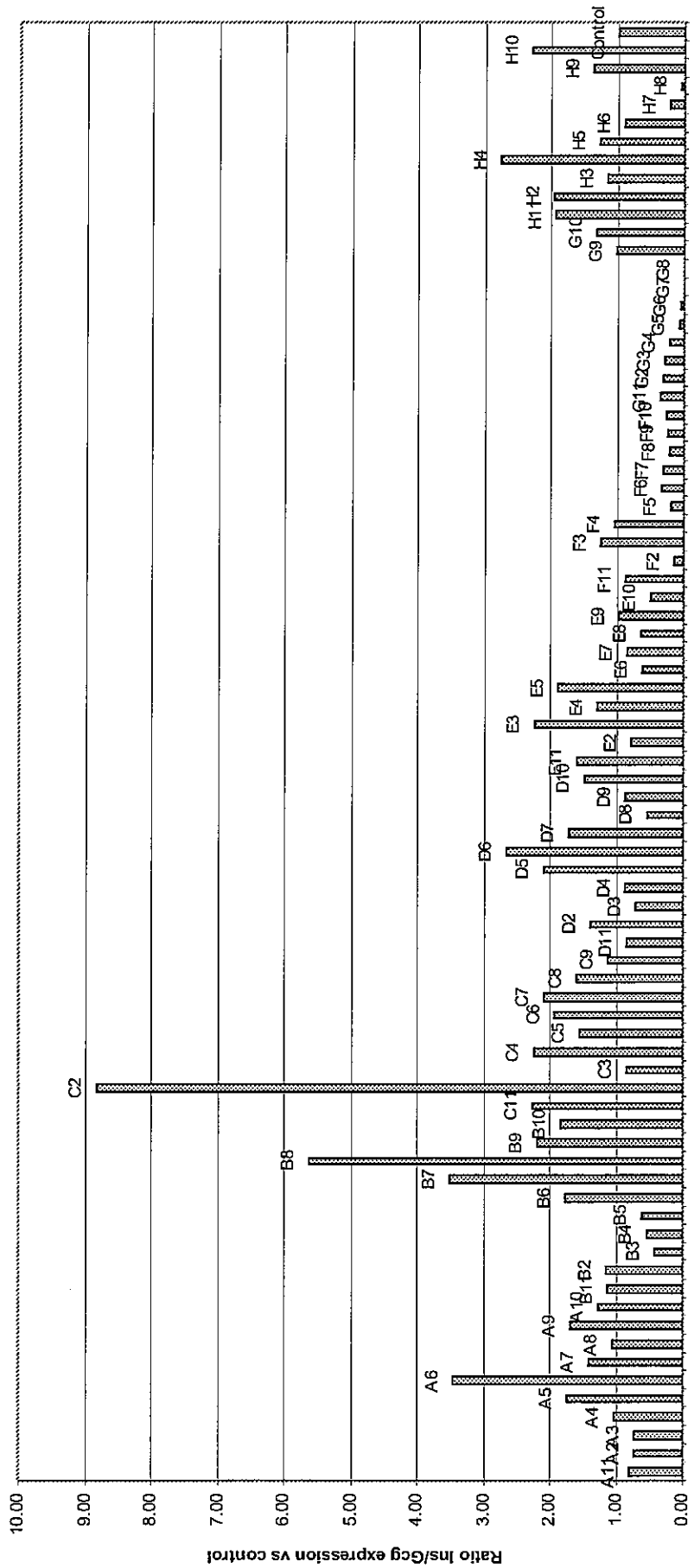
Figure 1

~~1/16~~

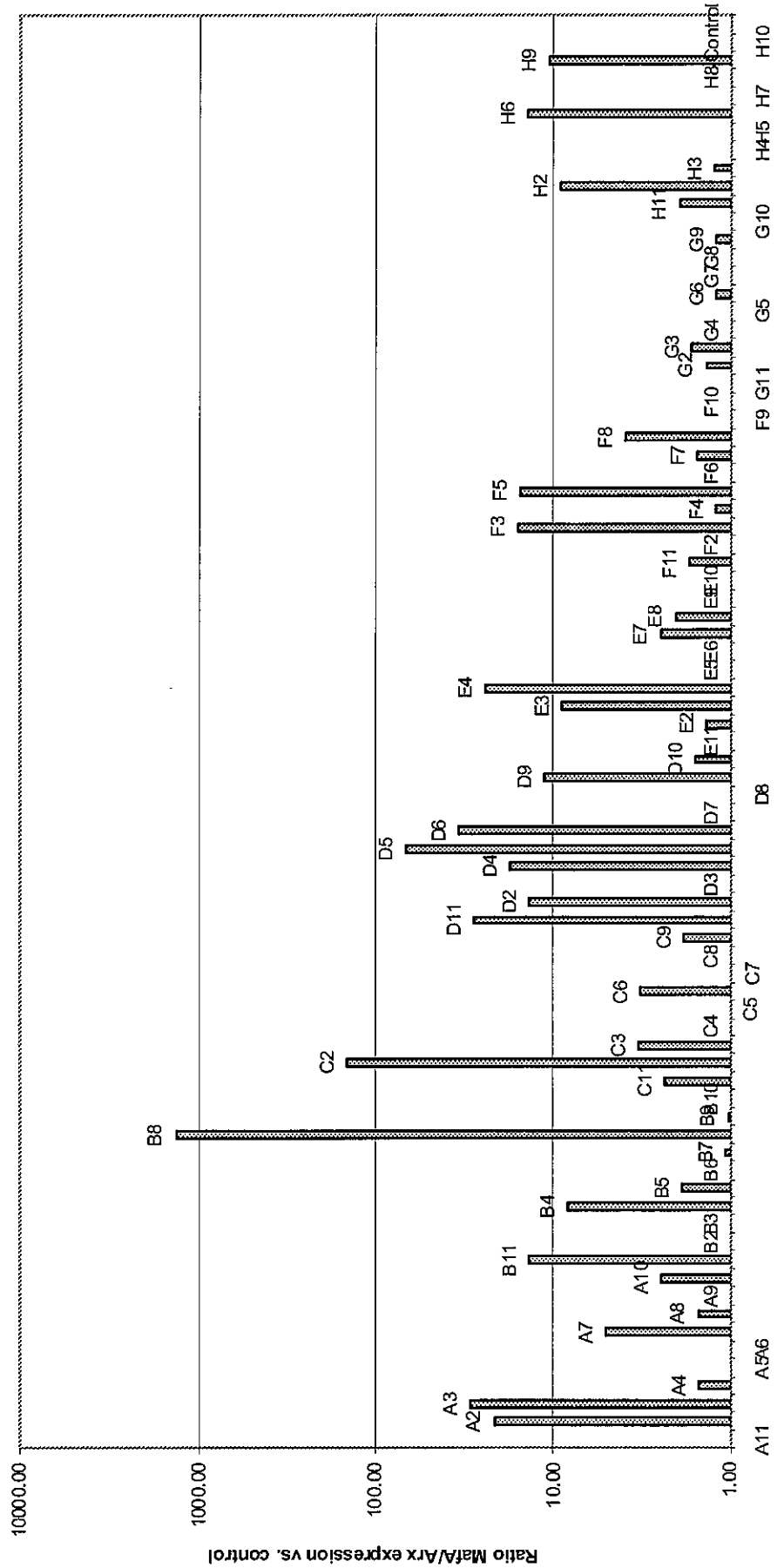
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CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

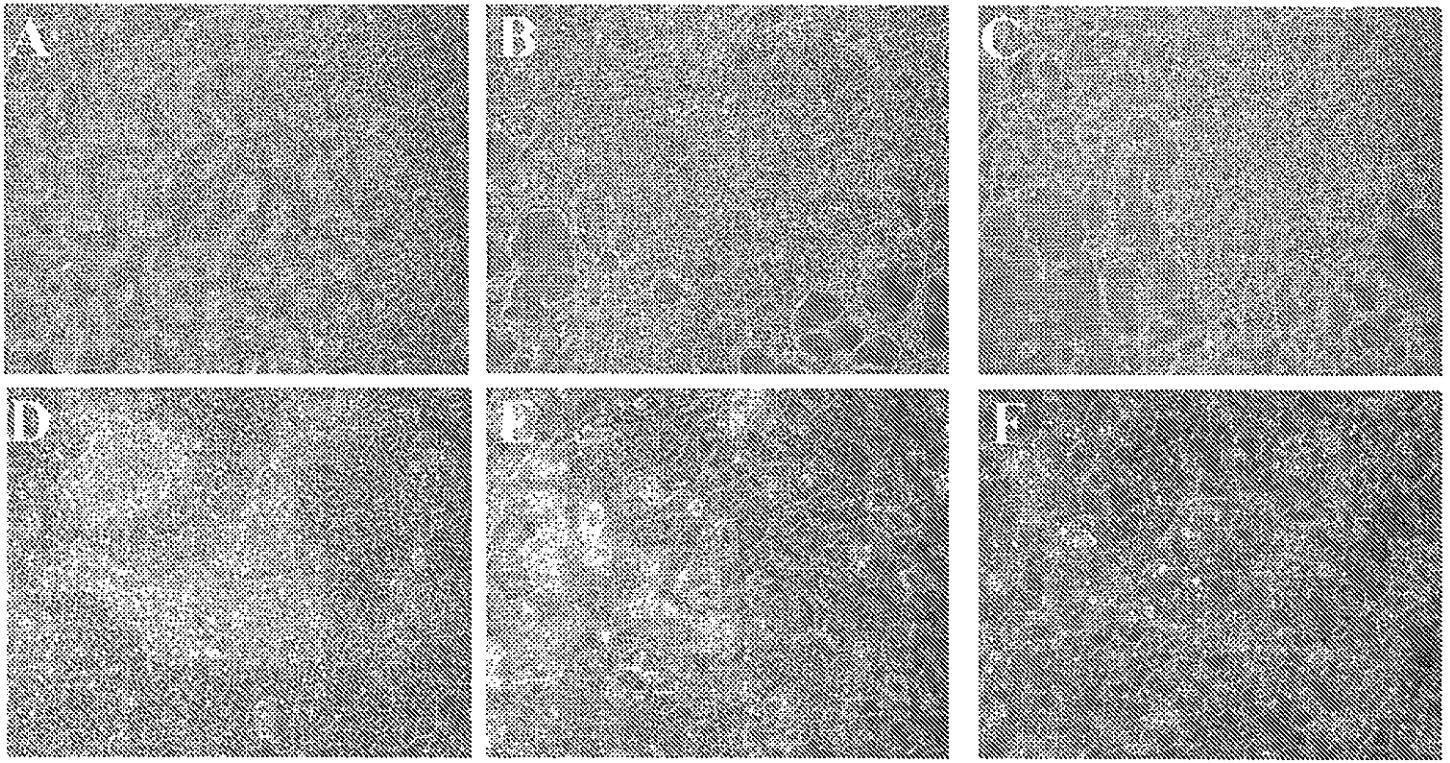
Figure 1

b)



CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 2



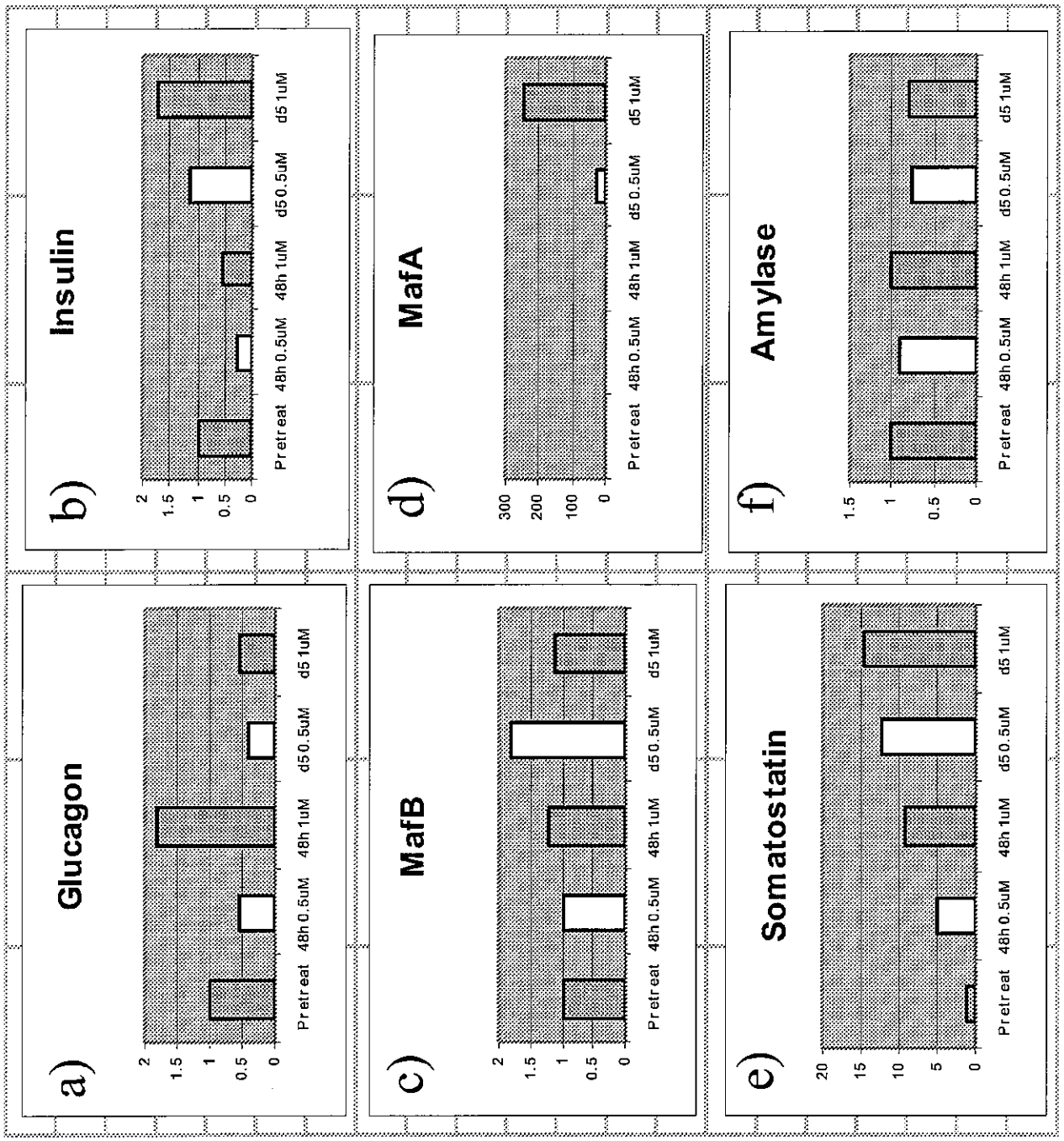


Figure 3 #16

CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

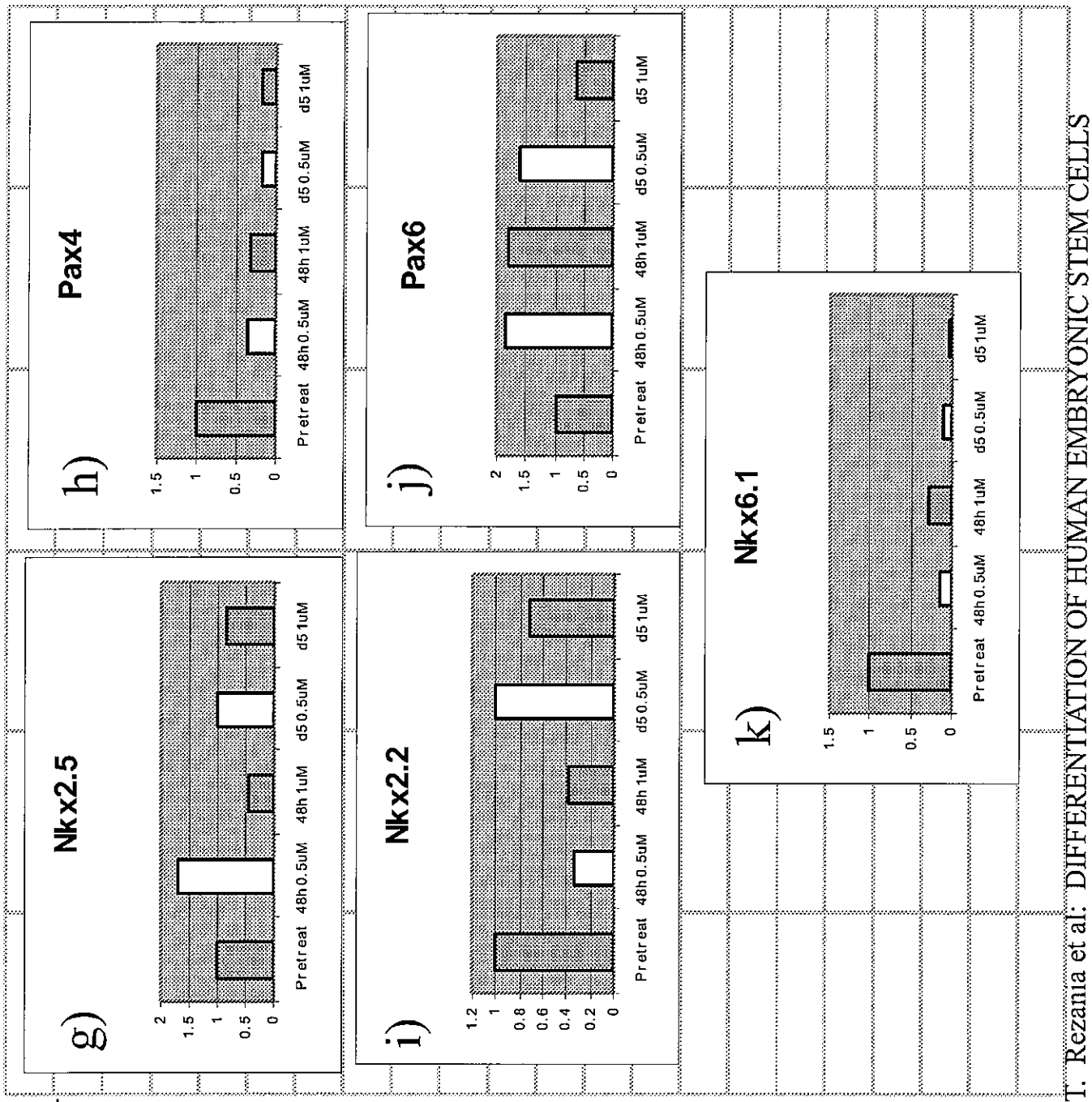


Figure 3 5/16

CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

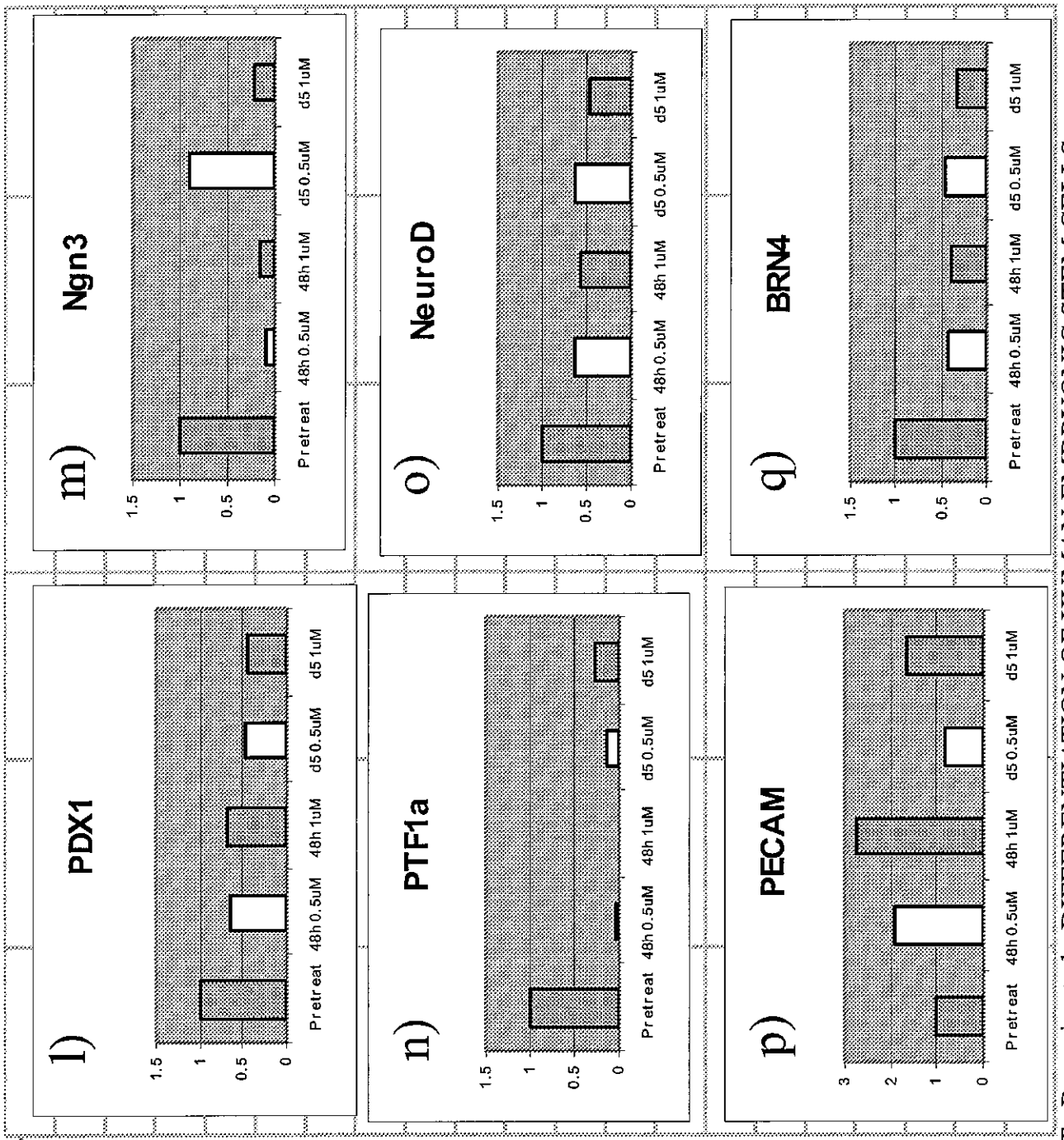


Figure 3 6/46

CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

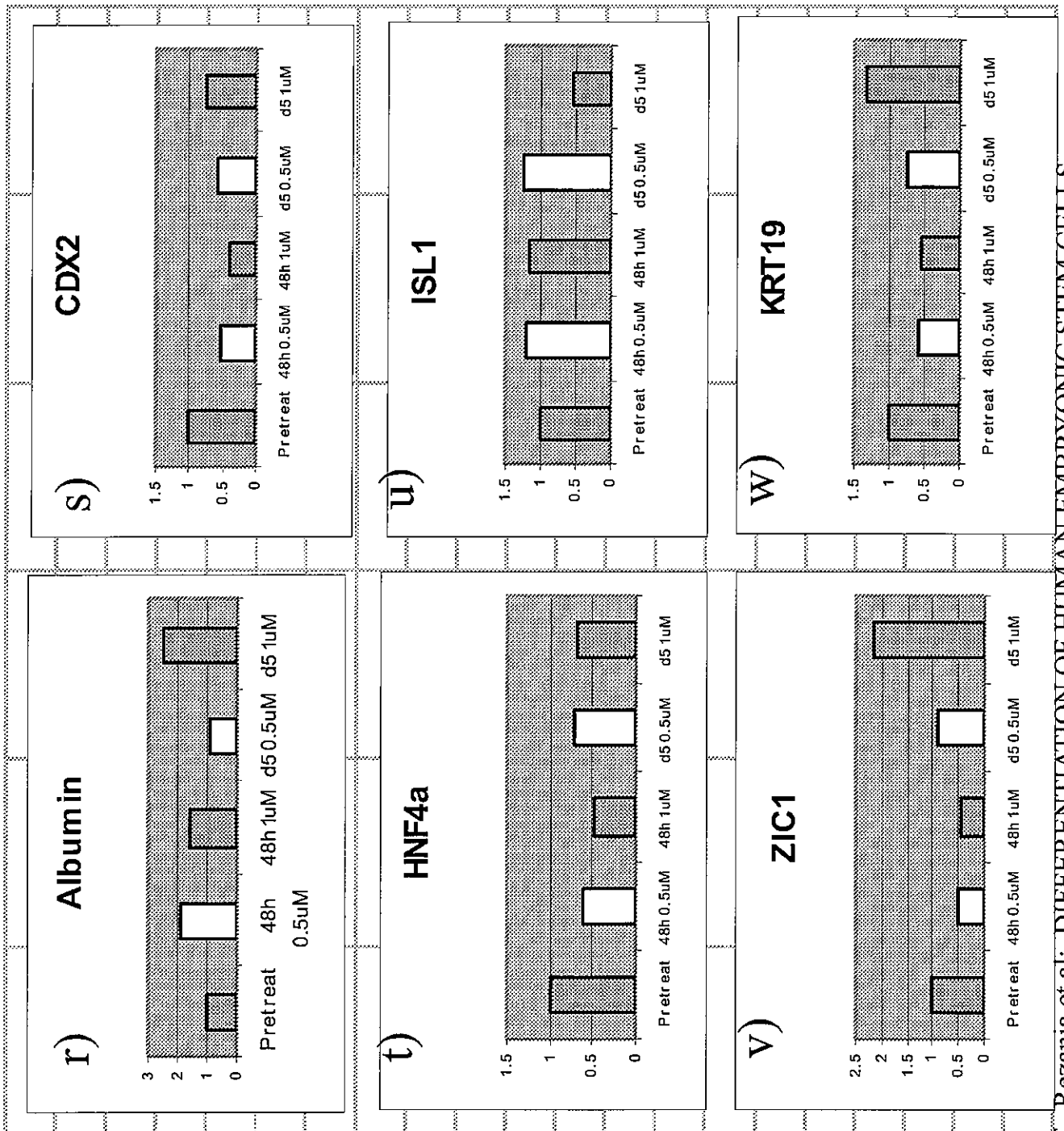
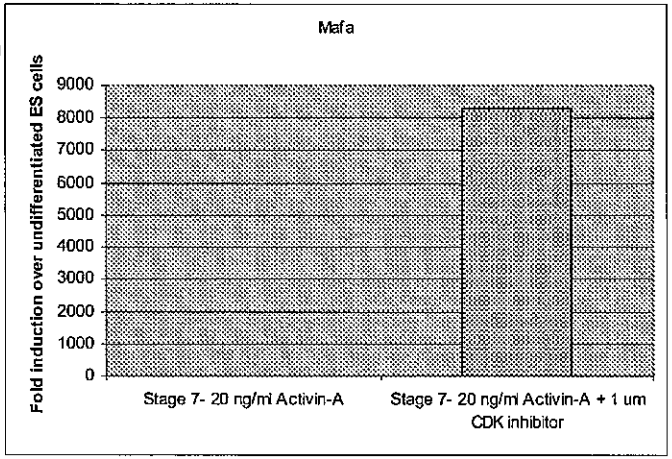


