FIG. 1

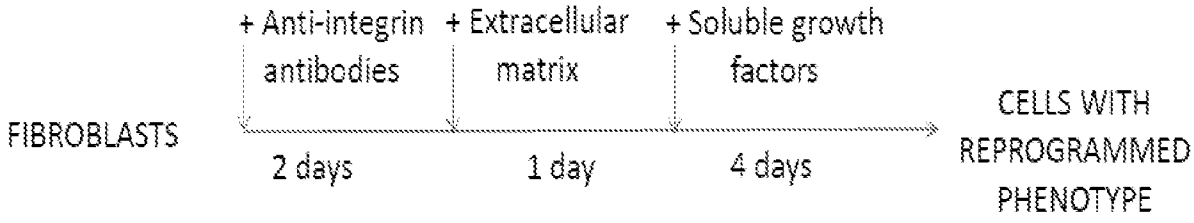
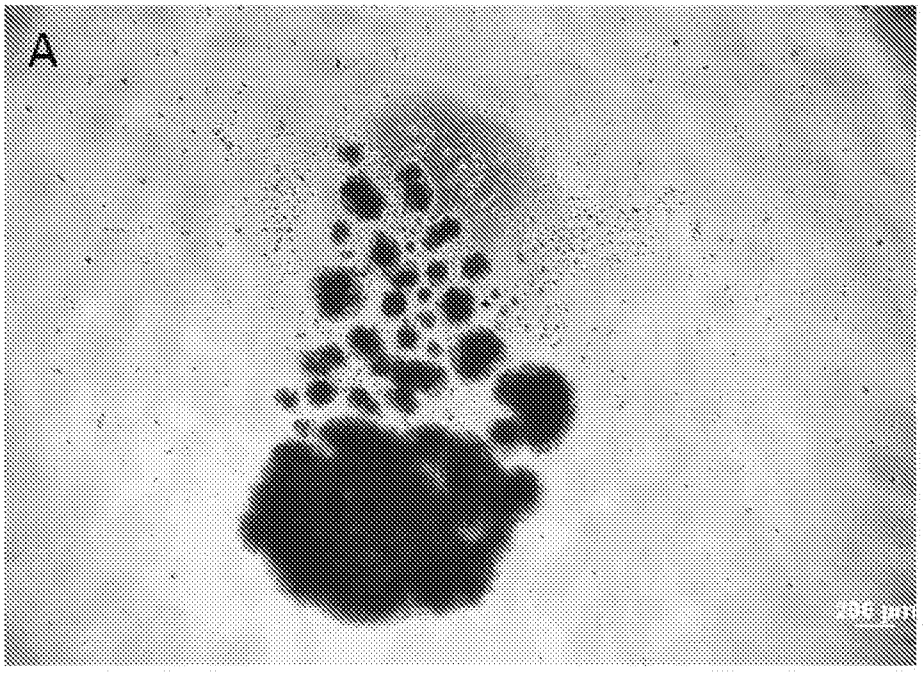

+ Anti-integrin antibodies
+ Extracellular matrix
+ Soluble growth factors
FIBROBLASTS
CELLS WITH REPROGRAMMED PHENOTYPE
2 days
1 day
4 days

FIG. 2


A

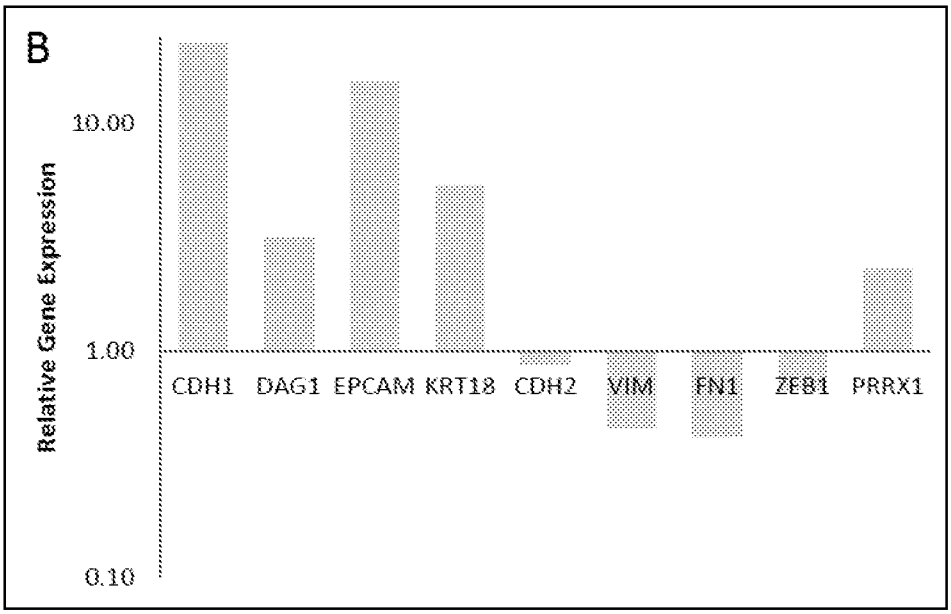
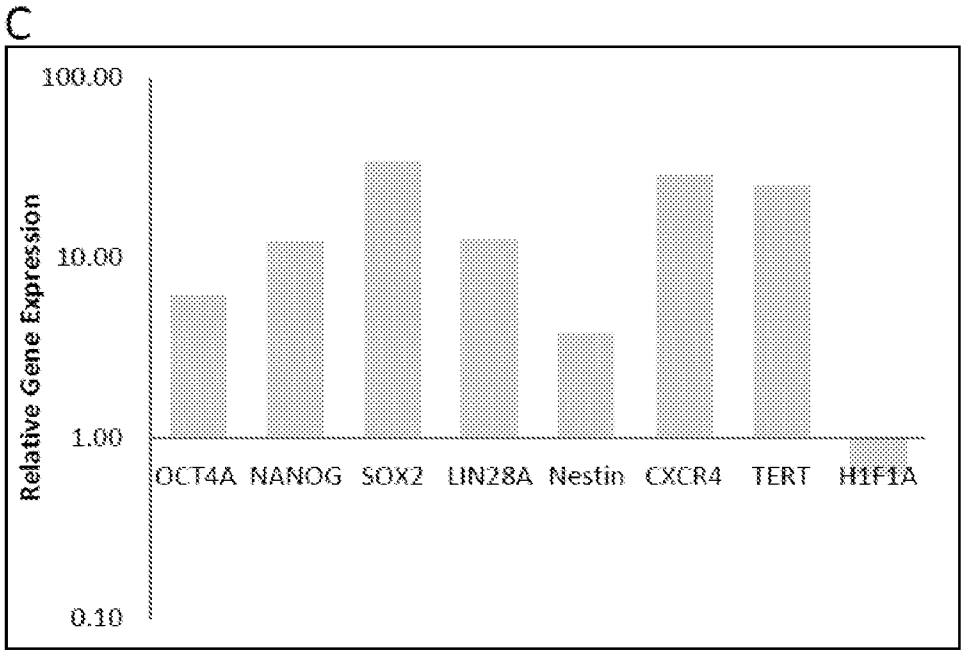

B
Relative Gene Expression
10.00
1.00
0.10
CDH1
DAG1
EPCAM
KRT18
CDH2
VIM
FN1
ZEB1
PRRX1

FIG. 2


C
100.00
10.00
1.00
0.10
Relative Gene Expression
OCT4A
NANOG
SOX2
LIN28A
Nestin
CXCR4
TERT
H1F1A

