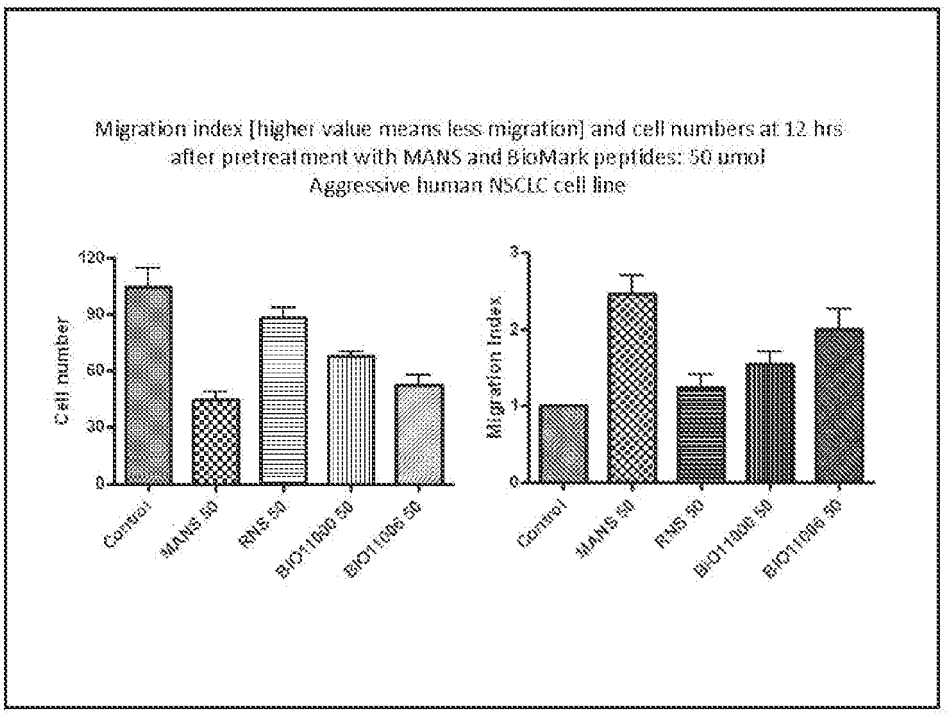


Figure 10

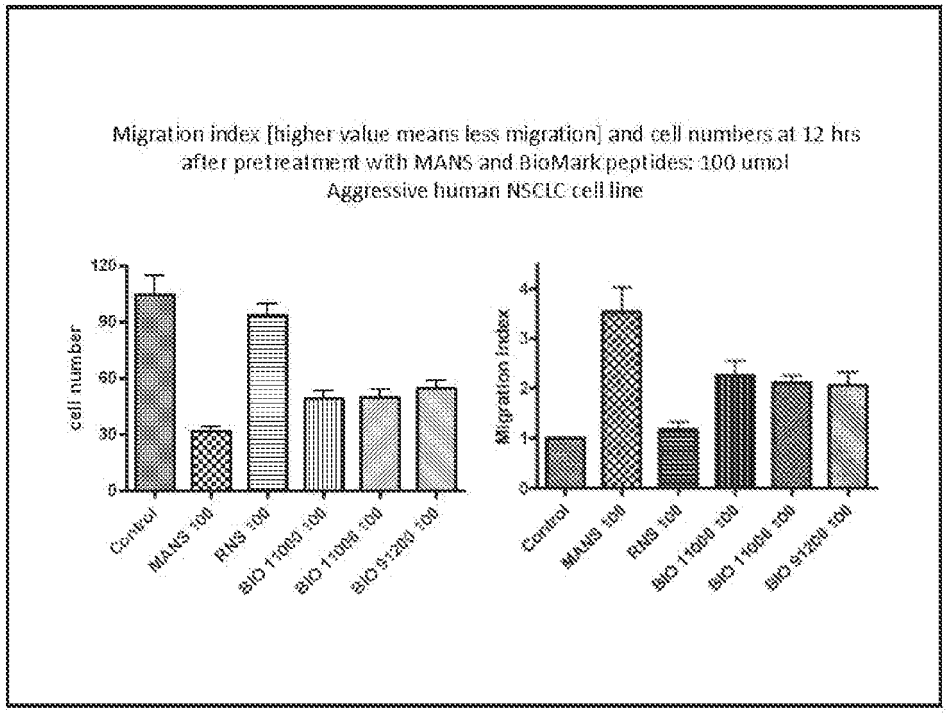
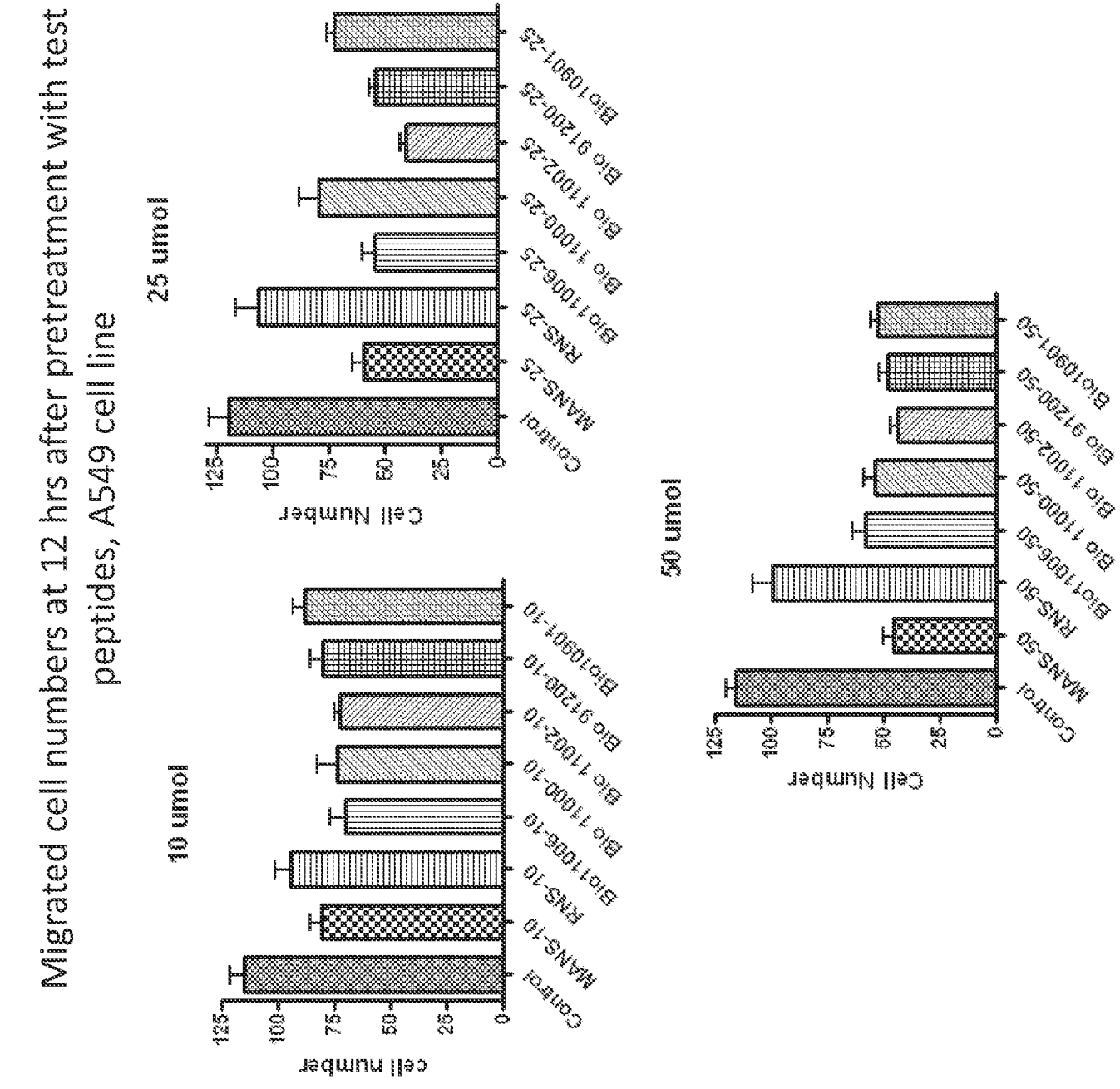