Figure 3 7/16

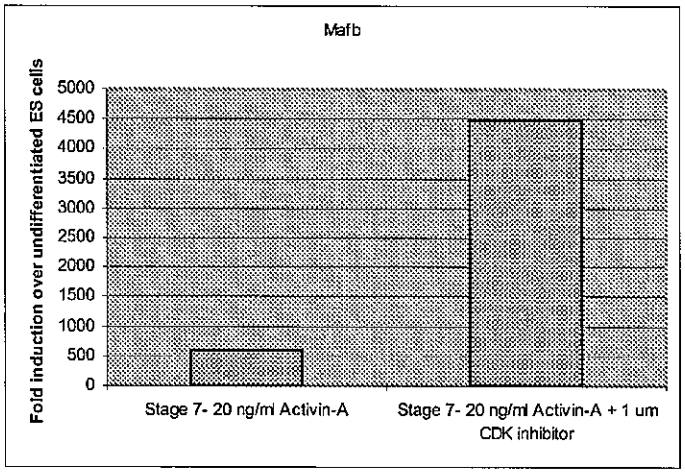
CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 4

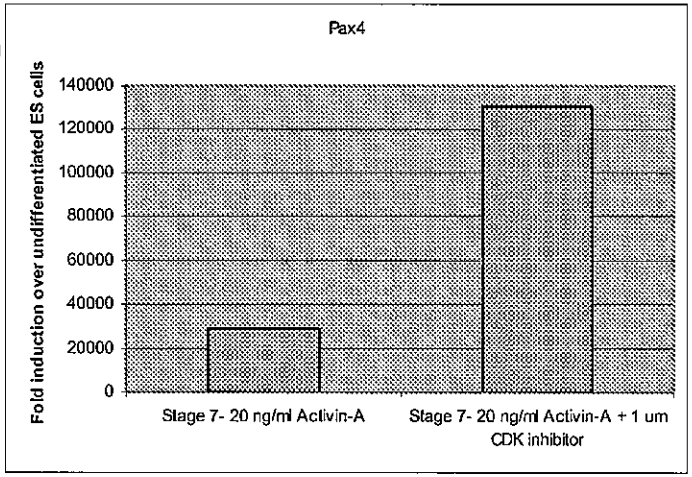
a)



b)



c)



d)

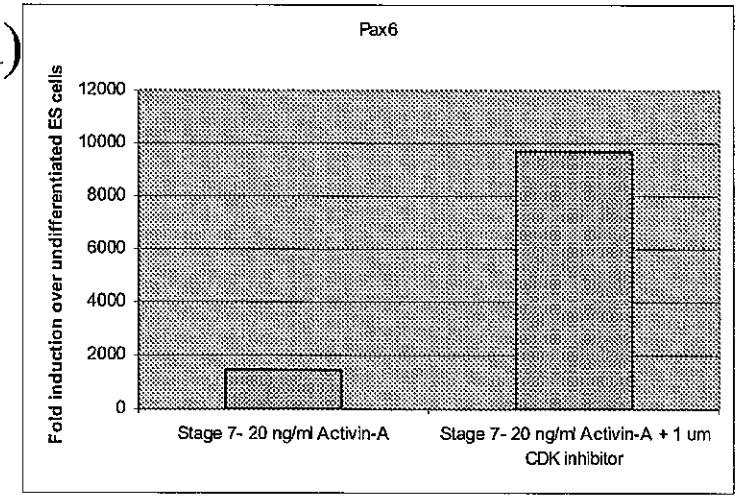
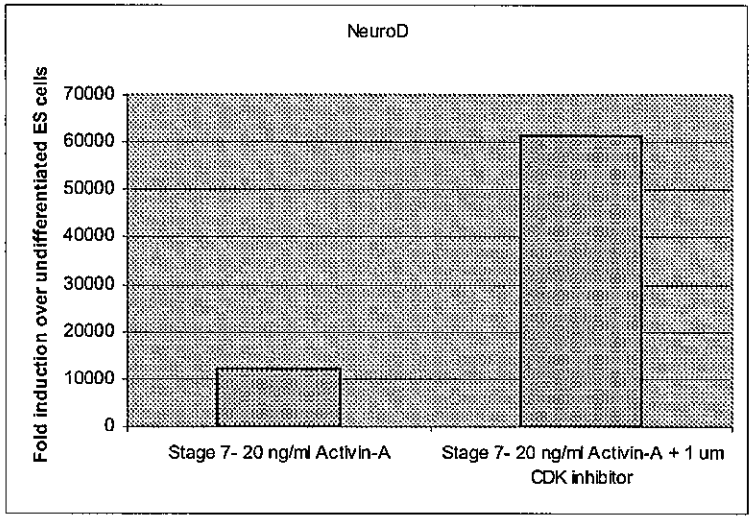
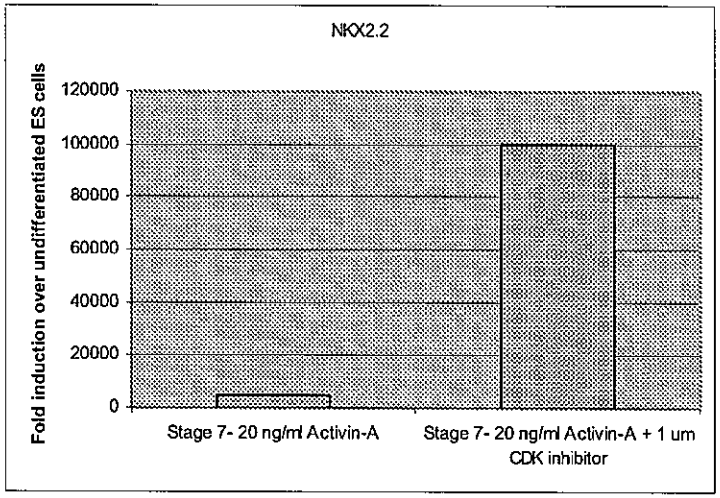


Figure 4

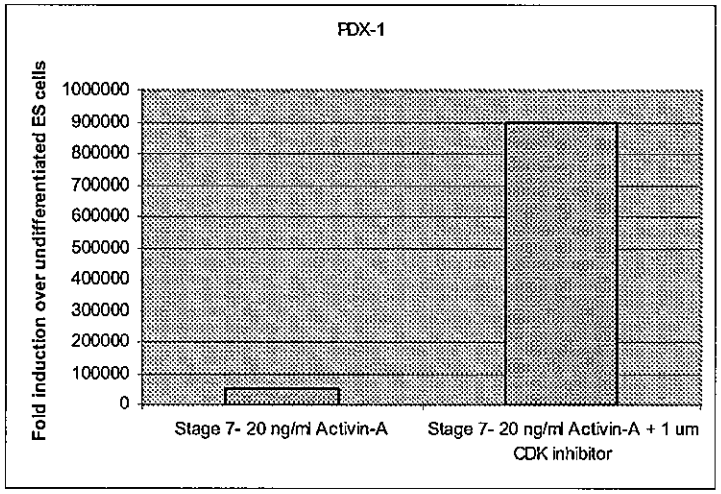
e)



f)



g)



h)

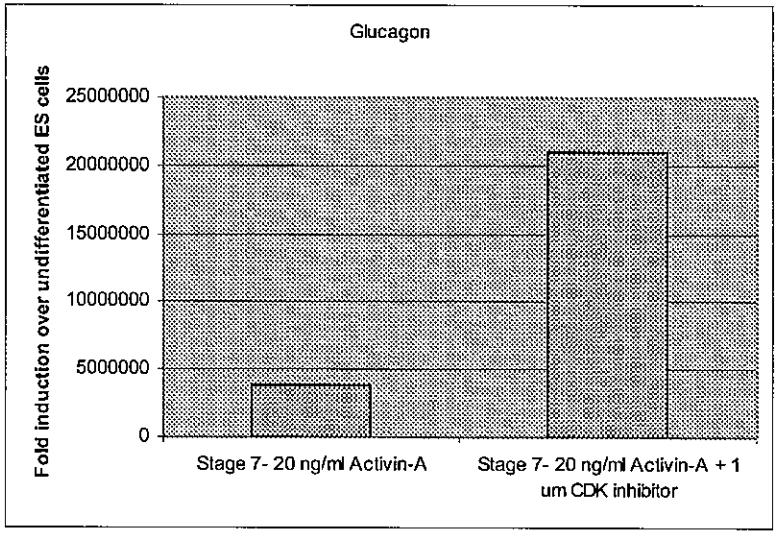


Figure 4

i)

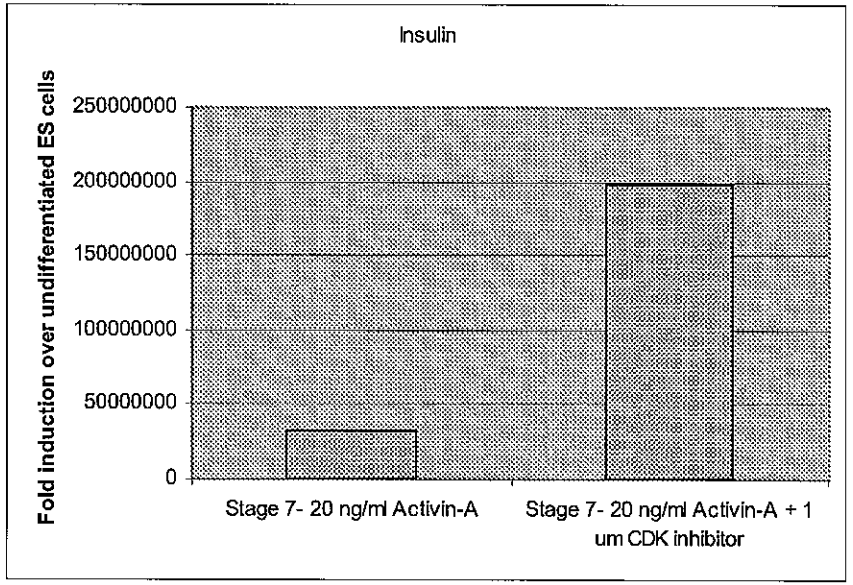
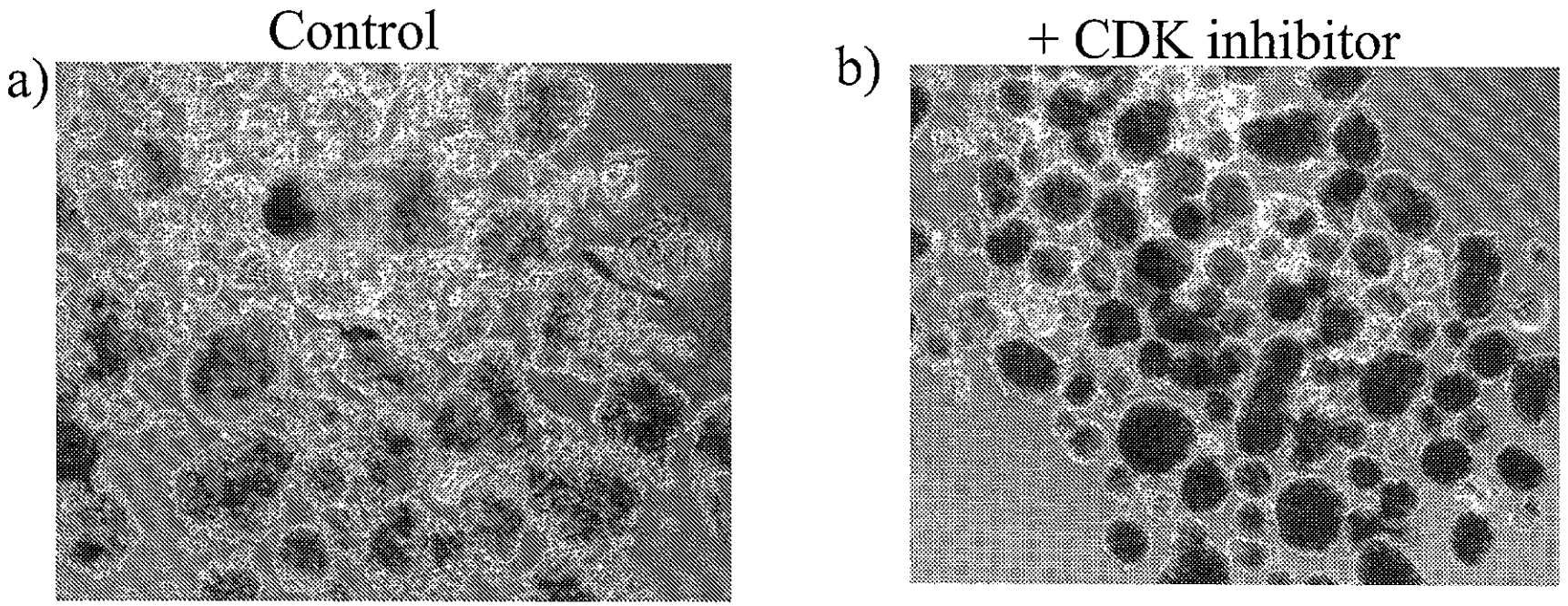

Insulin
Fold induction over undifferentiated ES cells
250000000
200000000
150000000
100000000
50000000
0
Stage 7- 20 ng/ml Activin-A
Stage 7- 20 ng/ml Activin-A + 1 um CDK inhibitor