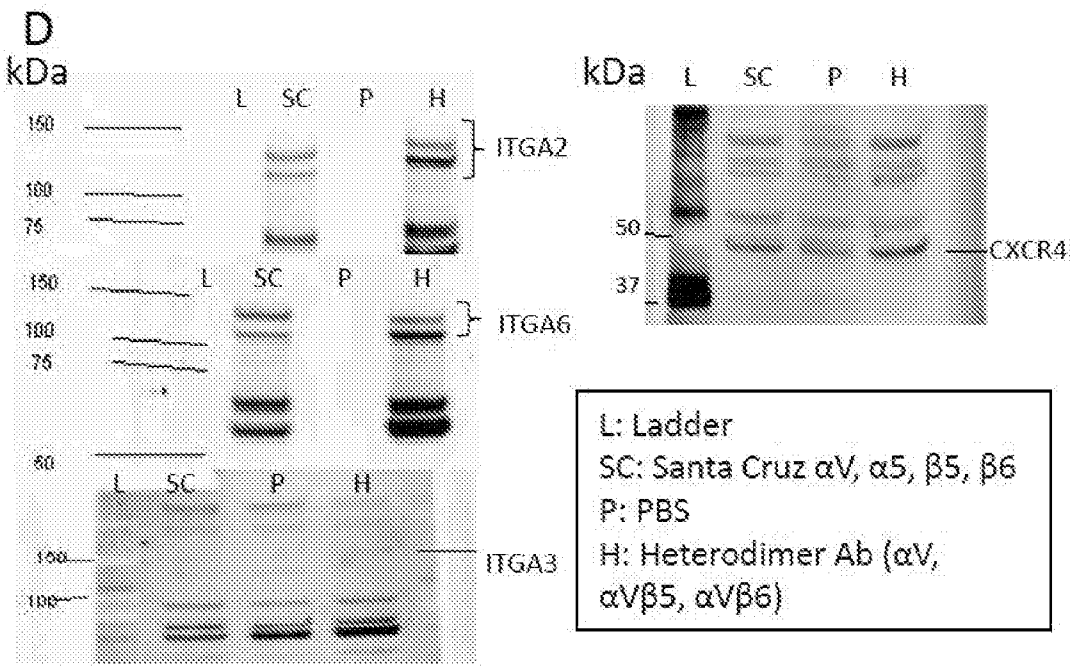

D
kDa
L
SC
P
H
150
100
75
150
100
75
60
ITGA2
ITGA6
ITGA3
kDa
50
37
CXCR4
L: Ladder
SC: Santa Cruz αV, α5, β5, β6
P: PBS
H: Heterodimer Ab (αV, αVβ5, αVβ6)

FIG. 3

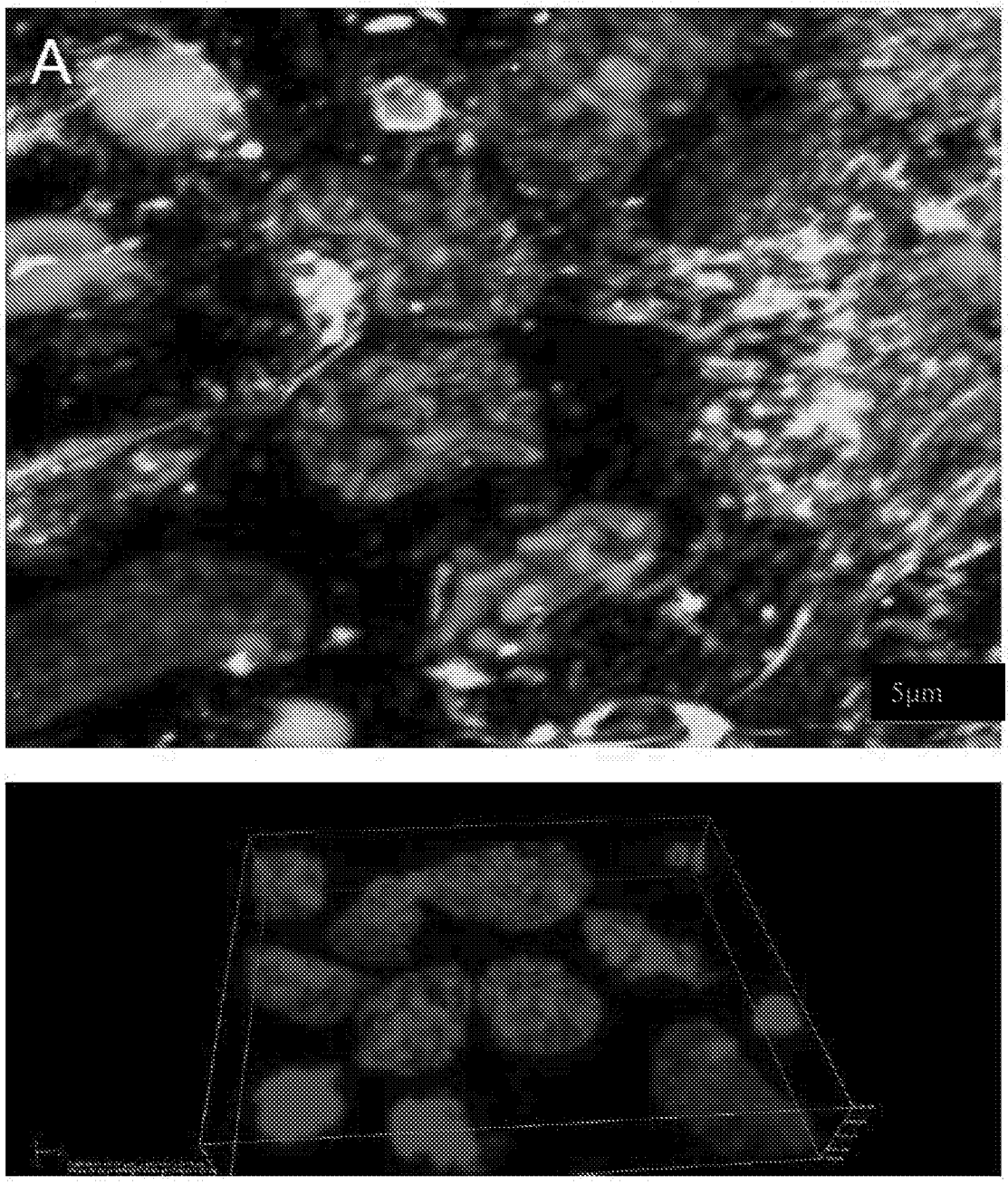
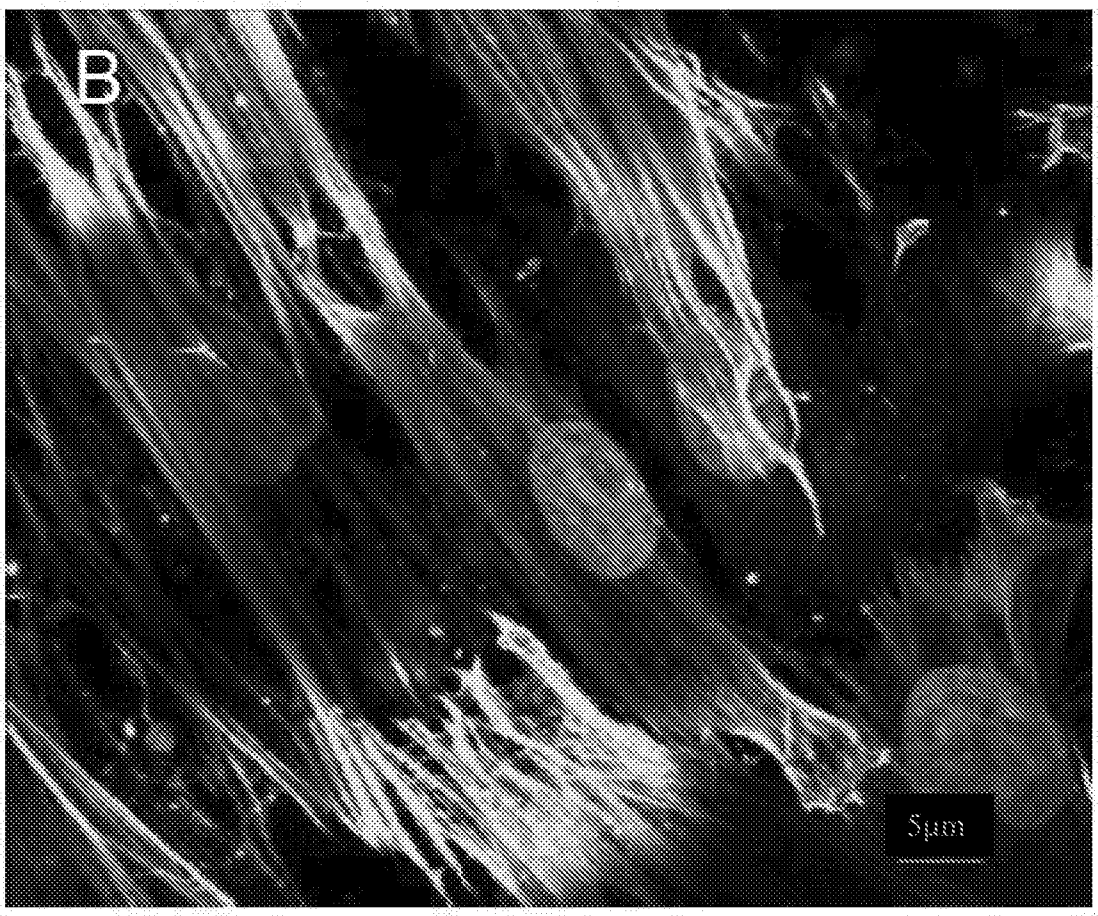