Figure 11


Migrated cell numbers at 12 hrs after pretreatment with test peptides, A549 cell line
10 umol
cell number
125
100
75
50
25
0
Control
MANS-10
RNS-10
Bio1100E-10
Bio1100-10
Bio1100Z-10
Bio 9120E-10
Bio1090T-10
25 umol
Cell Number
Control
MANS-25
RNS-25
Bio1100E-25
Bio1100-25
Bio 1100Z-25
Bio 9120E-25
Bio1090T-25
50 umol
Cell Number
Control
MANS-50
RNS-50
Bio1100E-50
Bio1100-50
Bio 1100Z-50
Bio 9120E-50
Bio1090T-50

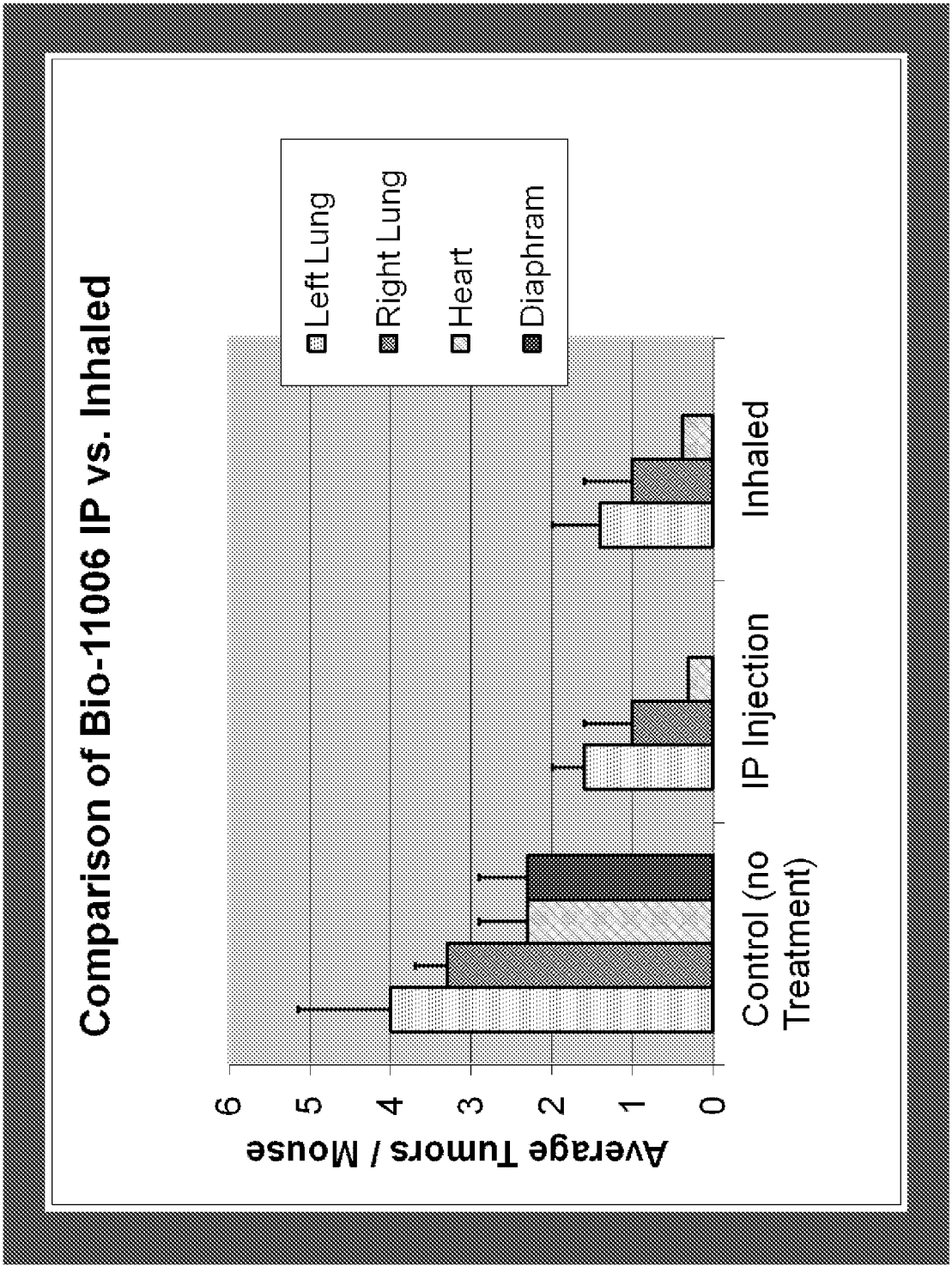