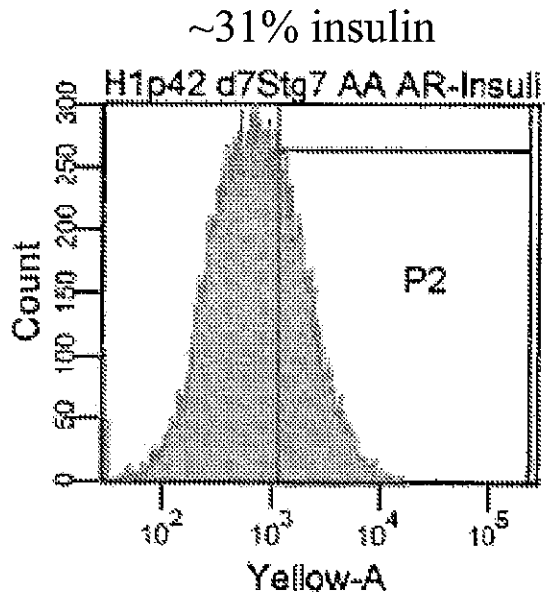
Figure 5



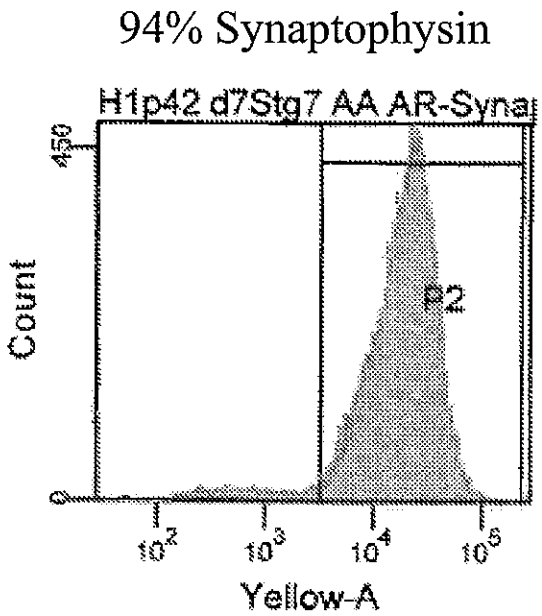
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Figure 6

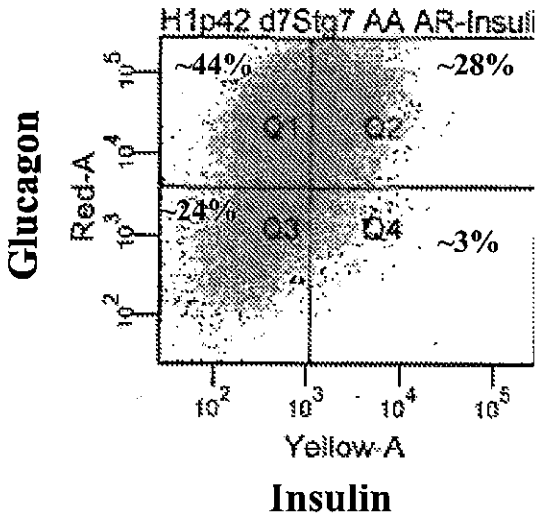
a)



b)

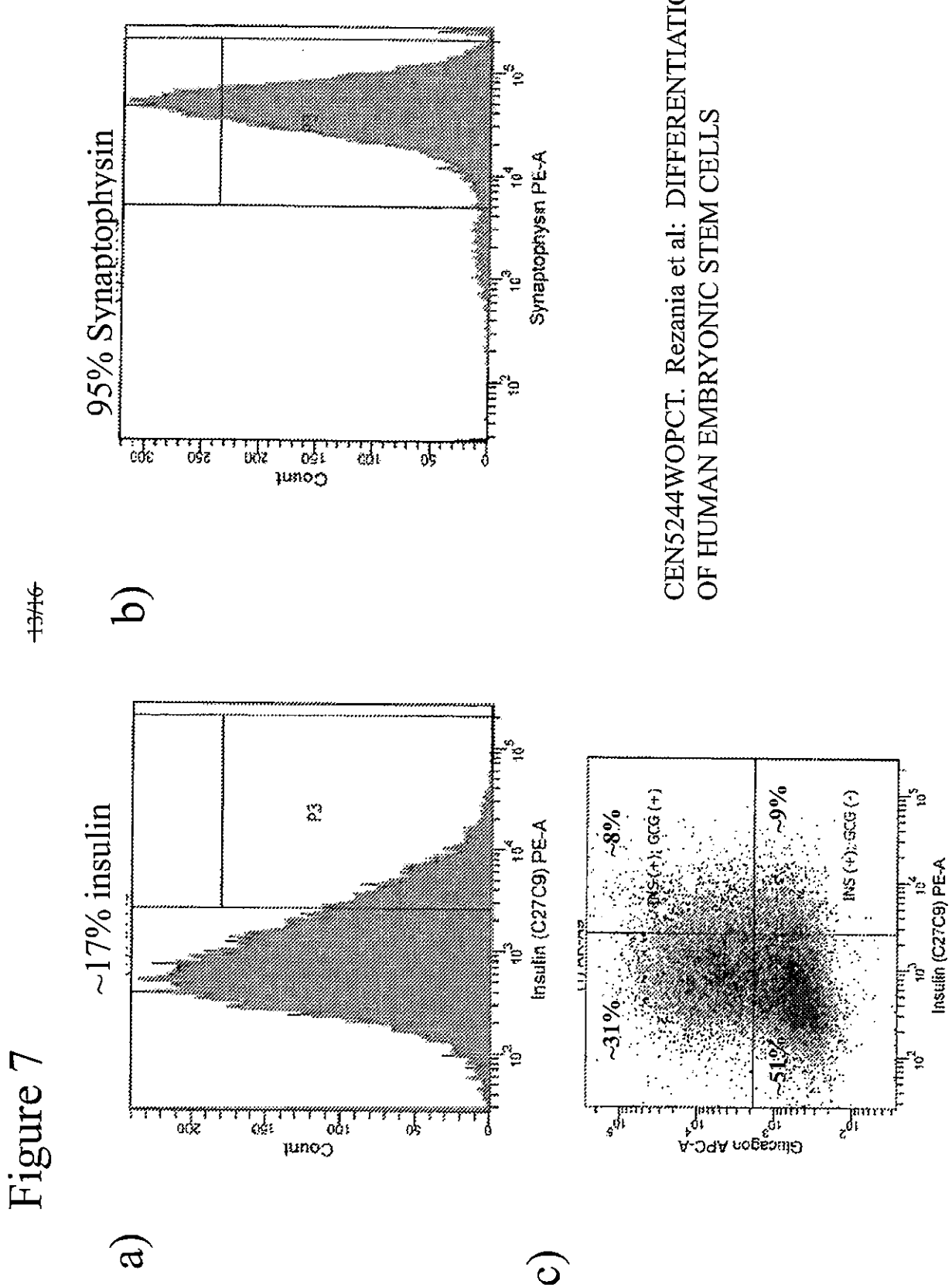


c)



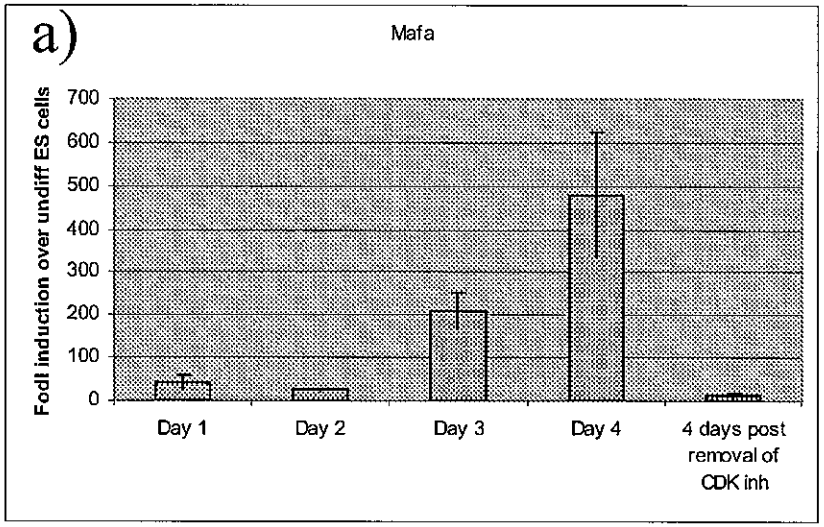
CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

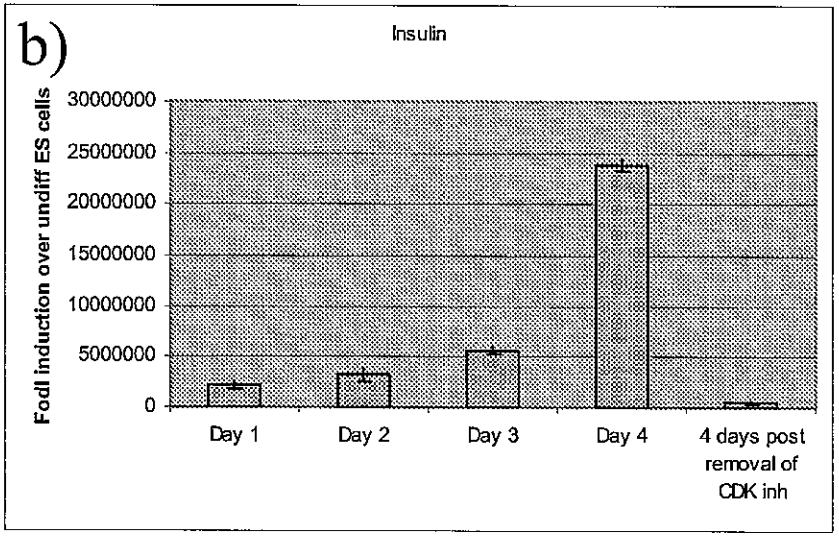
Figure 7



CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

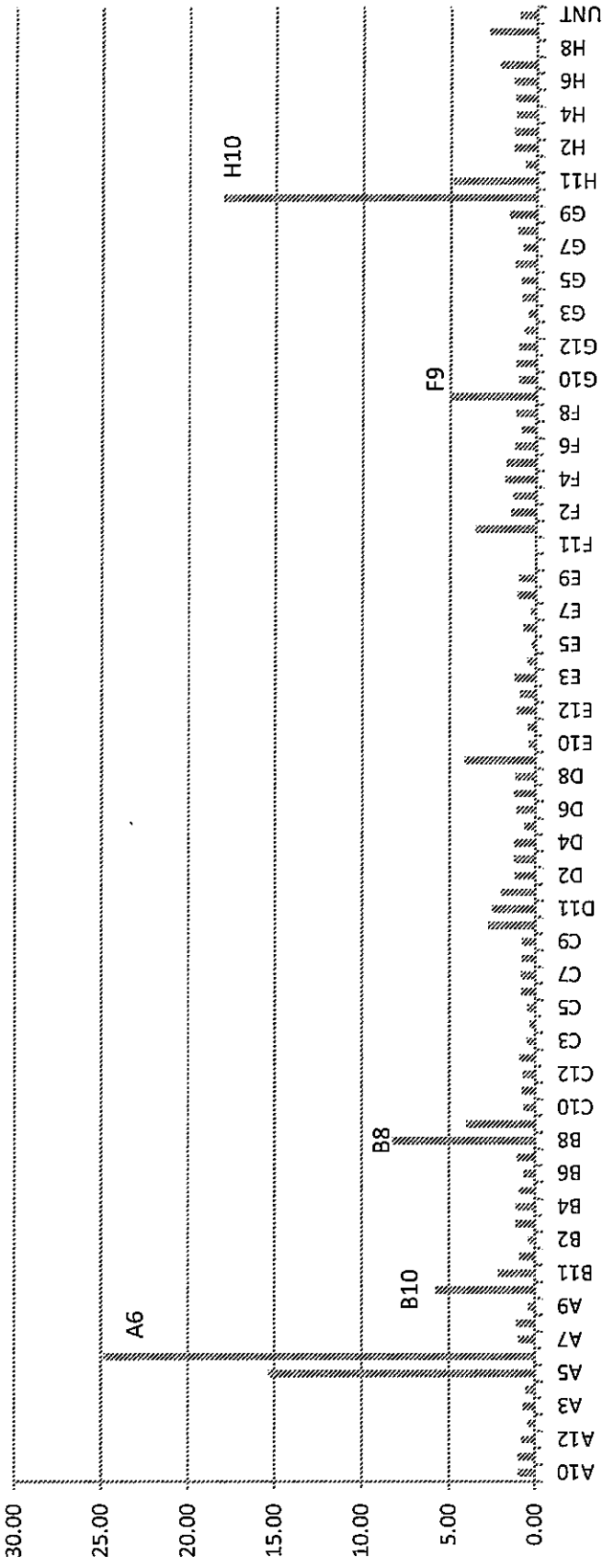
Figure 8


a)
Mafa
FodI induction over undiff ES cells
700
600
500
400
300
200
100
0
Day 1
Day 2
Day 3
Day 4
4 days post removal of CDK inh


b)
Insulin
FodI induction over undiff ES cells
30000000
25000000
20000000
15000000
10000000
5000000
0
Day 1
Day 2
Day 3
Day 4
4 days post removal of CDK inh