Fig. 3



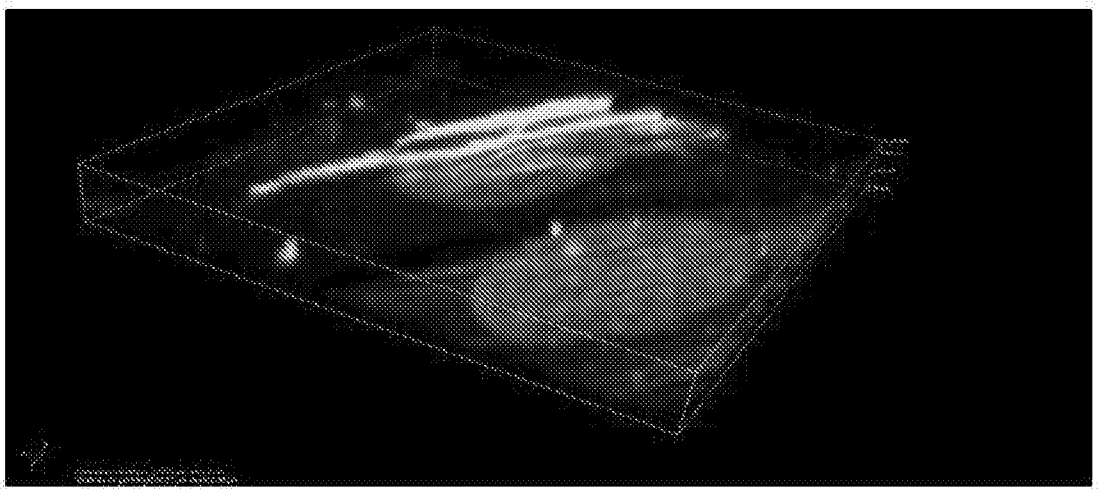


Fig. 4

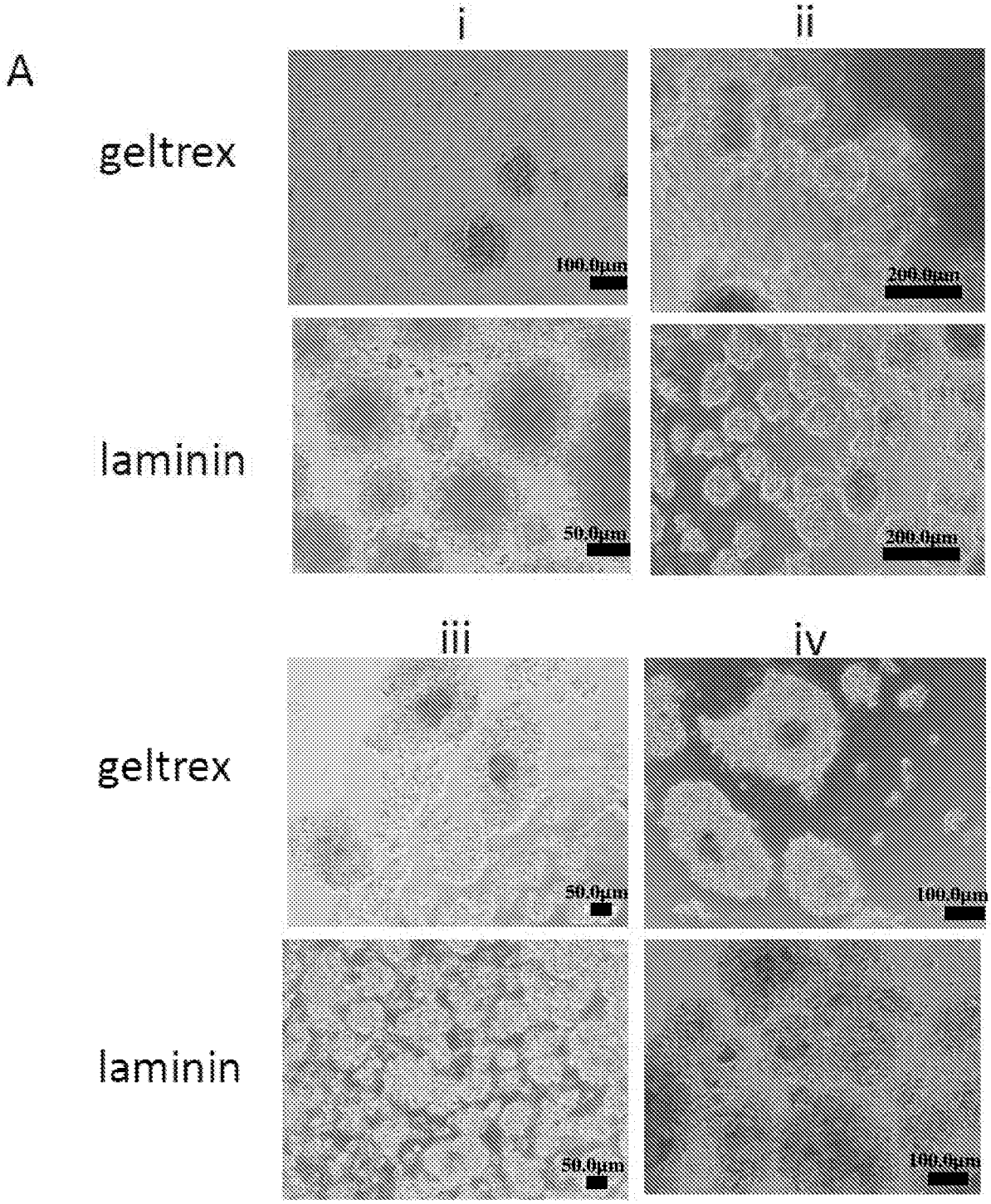

A
i
ii
geltrex
100.0µm
200.0µm
laminin
50.0µm
200.0µm
iii
iv
geltrex
50.0µm
100.0µm
laminin
50.0µm
100.0µm