Comparison of Bio-11006 IP vs. Inhaled
Average Tumors / Mouse
0
1
2
3
4
5
6
Left Lung
Right Lung
Heart
Diaphram
Control (no Treatment)
IP Injection
Inhaled

Figure 12

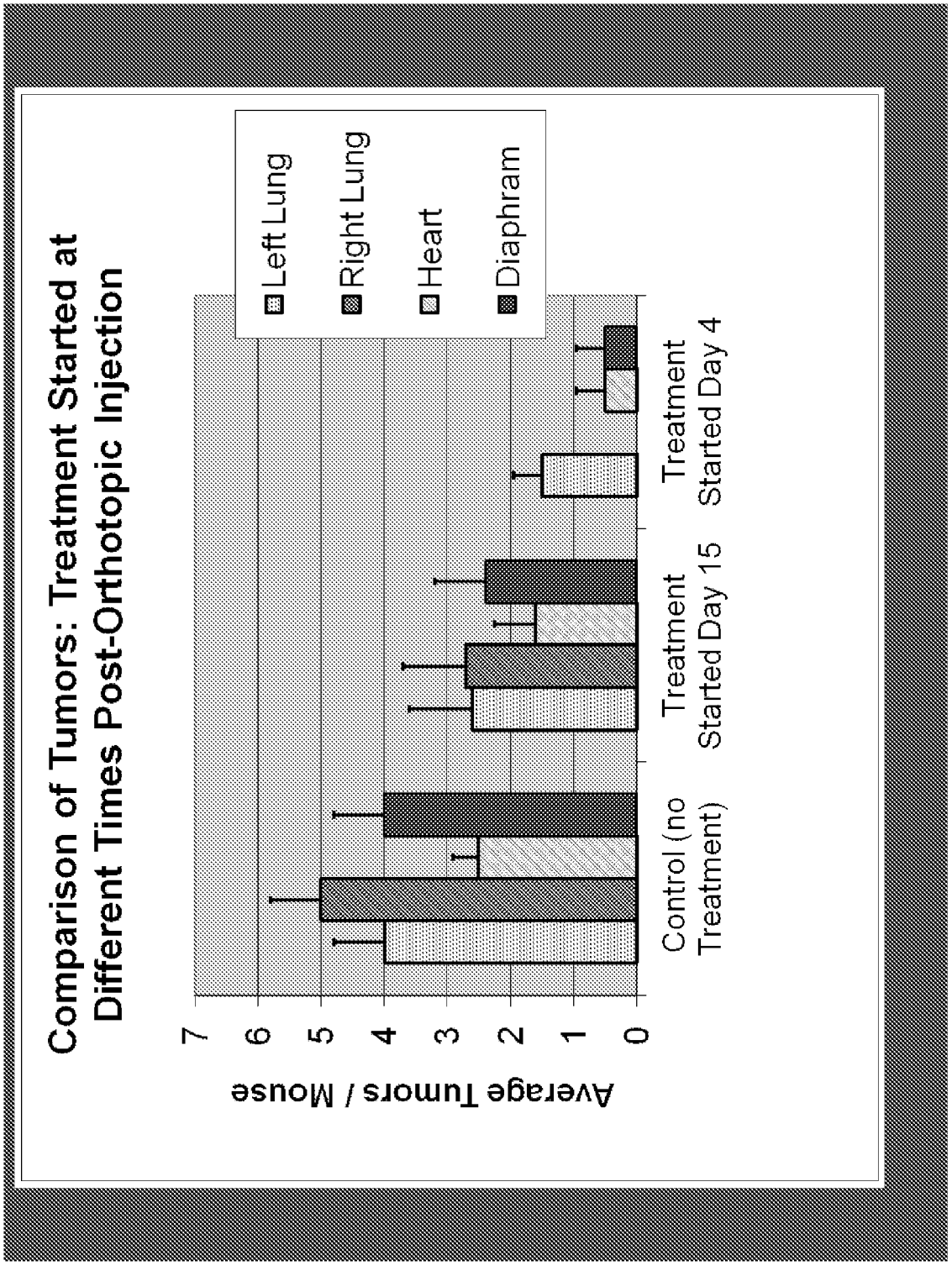

Comparison of Tumors: Treatment Started at Different Times Post-Orthotopic Injection
Average Tumors / Mouse
0
1
2
3
4
5
6
7
Left Lung
Right Lung
Heart
Diaphram
Control (no Treatment)
Treatment Started Day 15
Treatment Started Day 4