~~15/16~~

Figure 9



CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 10

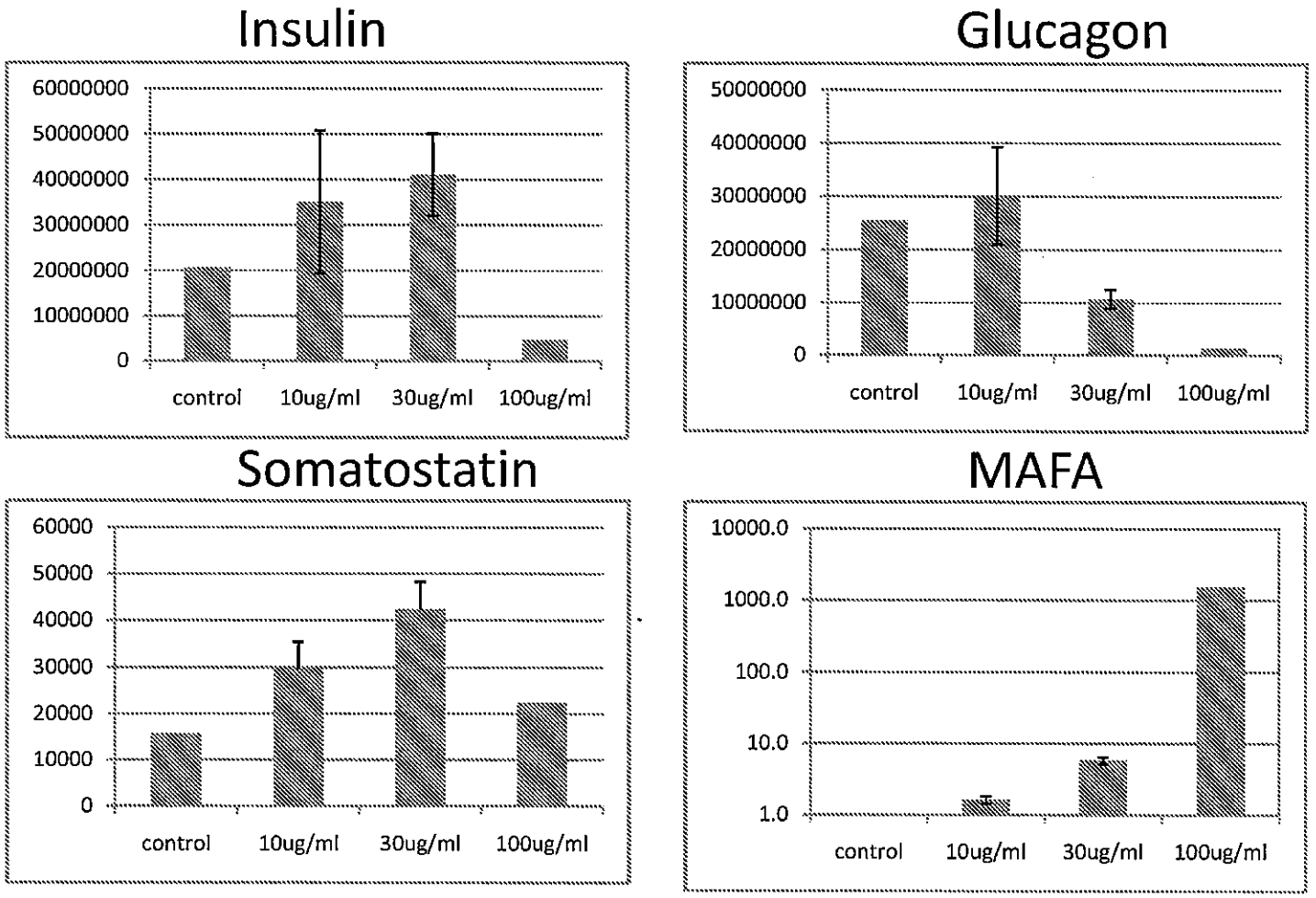
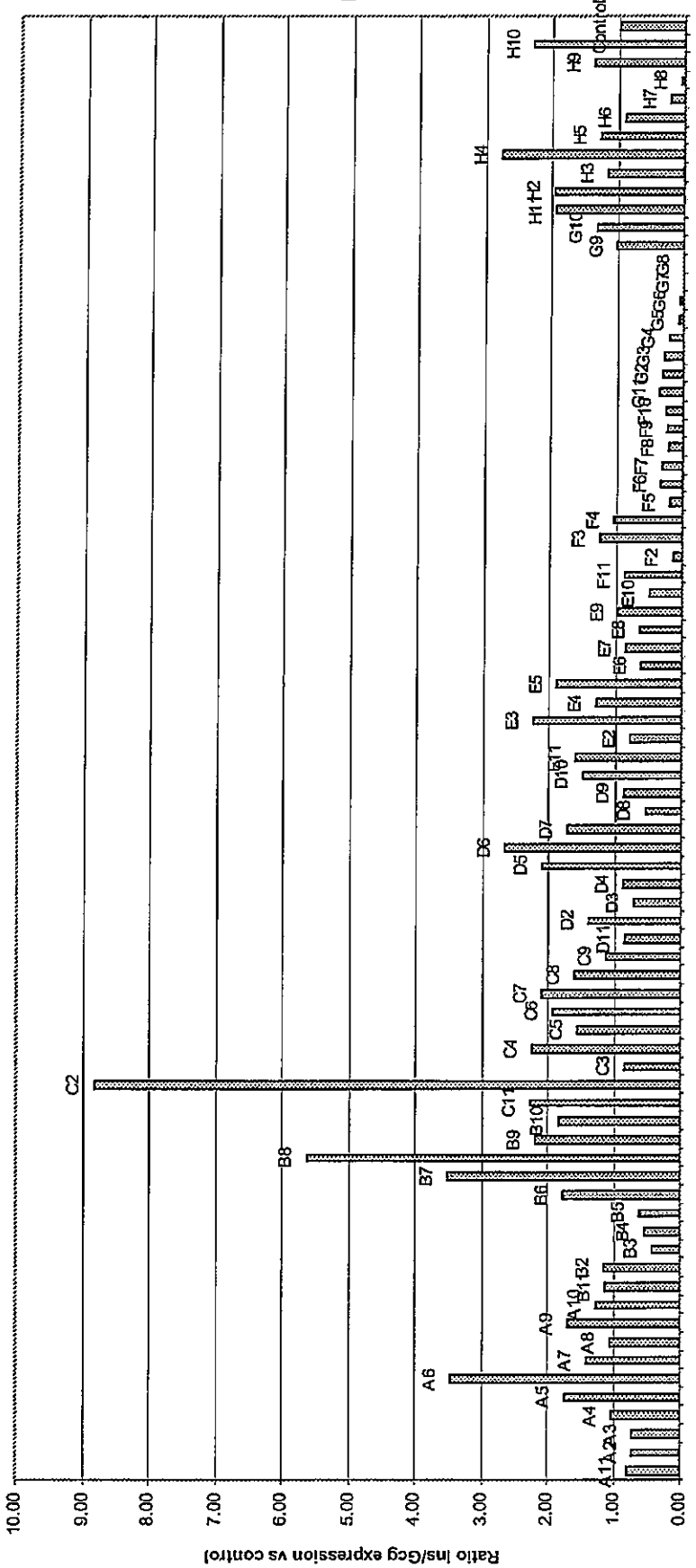

Insulin
60000000
50000000
40000000
30000000
20000000
10000000
0
control
10ug/ml
30ug/ml
100ug/ml
Glucagon
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40000000
30000000
20000000
10000000
0
control
10ug/ml
30ug/ml
100ug/ml
Somatostatin
60000
50000
40000
30000
20000
10000
0
control
10ug/ml
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10ug/ml
30ug/ml
100ug/ml

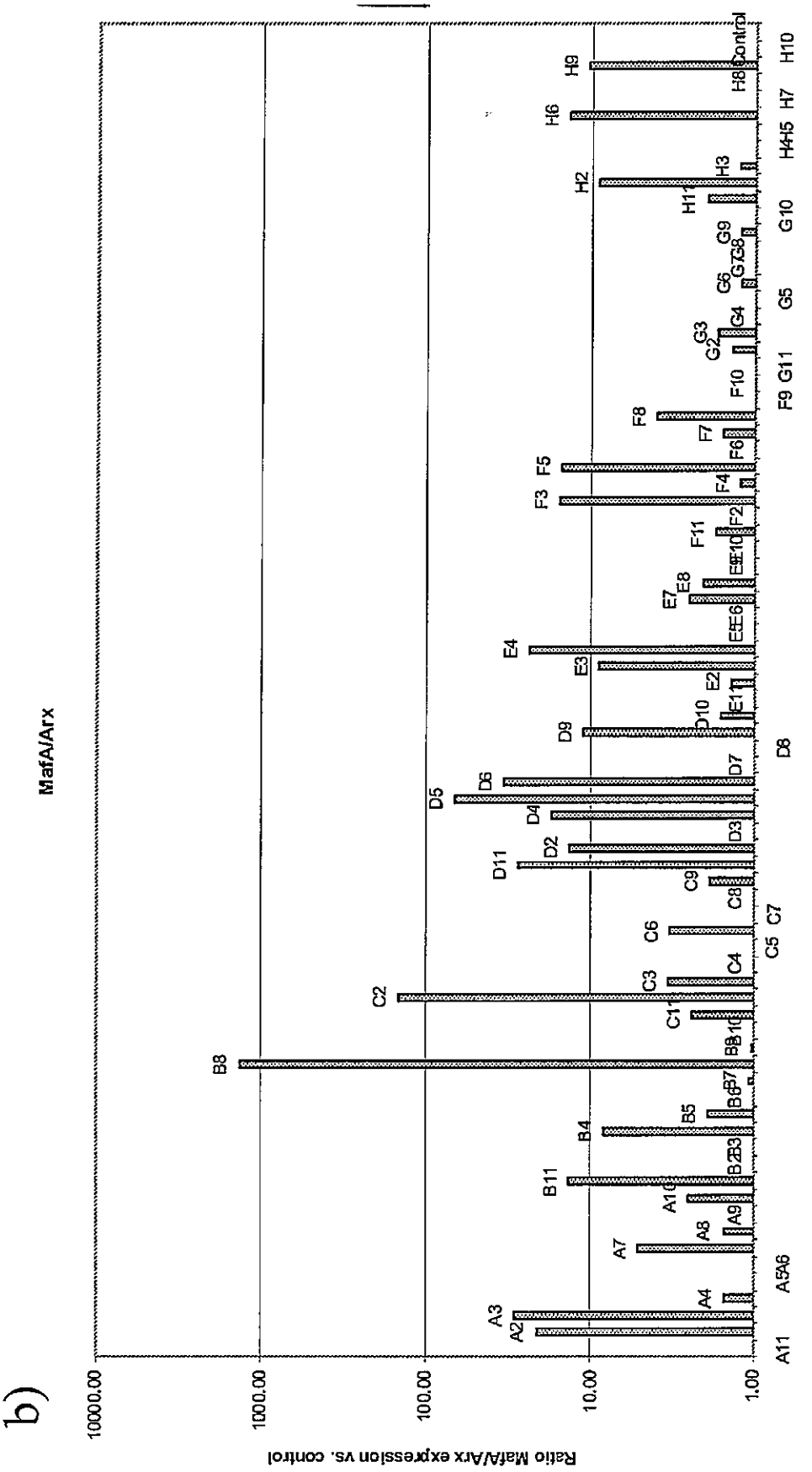
Figure 1

a)



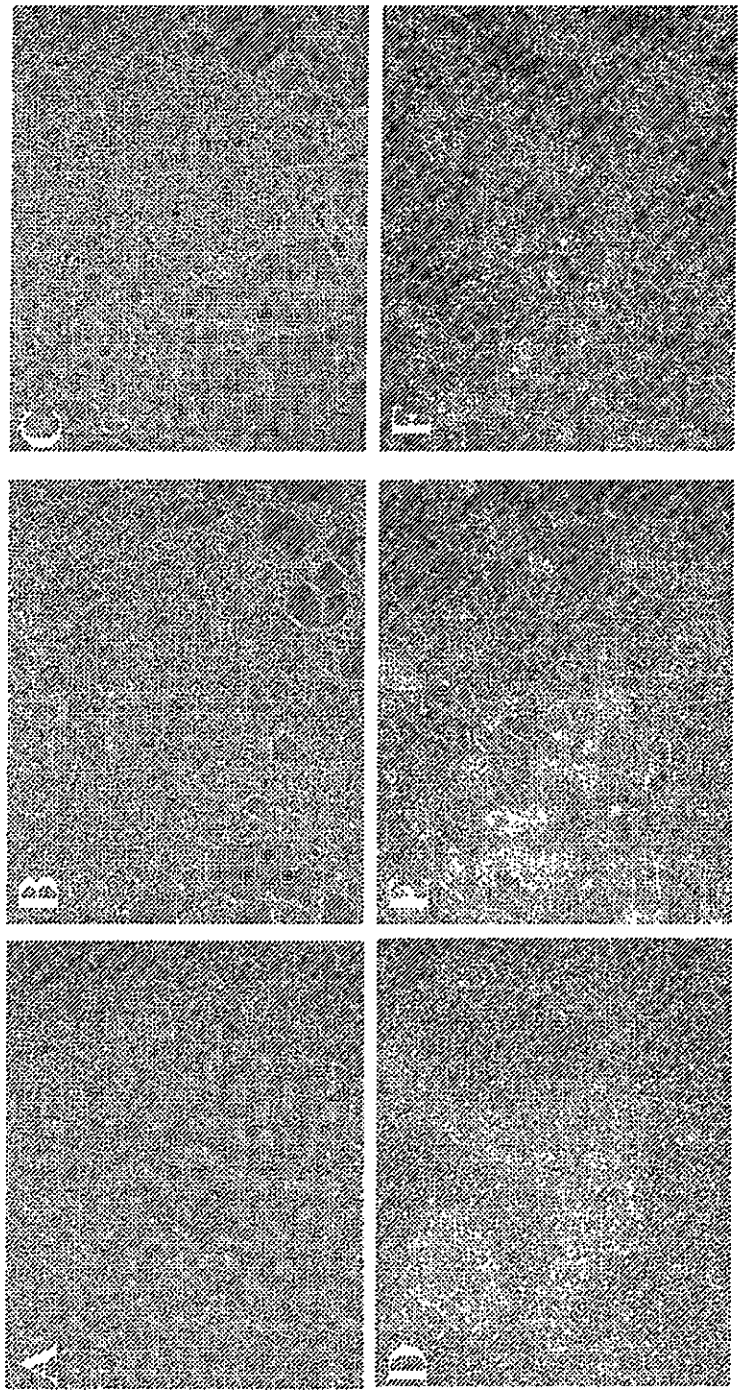
CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 1



CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 2



CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

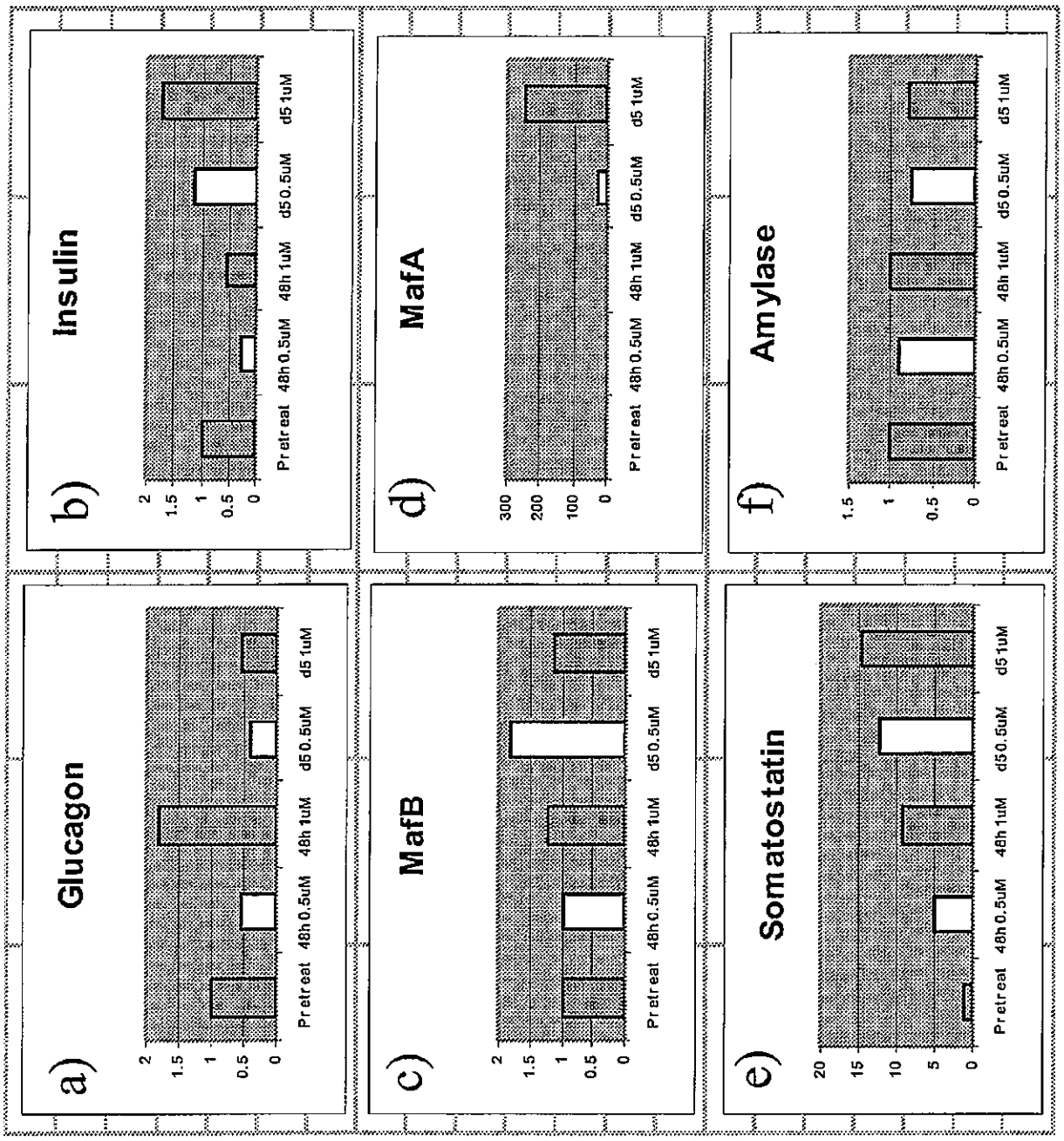


Figure 3

CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

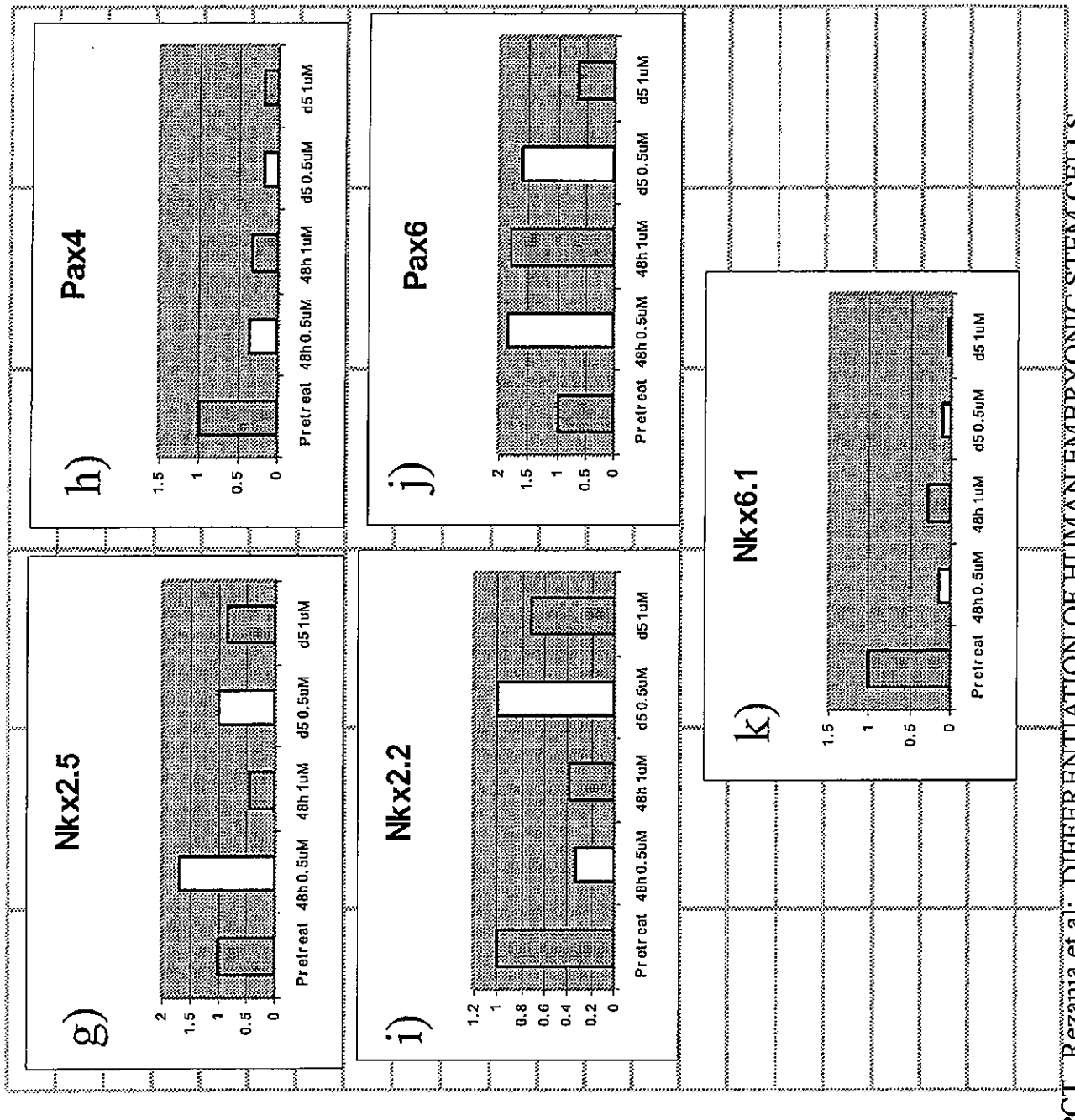
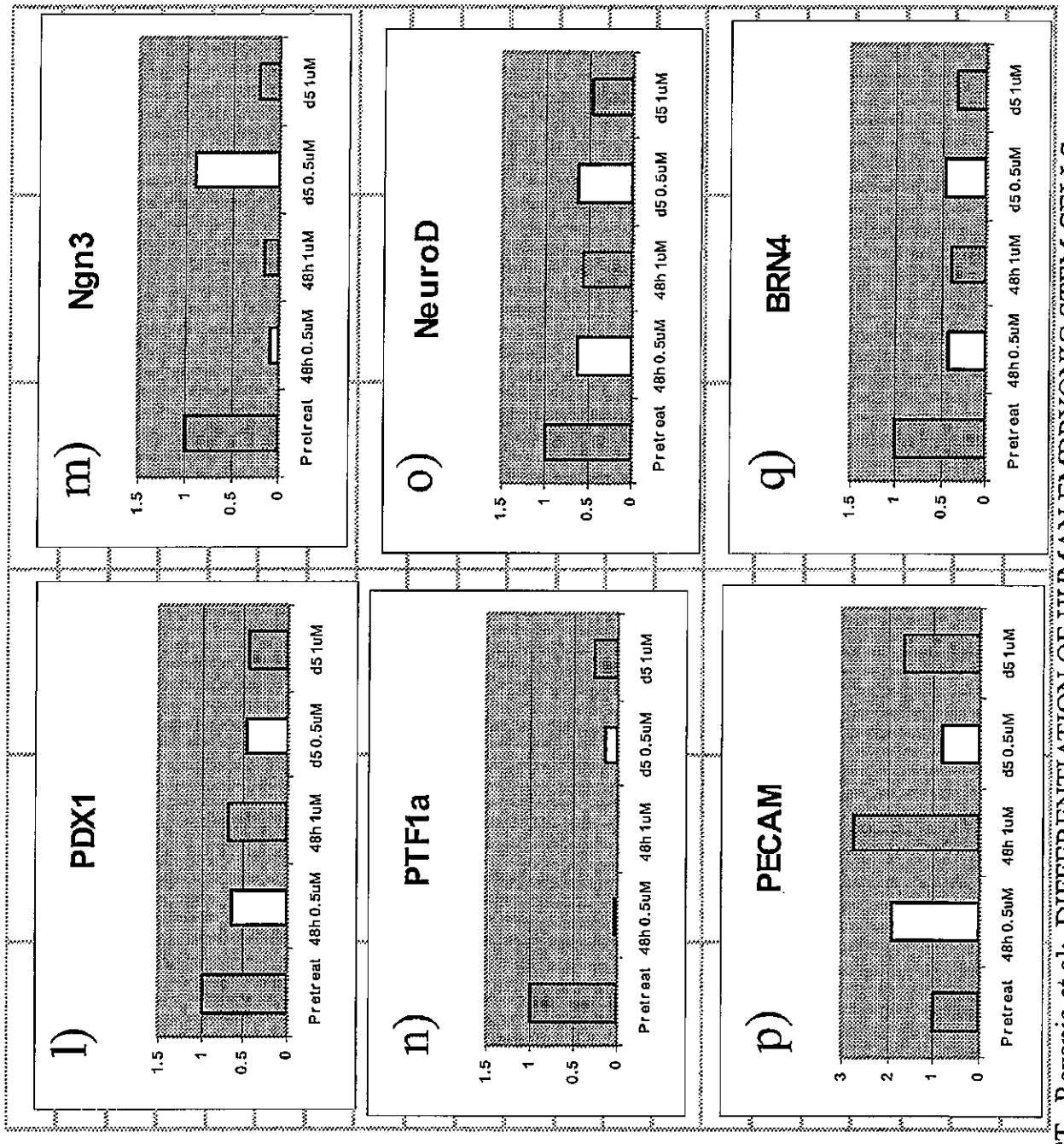


Figure 3

CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 3



CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

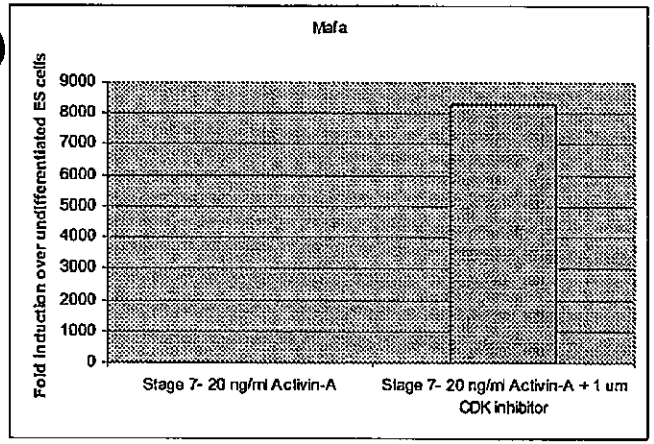


Figure 3

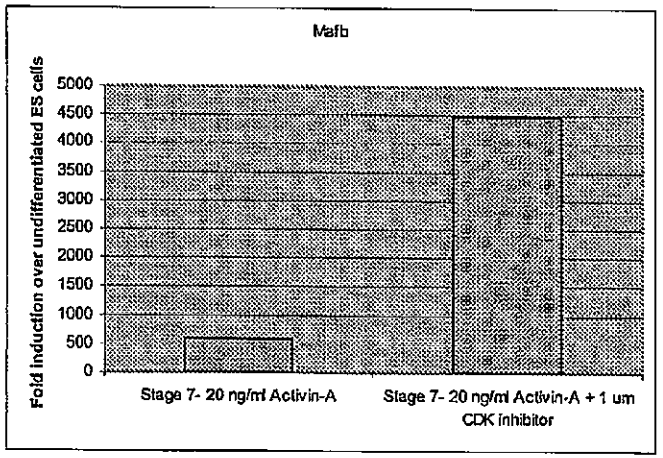
CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 4

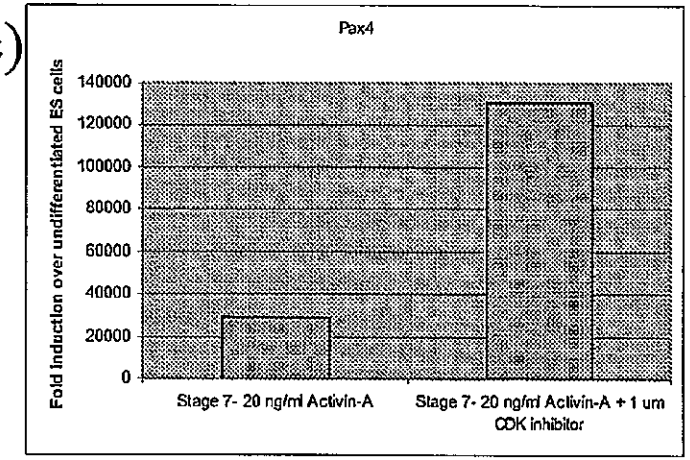
a)