FIG. 4

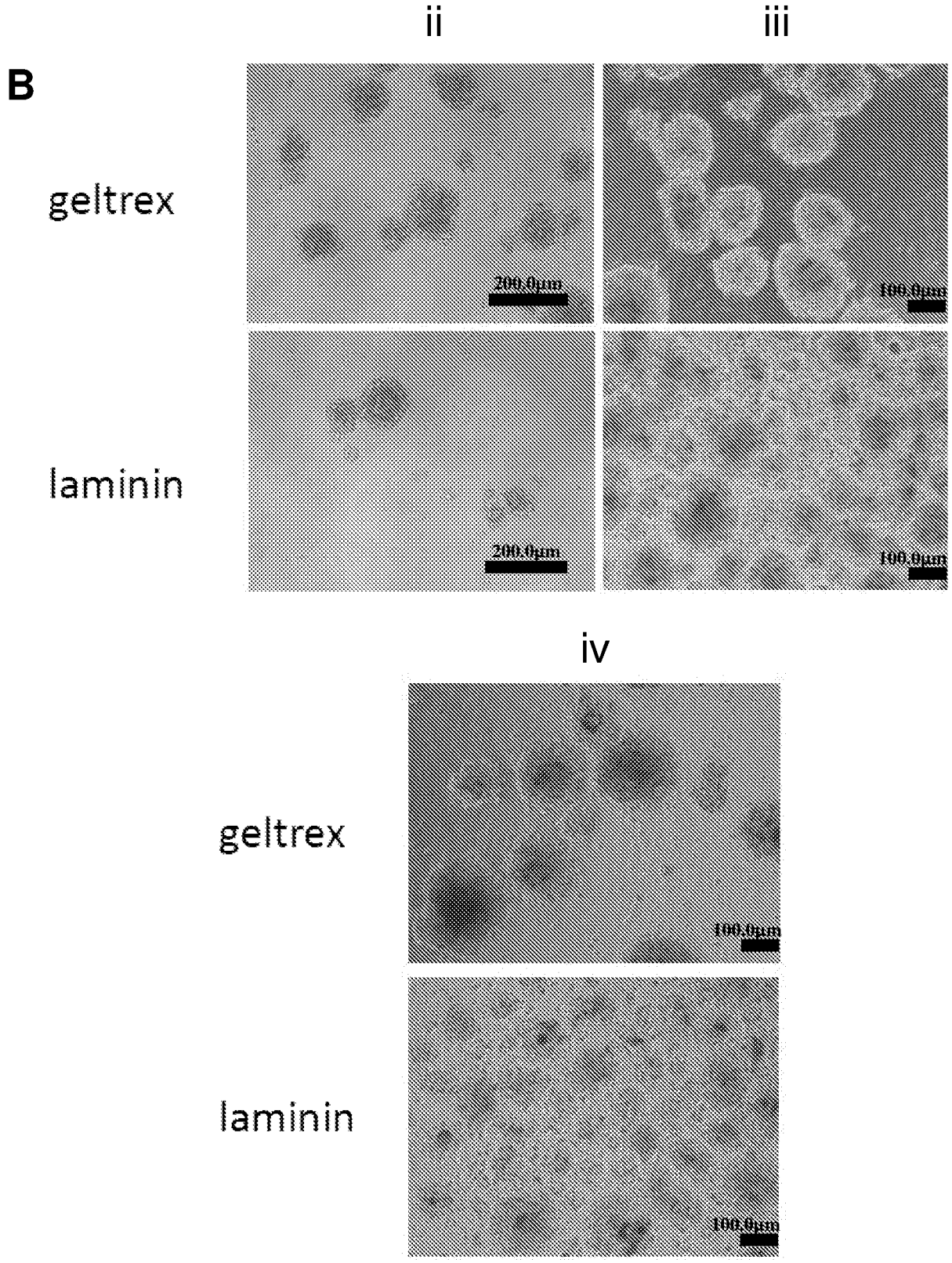
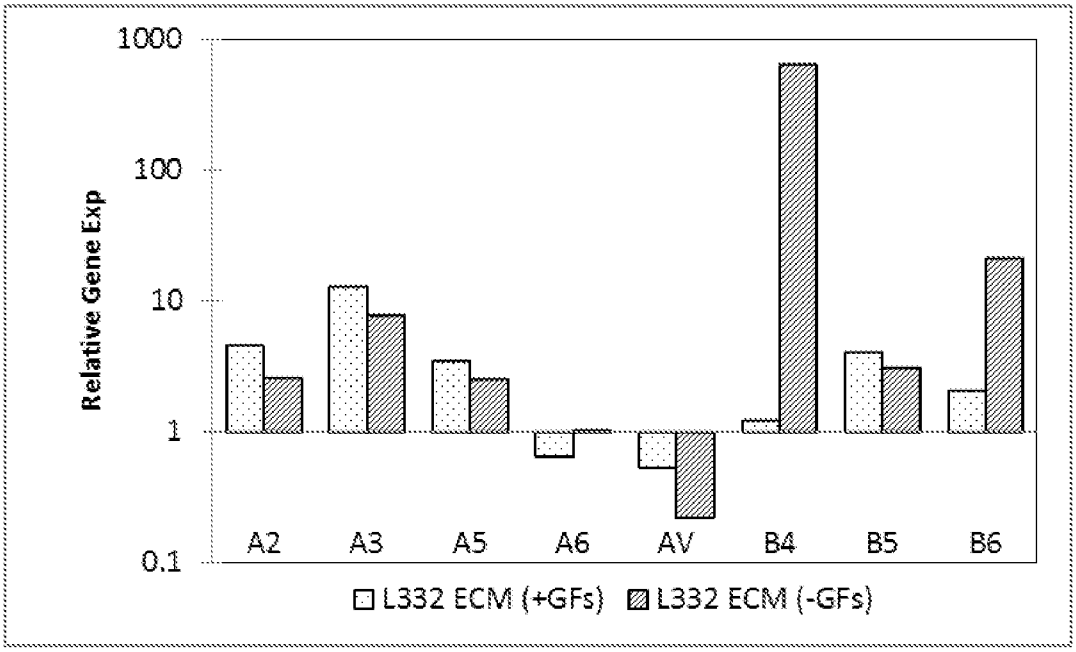

B
ii
iii
geltrex
laminin
200.0µm
100.0µm
200.0µm
100.0µm
iv
geltrex
laminin
100.0µm
100.0µm

FIG. 4

C


1000
100
10
1
0.1
Relative Gene Exp
A2
A3
A5
A6
AV
B4
B5
B6
L332 ECM (+GFs)
L332 ECM (-GFs)

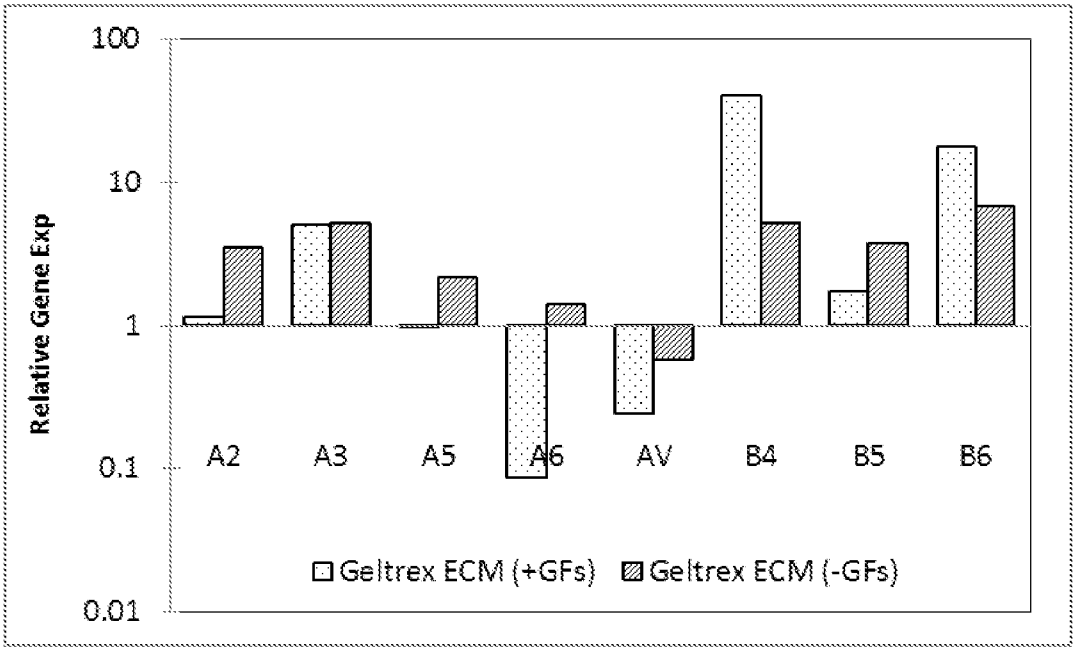

100
10
1
0.1
0.01
Relative Gene Exp
A2
A3
A5
A6
AV
B4
B5
B6
Geltrex ECM (+GFs)
Geltrex ECM (-GFs)