Figure 13

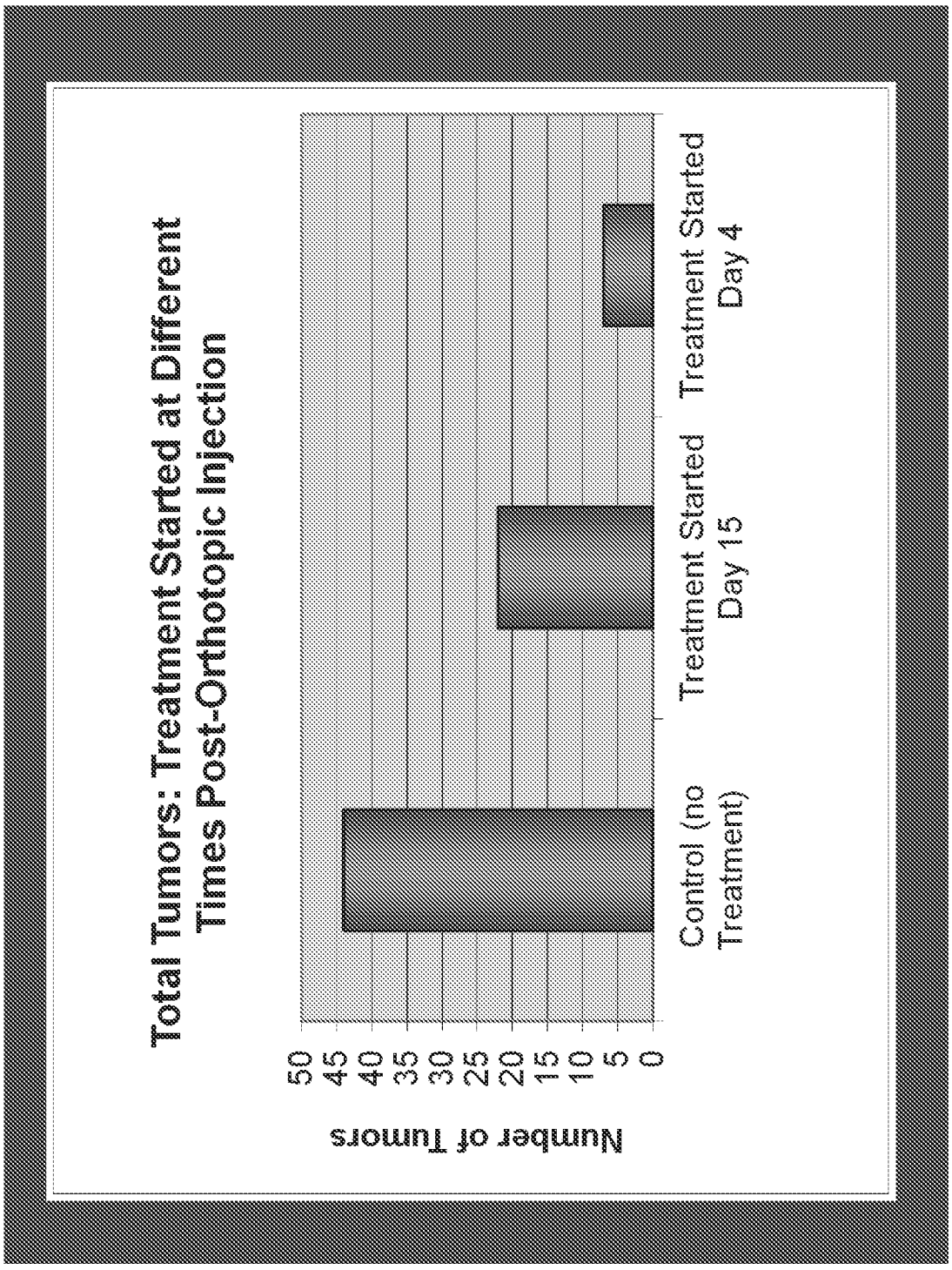
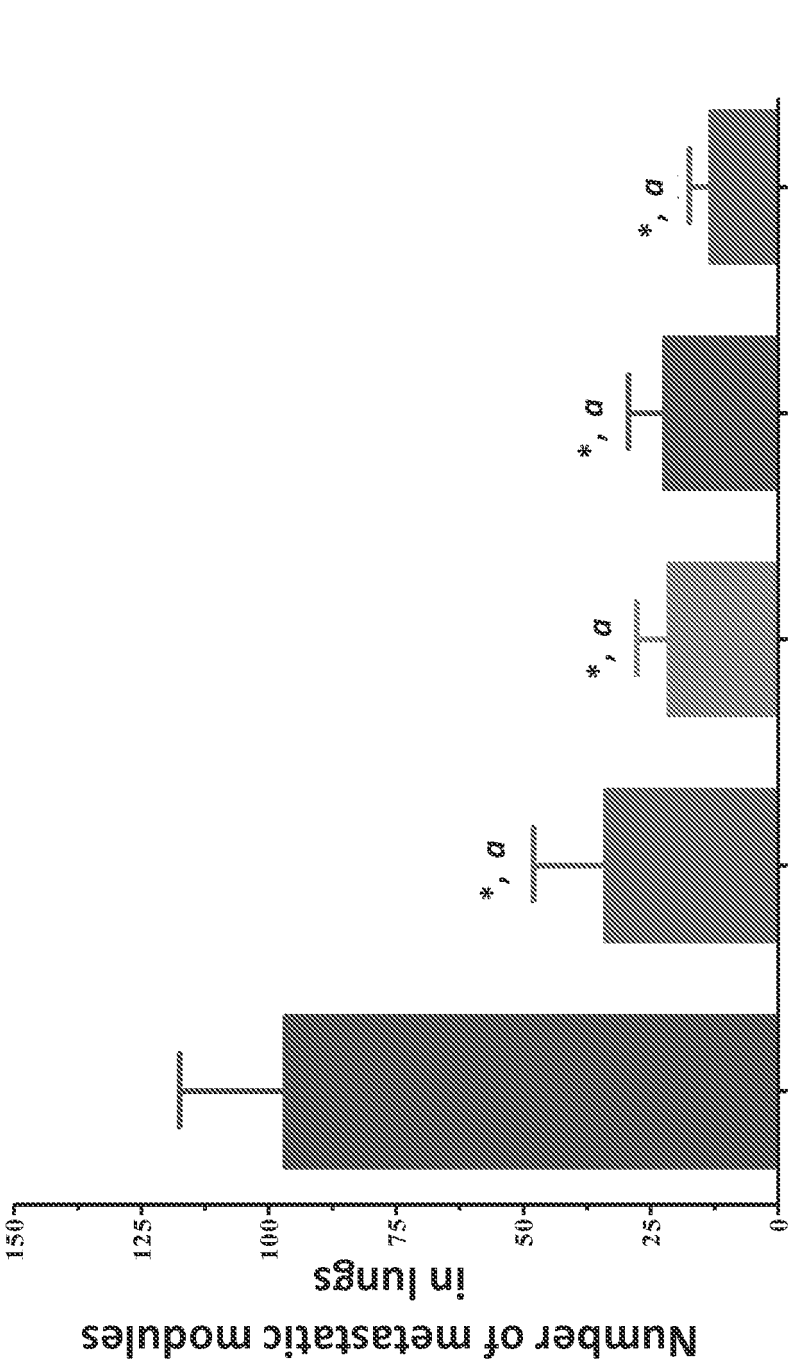