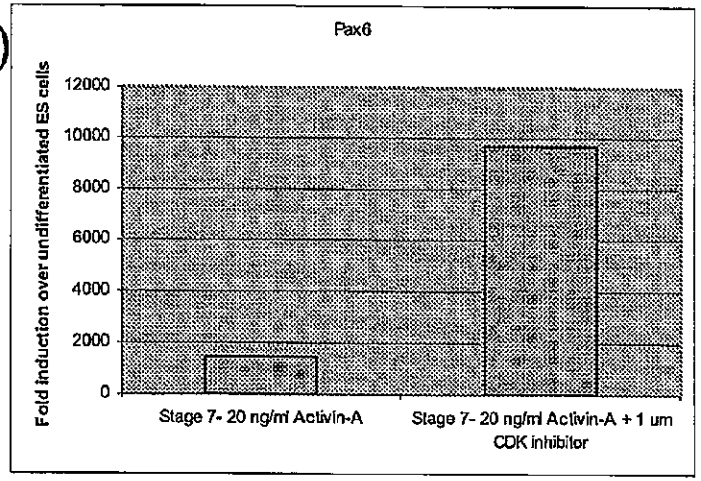
b)



c)



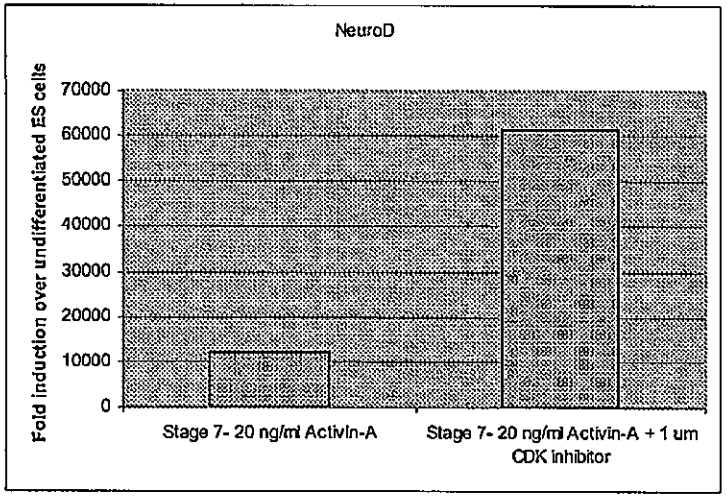
d)



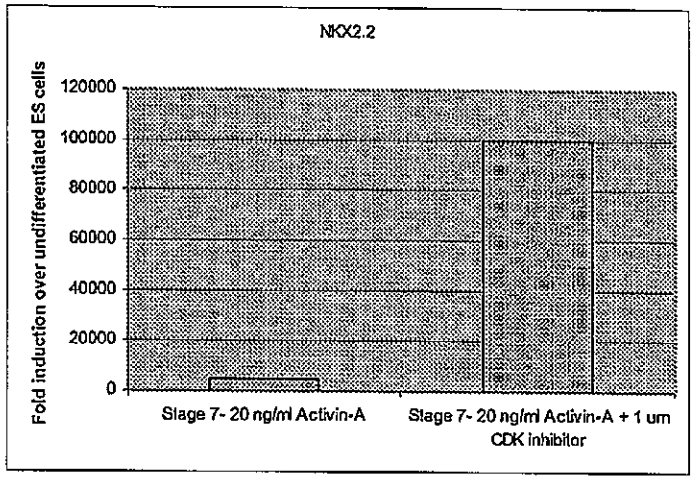
CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 4

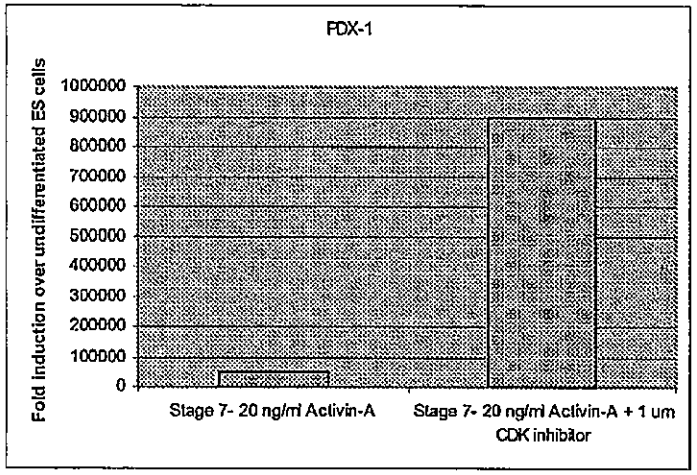
e)



f)



g)



h)

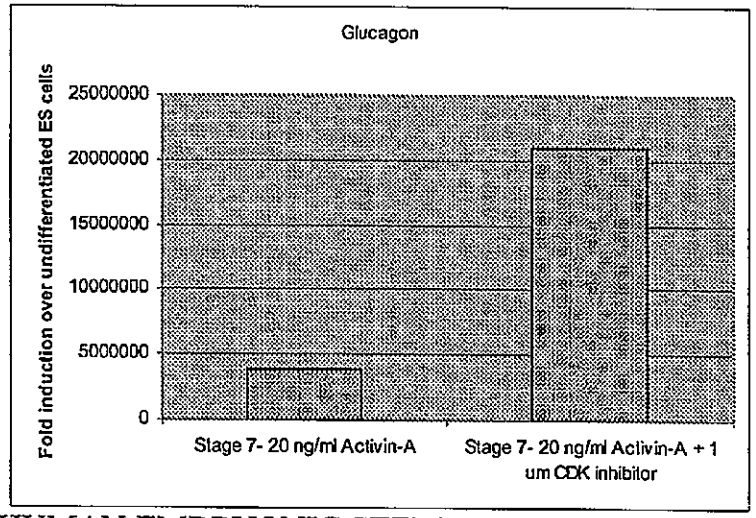


Figure 4

i)

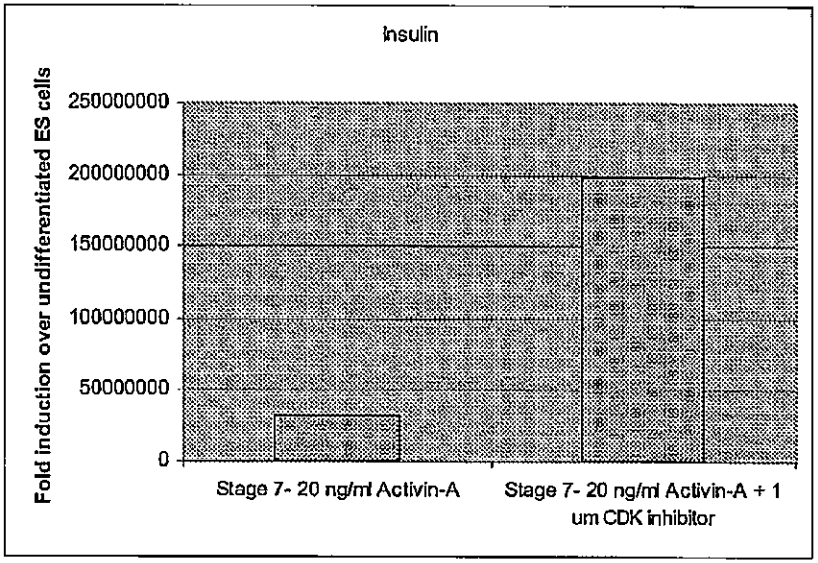

Insulin
Fold induction over undifferentiated ES cells
250000000
200000000
150000000
100000000
50000000
0
Stage 7- 20 ng/ml Activin-A
Stage 7- 20 ng/ml Activin-A + 1 um CDK inhibitor

Figure 5

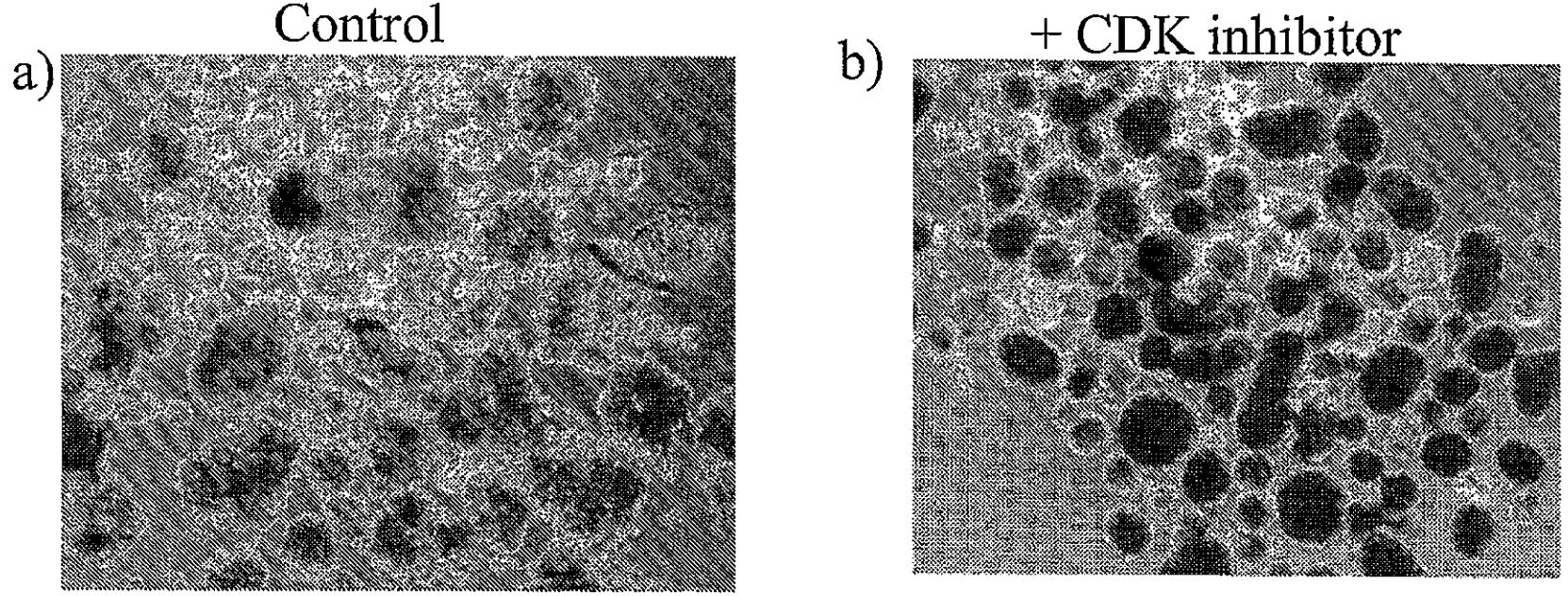
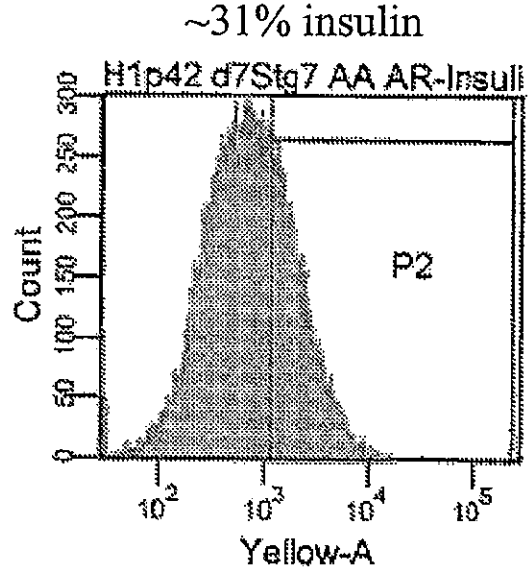
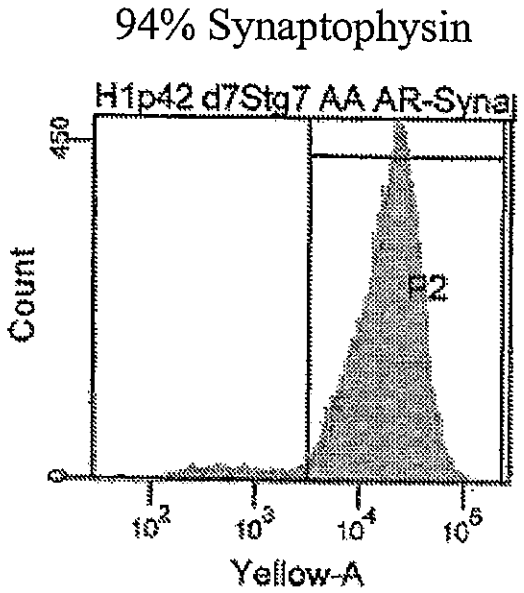


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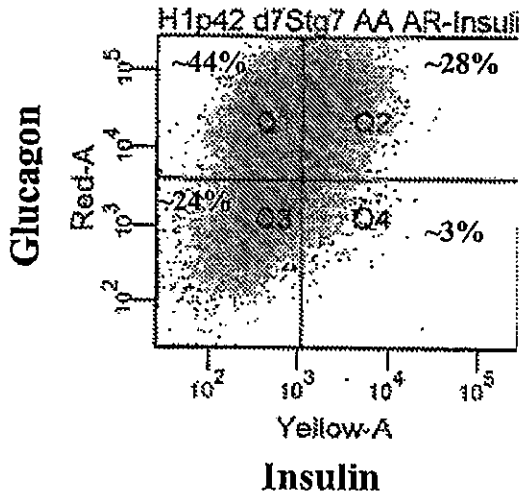
a)



b)