Fig. 4

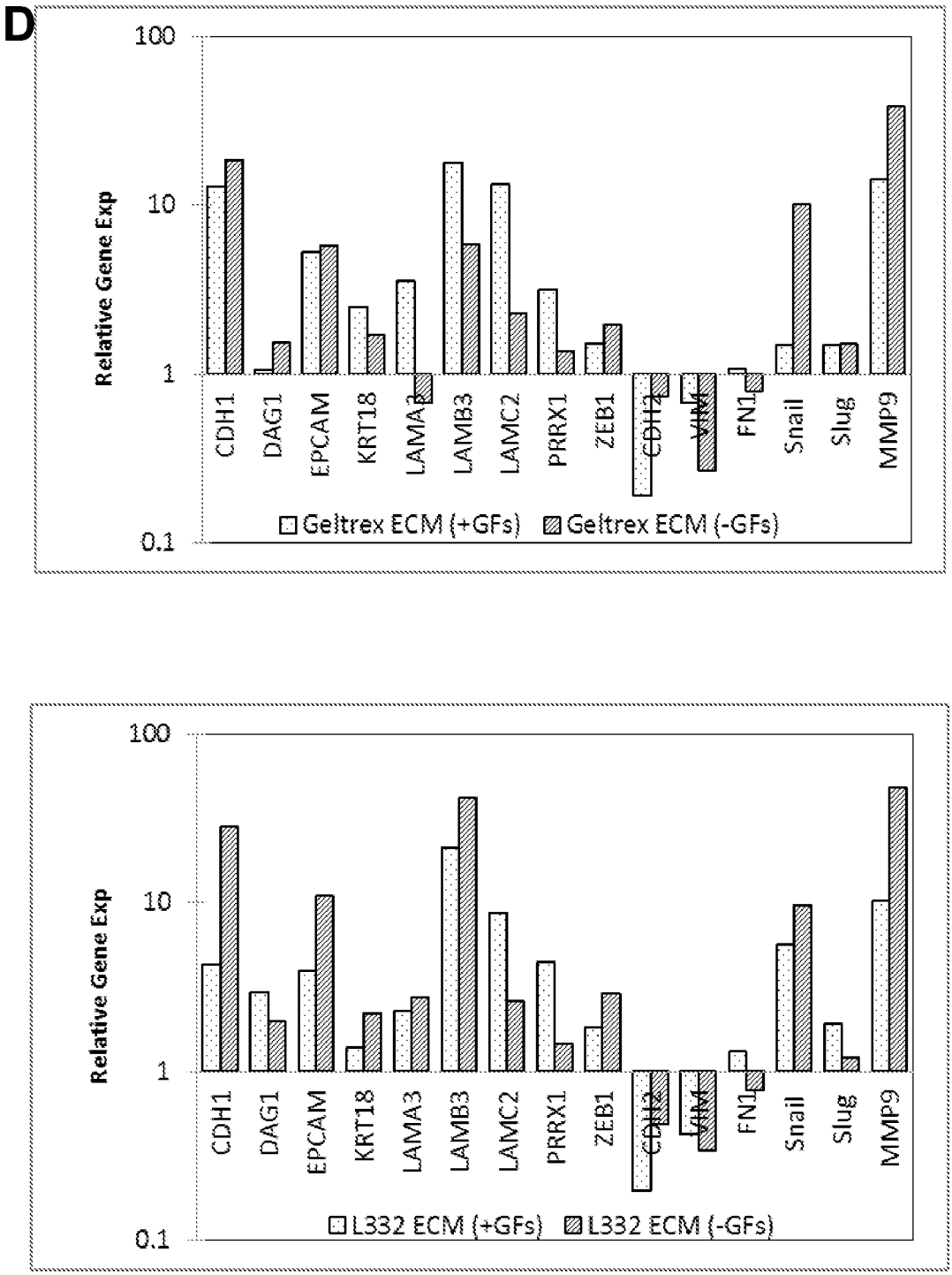

D
100
10
1
0.1
Relative Gene Exp
CDH1
DAG1
EPCAM
KRT18
LAMA3
LAMB3
LAMC2
PRRX1
ZEB1
CDH2
VIM
FN1
Snail
Slug
MMP9
Geltrex ECM (+GFs)
Geltrex ECM (-GFs)
100
10
1
0.1
Relative Gene Exp
CDH1
DAG1
EPCAM
KRT18
LAMA3
LAMB3
LAMC2
PRRX1
ZEB1
CDH2
VIM
FN1
Snail
Slug
MMP9
L332 ECM (+GFs)
L332 ECM (-GFs)