Total Tumors: Treatment Started at Different Times Post-Orthotopic Injection
Number of Tumors
50
45
40
35
30
25
20
15
10
5
0
Control (no Treatment)
Treatment Started Day 15
Treatment Started Day 4

Figure 14

Figure 15



** p<0.05, Statistically significant compared to control group; a. Statistically non-significant in comparison among various groups*

Figure 16

MARCKS protein expression (Y-Axis) is decreased ~60% in PC-9 Cells following siRNA-M treatment. Level of MARCKS protein assessed via Western Blot

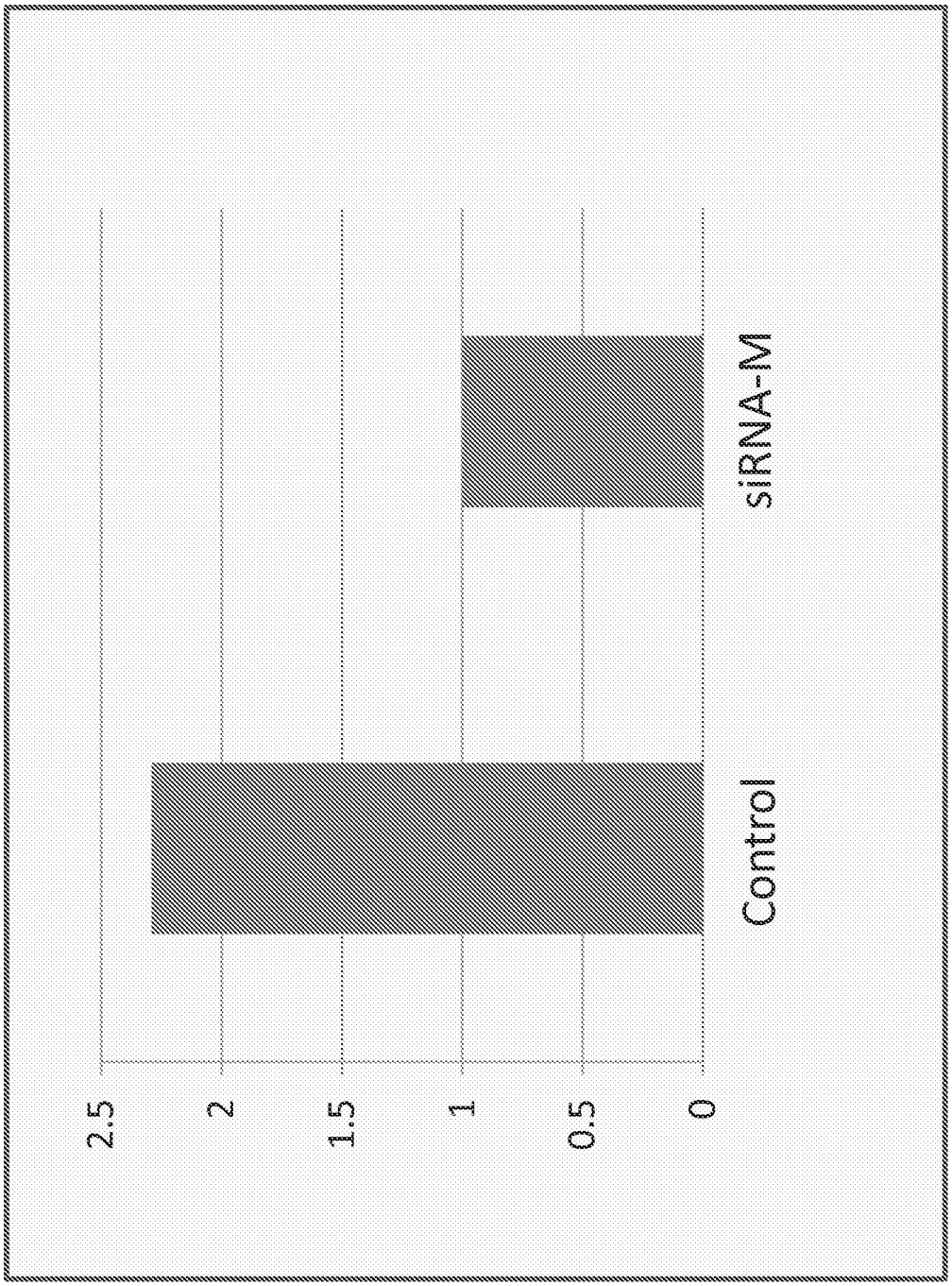


Figure 17

MARCKS protein expression (Y-Axis) is decreased ~50% in A549 Cells following siRNA-M treatment. Level of MARCKS protein assessed via Western Blot