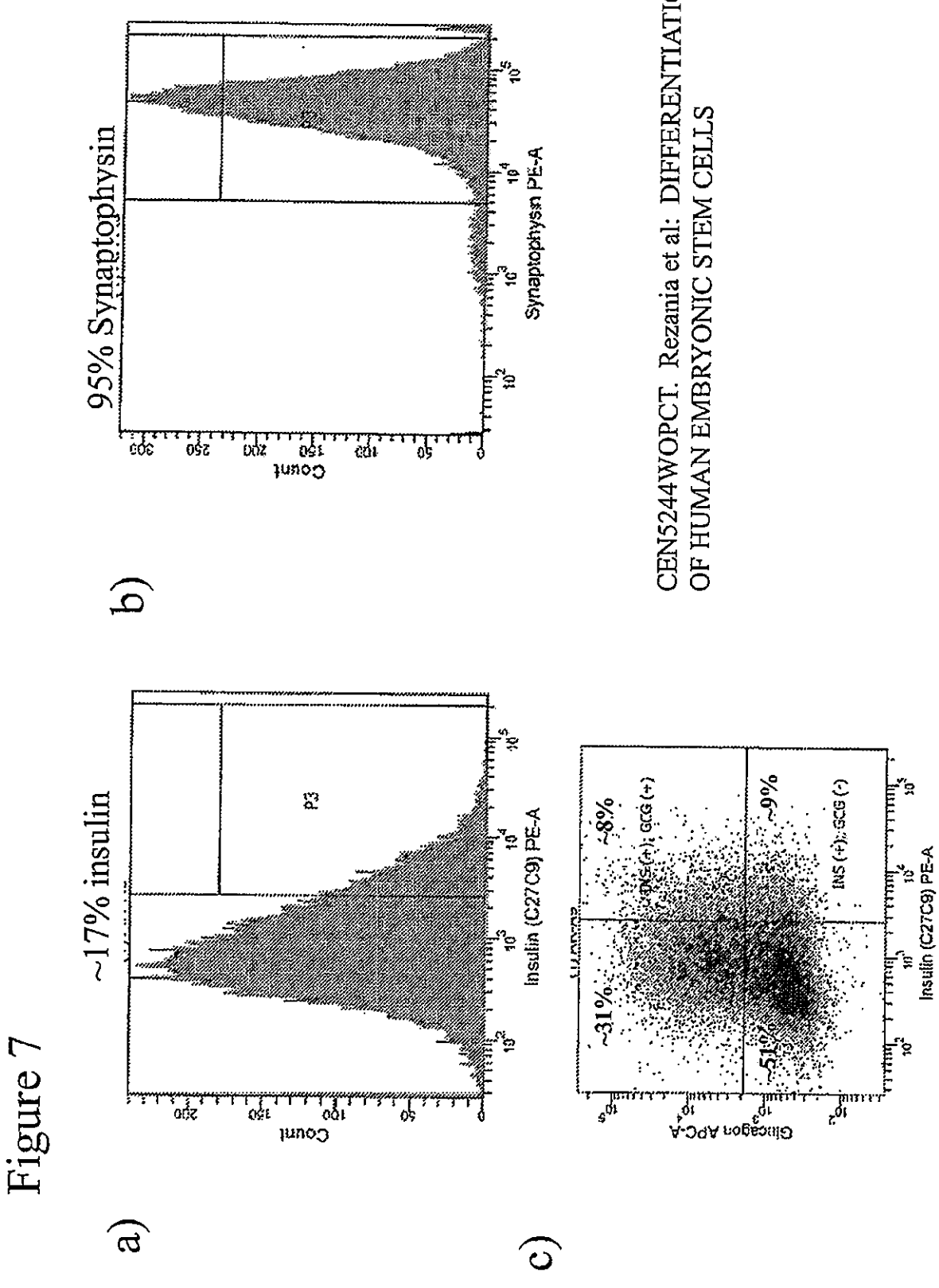


c)



CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 7



CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 8

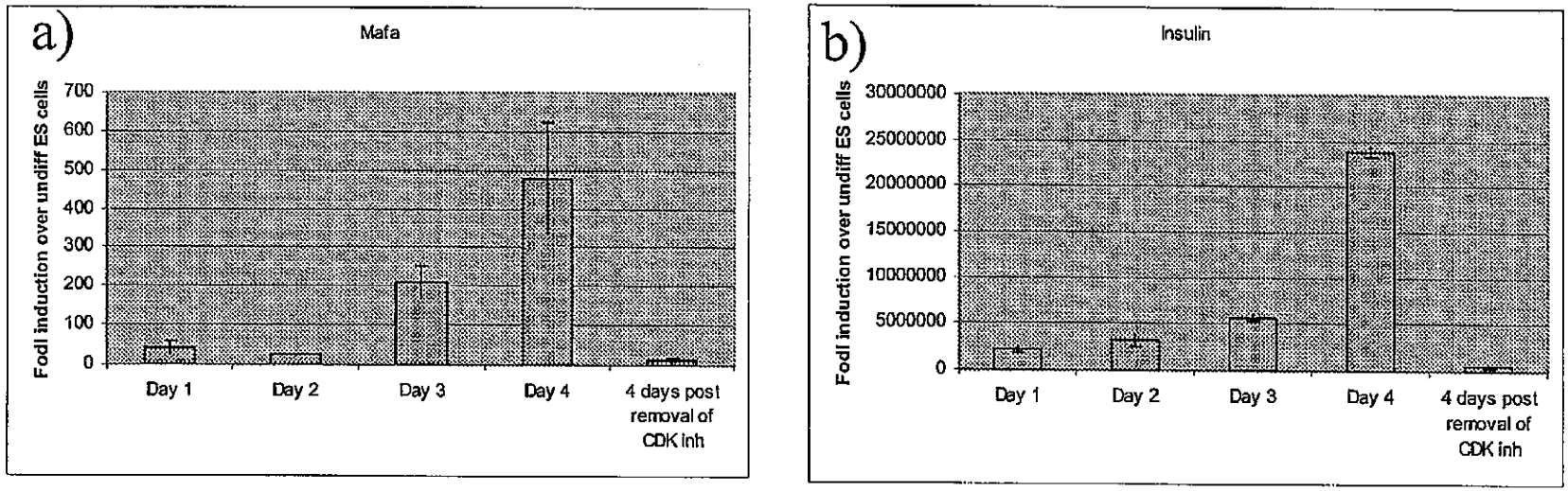
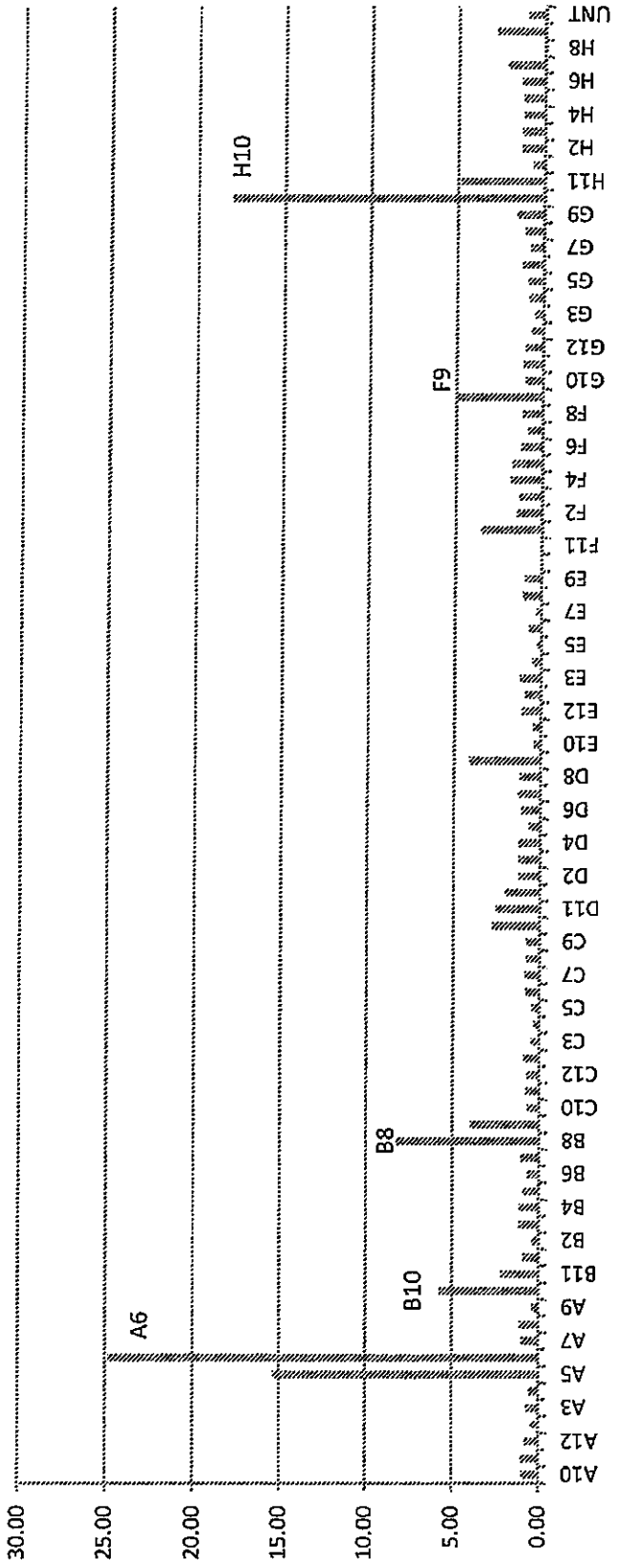
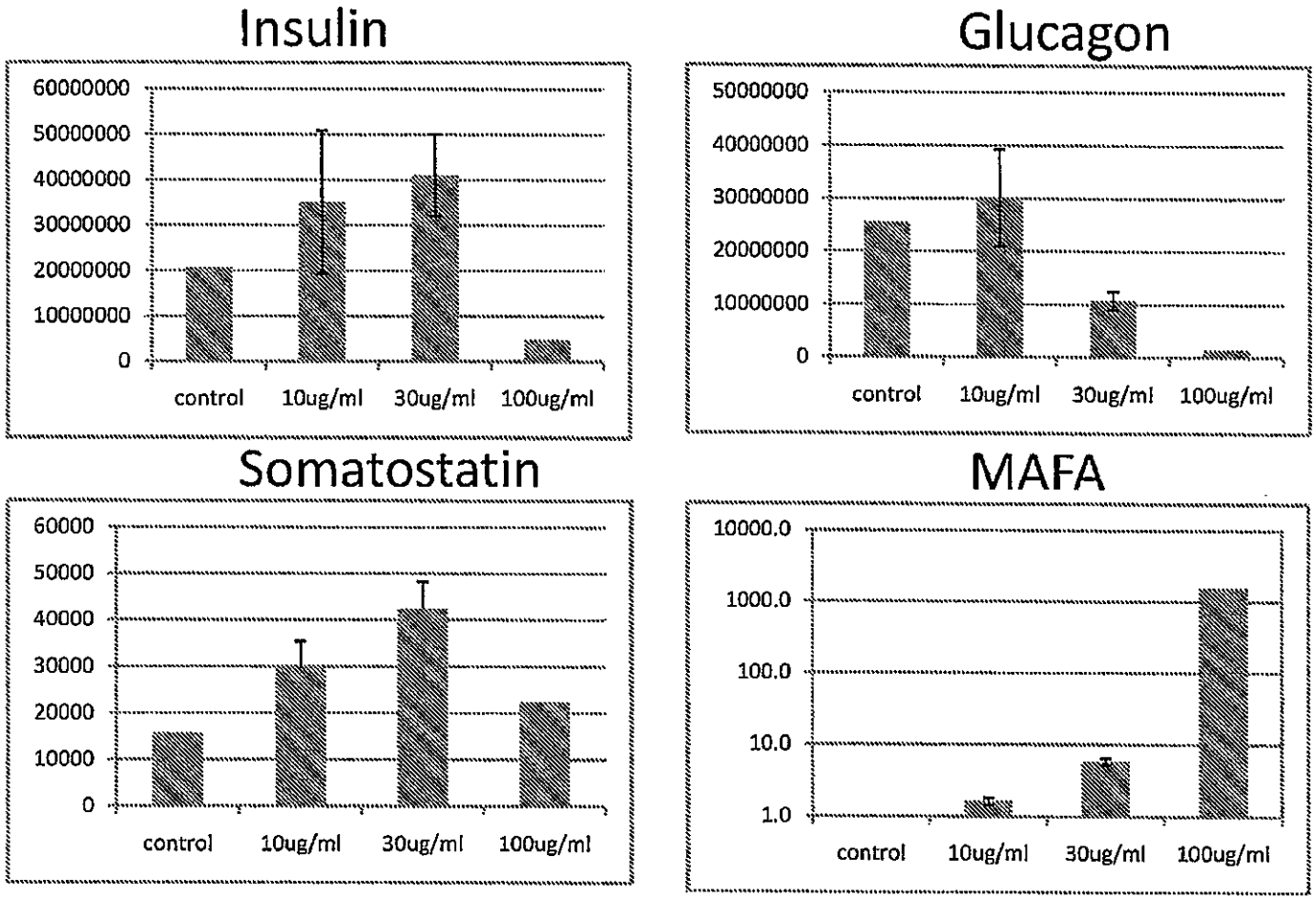

a)
Mafa
Fodl induction over undiff ES cells
700
600
500
400
300
200
100
0
Day 1
Day 2
Day 3
Day 4
4 days post removal of CDK Inh
b)
Insulin
Fodl induction over undiff ES cells
30000000
25000000
20000000
15000000
10000000
5000000
0
Day 1
Day 2
Day 3
Day 4
4 days post removal of CDK Inh

Figure 9



CEN5244WOPCT. Rezania et al: DIFFERENTIATION OF HUMAN EMBRYONIC STEM CELLS

Figure 10


Insulin
60000000
50000000
40000000
30000000
20000000
10000000
0
control
10ug/ml
30ug/ml
100ug/ml
Glucagon
50000000
40000000
30000000
20000000
10000000
0
control
10ug/ml
30ug/ml
100ug/ml
Somatostatin
60000
50000
40000
30000
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control
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30ug/ml
100ug/ml
MAFA
10000.0
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100.0
10.0
1.0
control
10ug/ml
30ug/ml
100ug/ml