Fig. 4

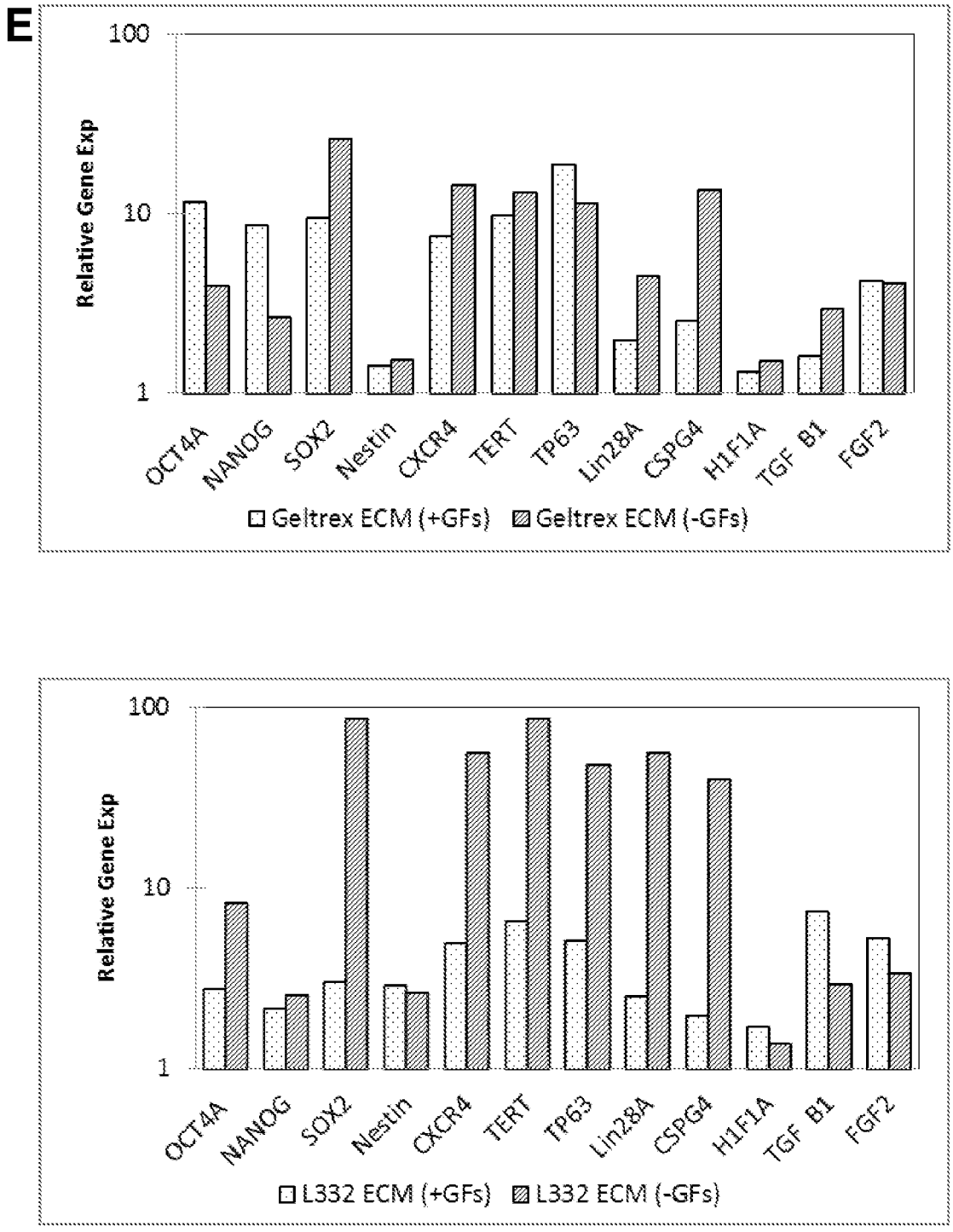

E
100
10
1
Relative Gene Exp
OCT4A
NANOG
SOX2
Nestin
CXCR4
TERT
TP63
Lin28A
CSPG4
H1F1A
TGF B1
FGF2
Geltrex ECM (+GFs)
Geltrex ECM (-GFs)
100
10
1
Relative Gene Exp
OCT4A
NANOG
SOX2
Nestin
CXCR4
TERT
TP63
Lin28A
CSPG4
H1F1A
TGF B1
FGF2
L332 ECM (+GFs)
L332 ECM (-GFs)

Fig. 5

A i

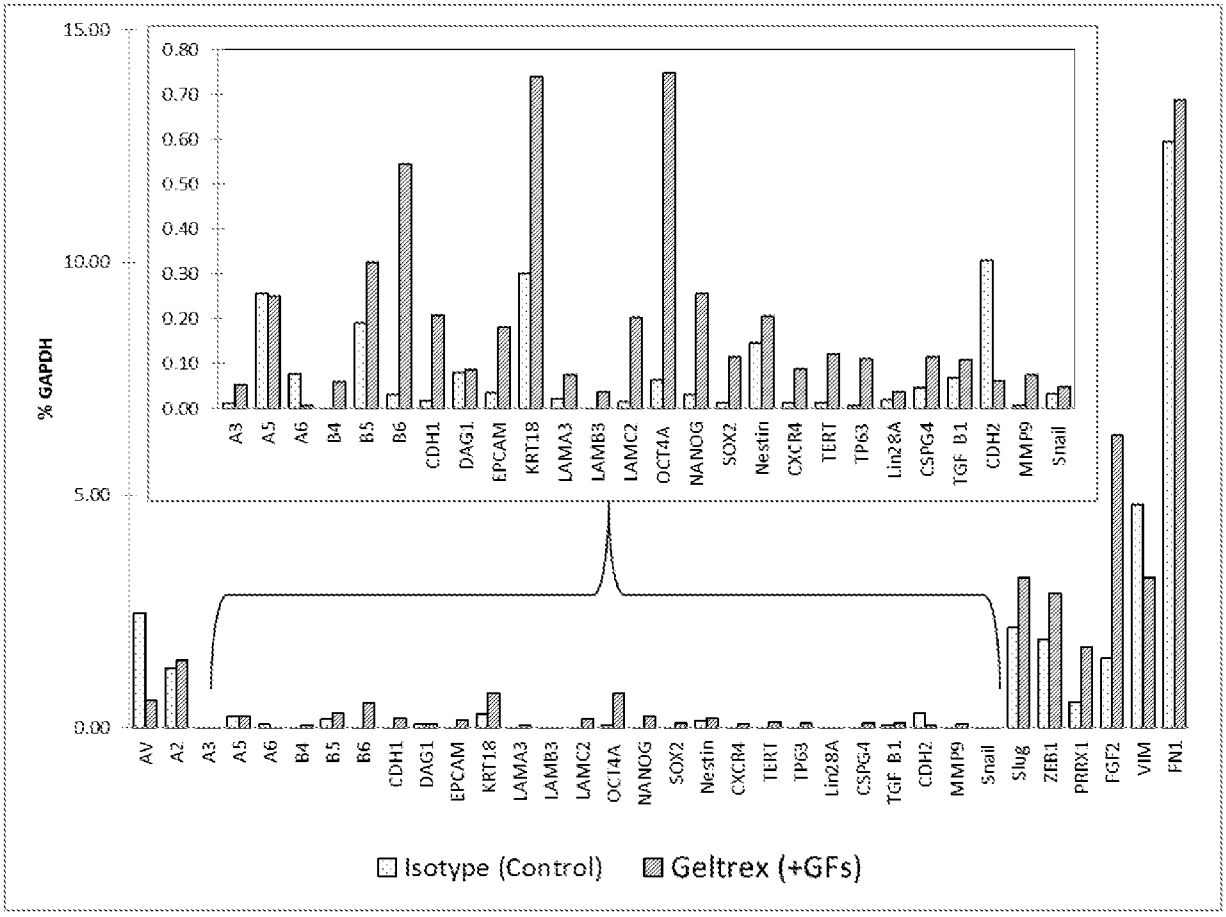

% GAPDH
15.00
10.00
5.00
0.00
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
A3 A5 A6 B4 B5 B6 CDH1 DAG1 EPCAM KRT18 LAMA3 LAMB3 LAMC2 OCT4A NANOG SOX2 Nestin CXCR4 TERT TP63 Lin28A CSPG4 TGF B1 CDH2 MMP9 Snail
AV A2 A3 A5 A6 B4 B5 B6 CDH1 DAG1 EPCAM KRT18 LAMA3 LAMB3 LAMC2 OCT4A NANOG SOX2 Nestin CXCR4 TERT TP63 Lin28A CSPG4 TGF B1 CDH2 MMP9 Snail Slug ZEB1 PRRX1 FGF2 VIM FN1
Isotype (Control)
Geltrex (+GFs)