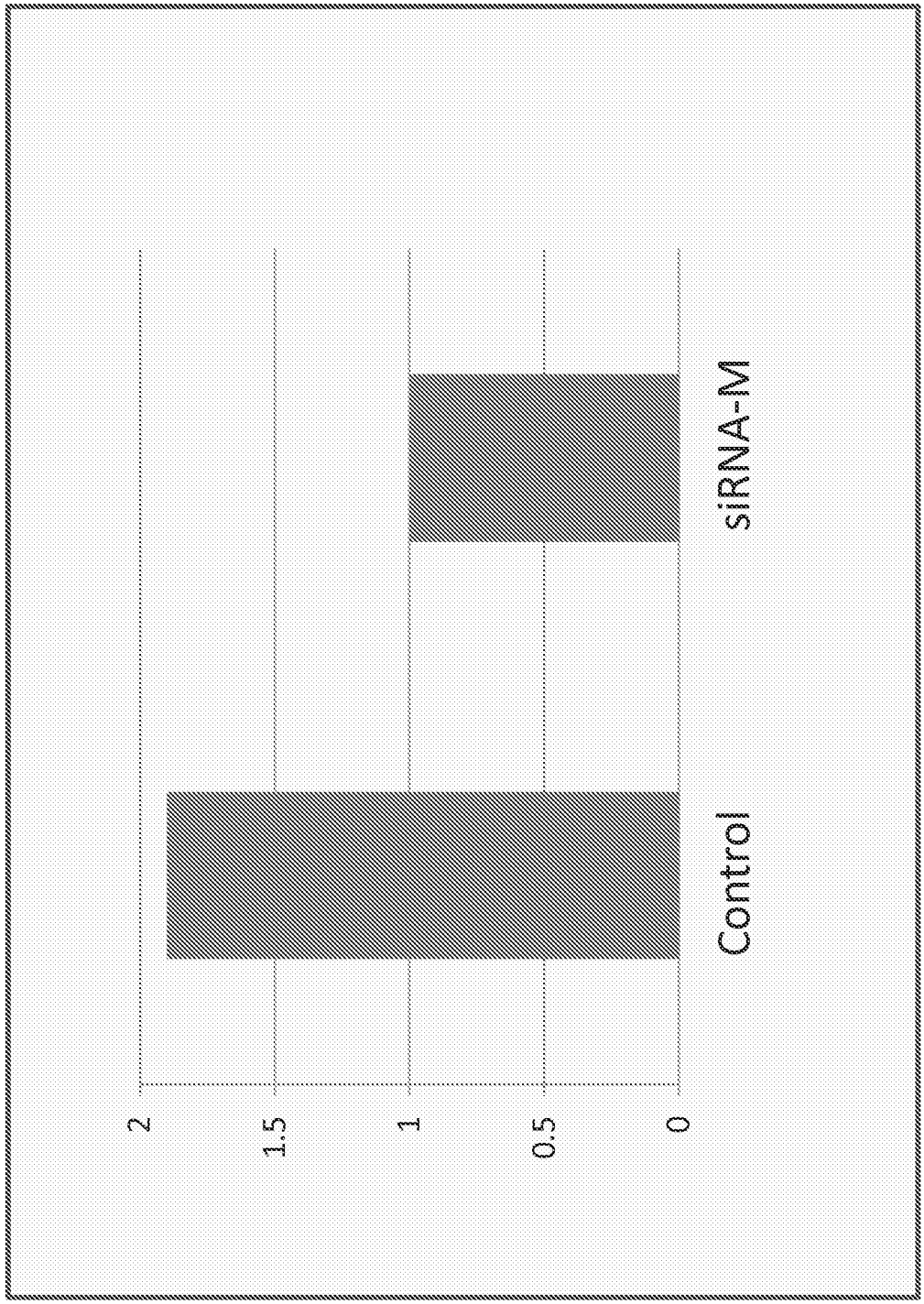


Figure 18

Knockdown of MARCKS in PC-9 cells by MARCKS siRNA resulted in ~ 90% reduction in cell migration

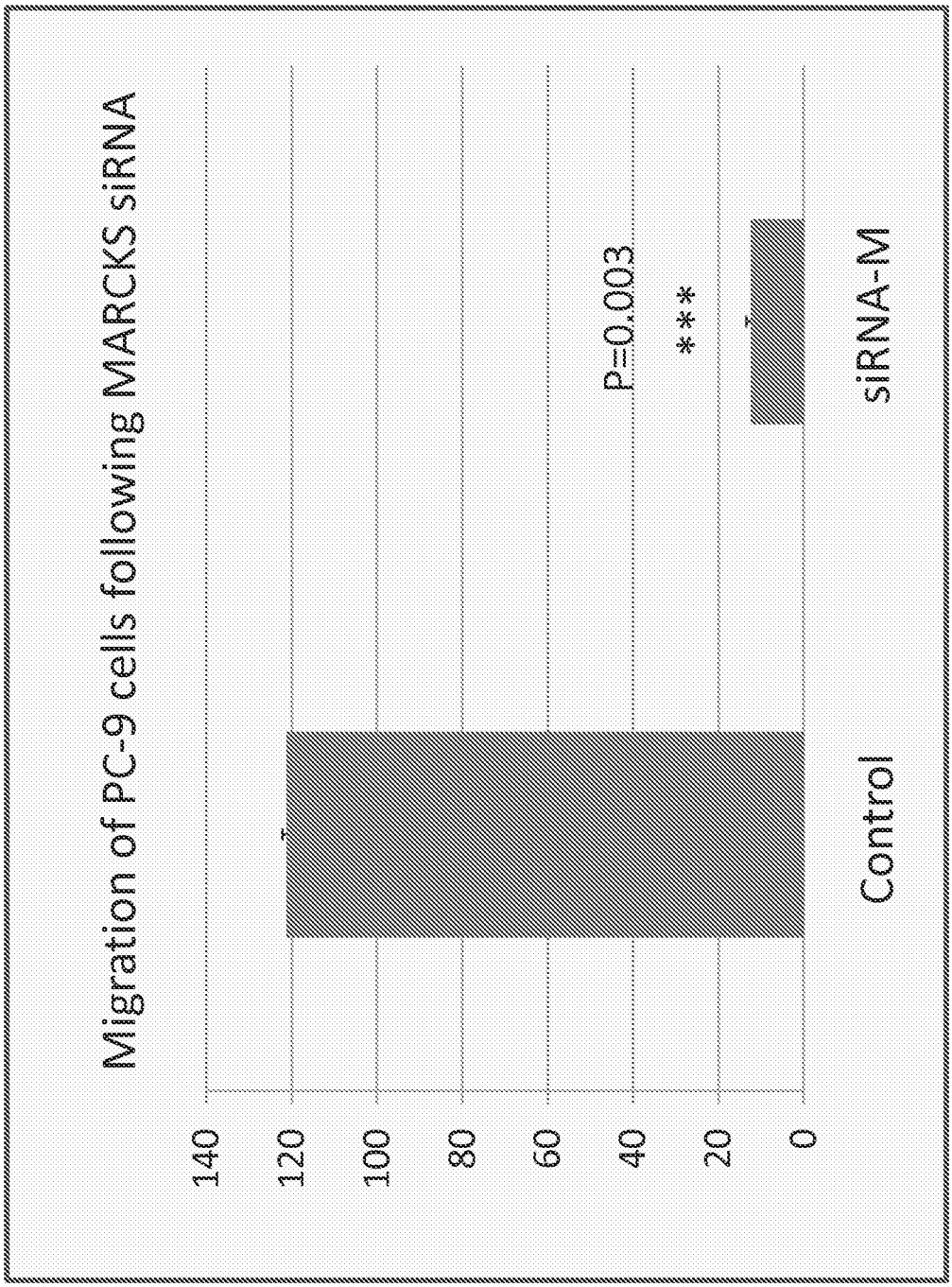
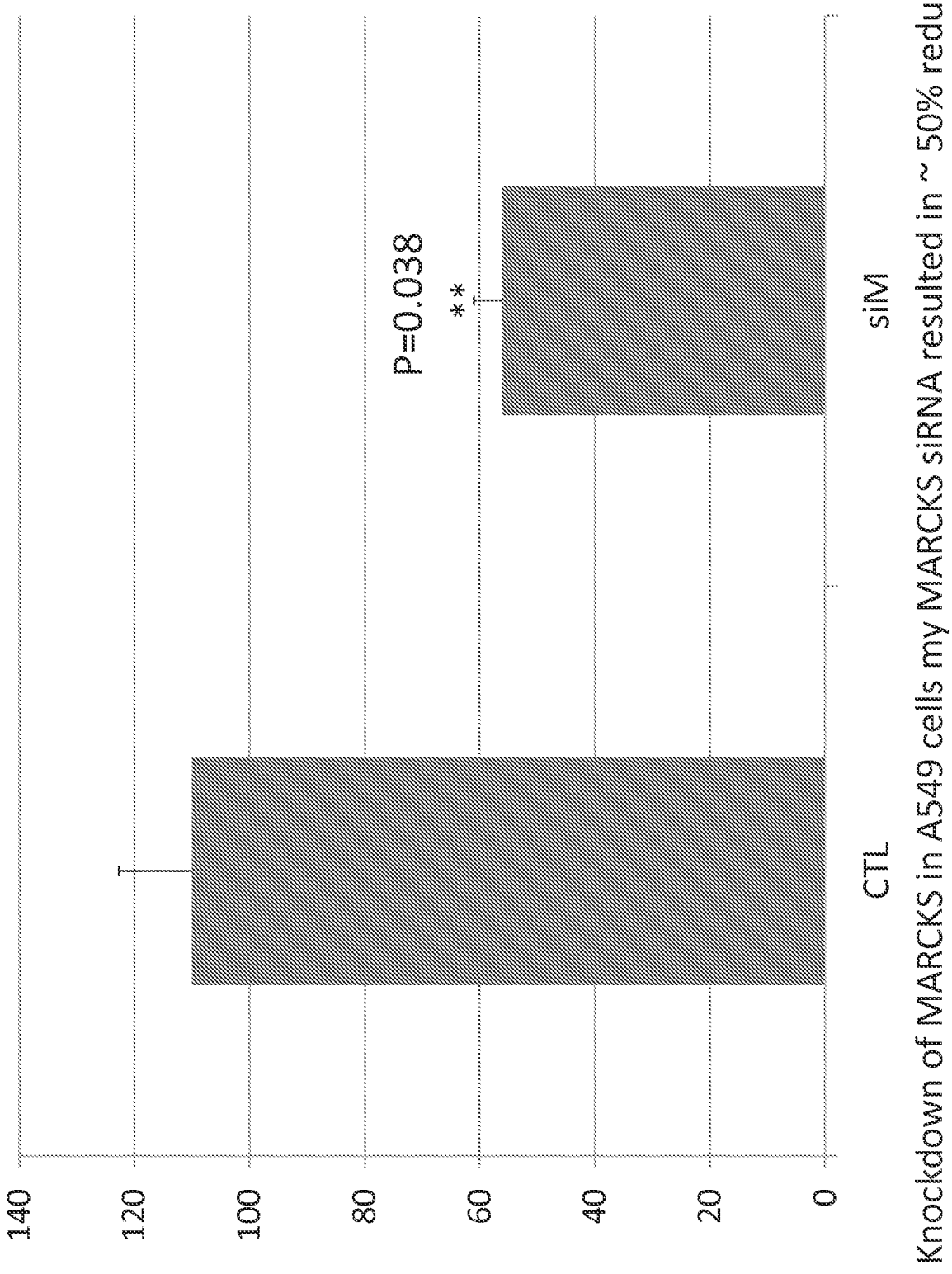
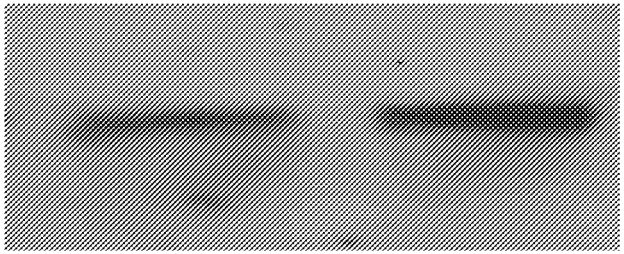