Fig. 5

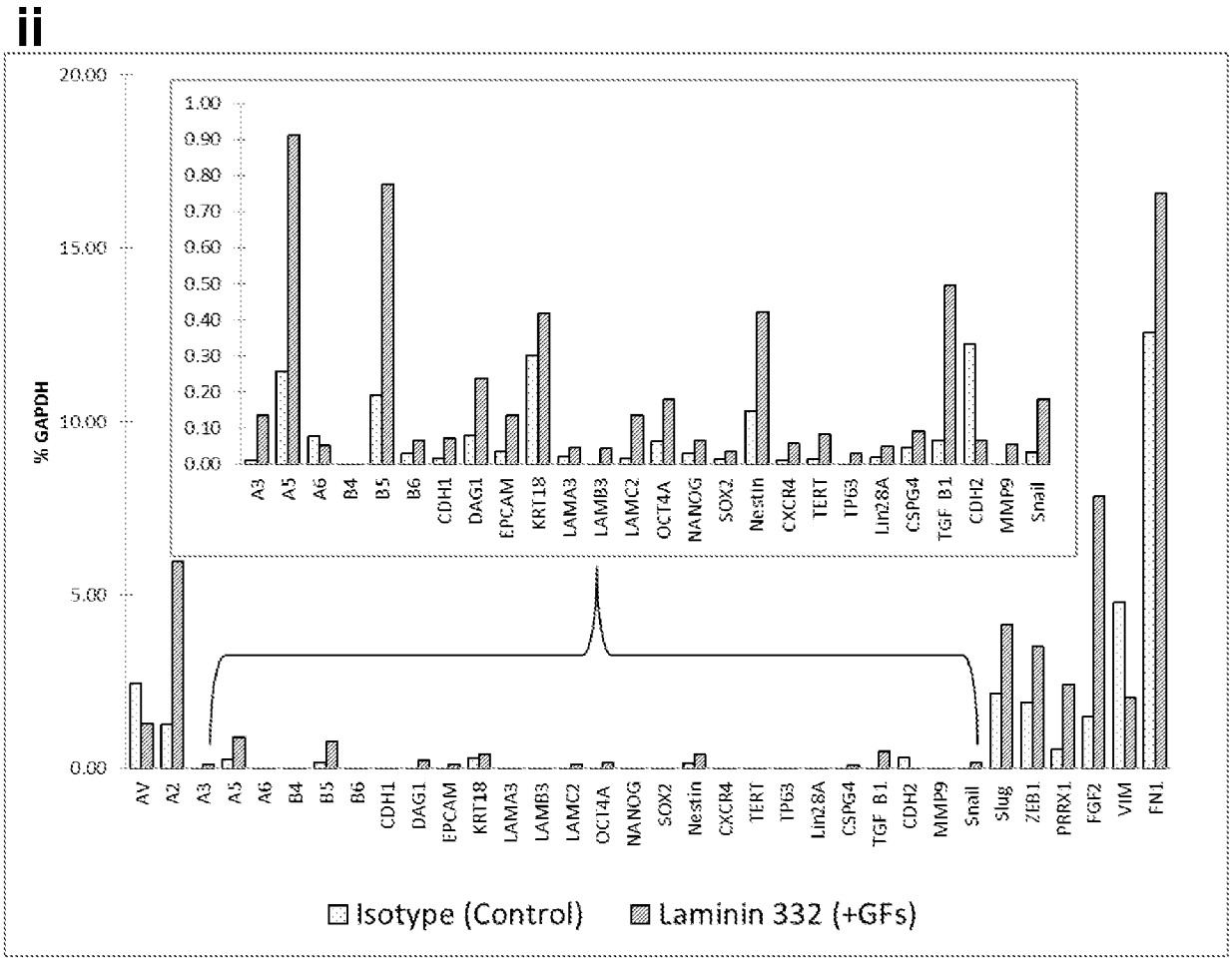
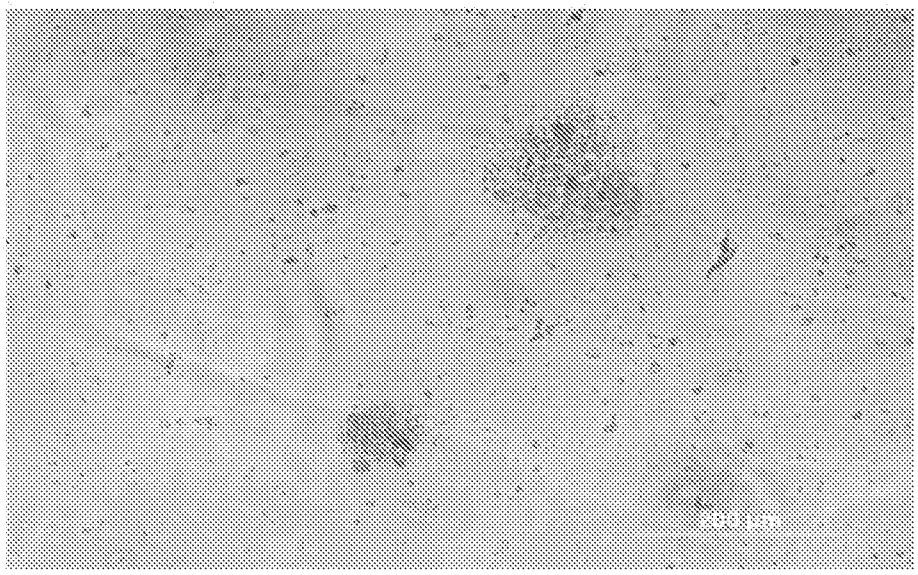

ii
% GAPDH
20.00
15.00
10.00
5.00
0.00
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
AV
A2
A3
A5
A6
B4
B5
B6
CDH1
DAG1
EPCAM
KRT18
LAMA3
LAMB3
LAMC2
OCT4A
NANOG
SOX2
Nestin
CXCR4
TERT
TP63
Lin28A
CSPG4
TGF B1
CDH2
MMP9
Snail
Slug
ZEB1
PRRX1
FGF2
VIM
FN1
Isotype (Control)
Laminin 332 (+GFs)