Figure 19



Knockdown of MARCKS in A549 cells my MARCKS siRNA resulted in ~ 50% reduction in cell migration

Figure 20



A: miR-21 negative control 50nM
B: miR-21 inhibitor 50nM

PC9 (P15) cells were transfected with 50nM of negative control (HiPerfect vehicle) or the miR-21 inhibitor. After 48 hours, cell were harvested and protein analysis by Western Blot with MARCKS antibody.

The miR-21 inhibitor increased MARCKS protein expression in PC-9 cells ~ 2.5 fold.

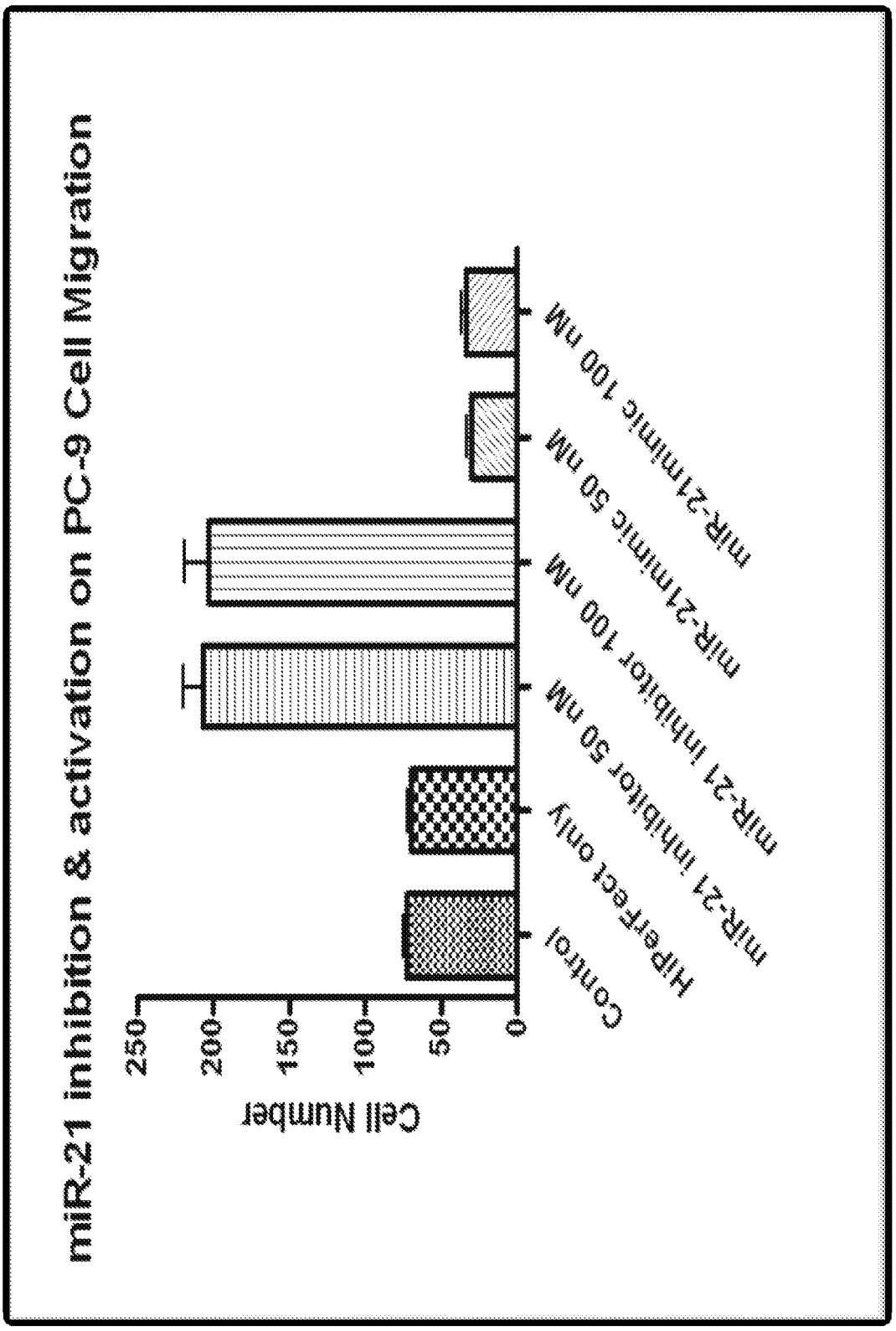

miR-21 inhibition & activation on PC-9 Cell Migration
Cell Number
250
200
150
100
50
0
Control
HiPerFect only
miR-21 inhibitor 50 nM
miR-21 inhibitor 100 nM
miR-21mimic 50 nM
miR-21mimic 100 nM

Figure 21