Fig. 5

B i



ii

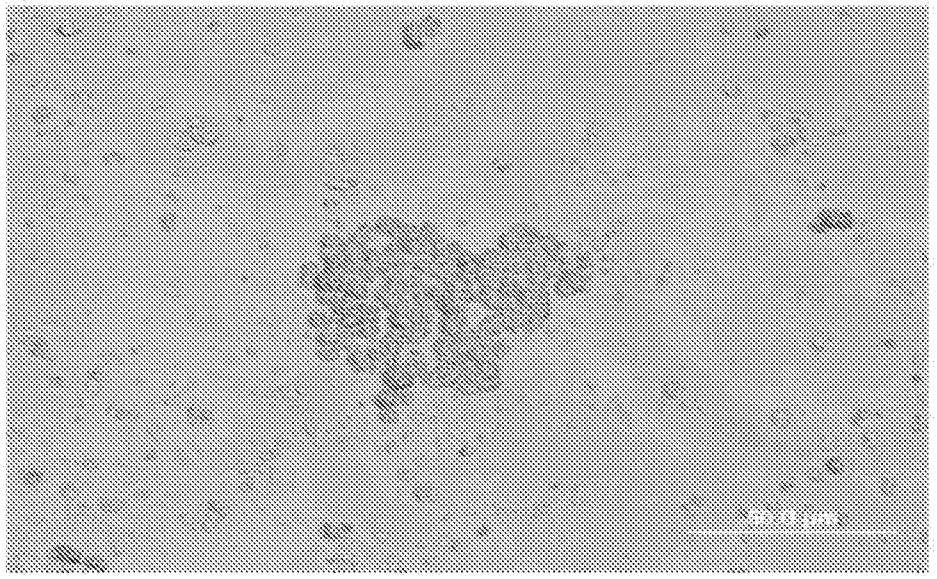


Fig. 6

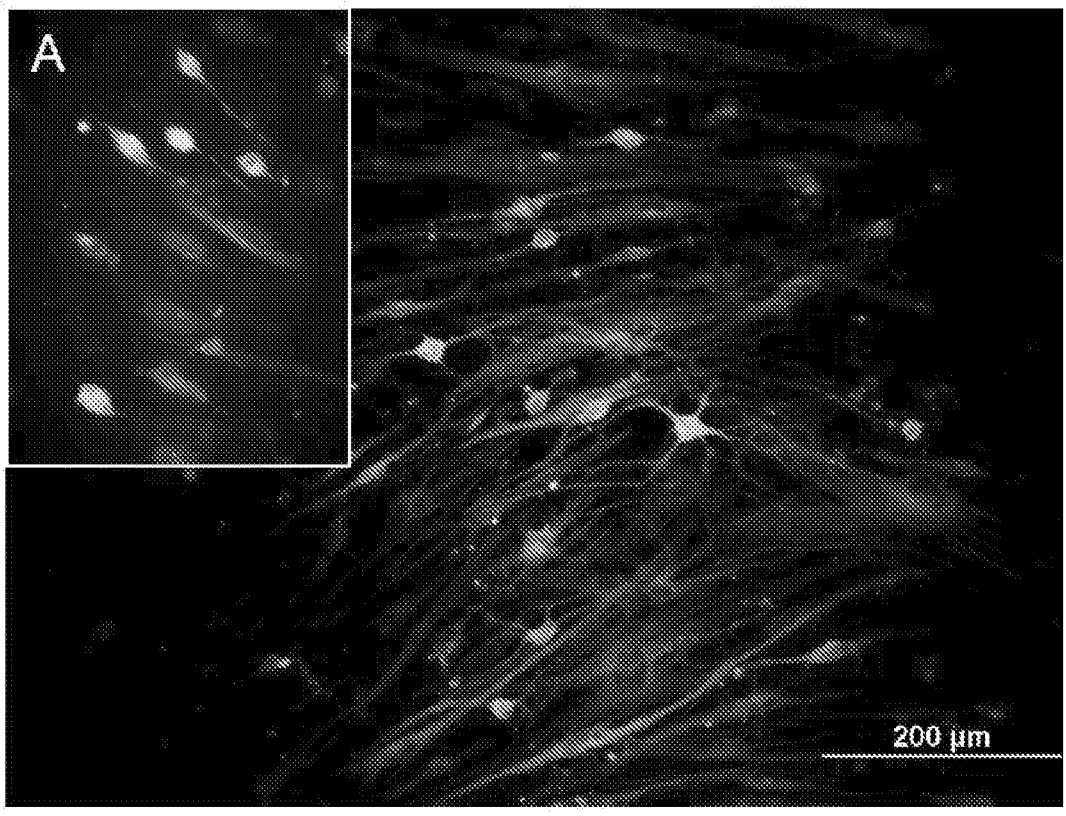


Fig. 6

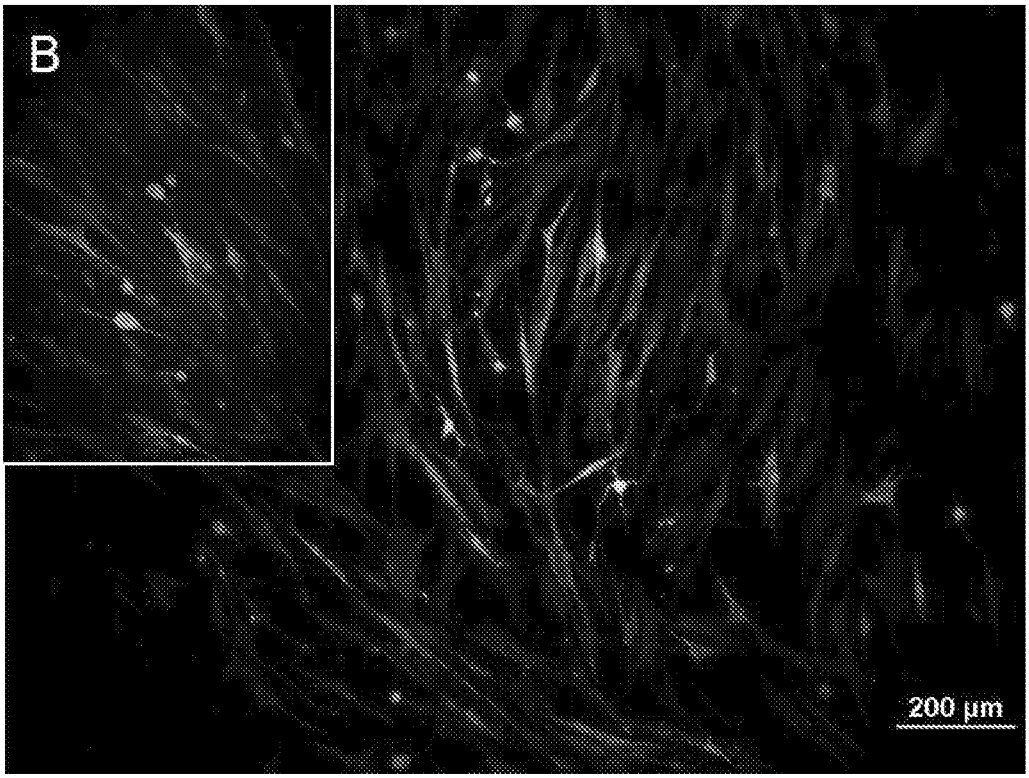


Fig. 6

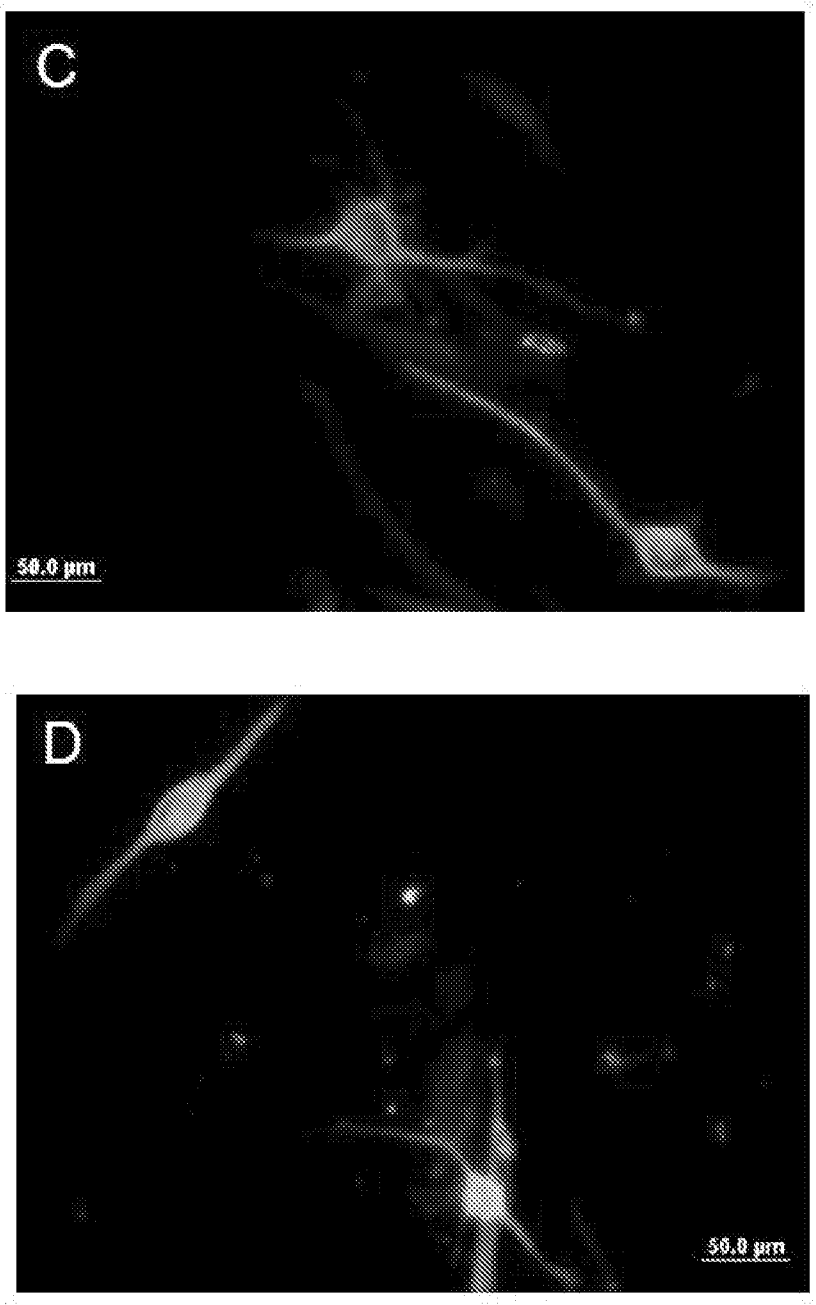


Fig. 7

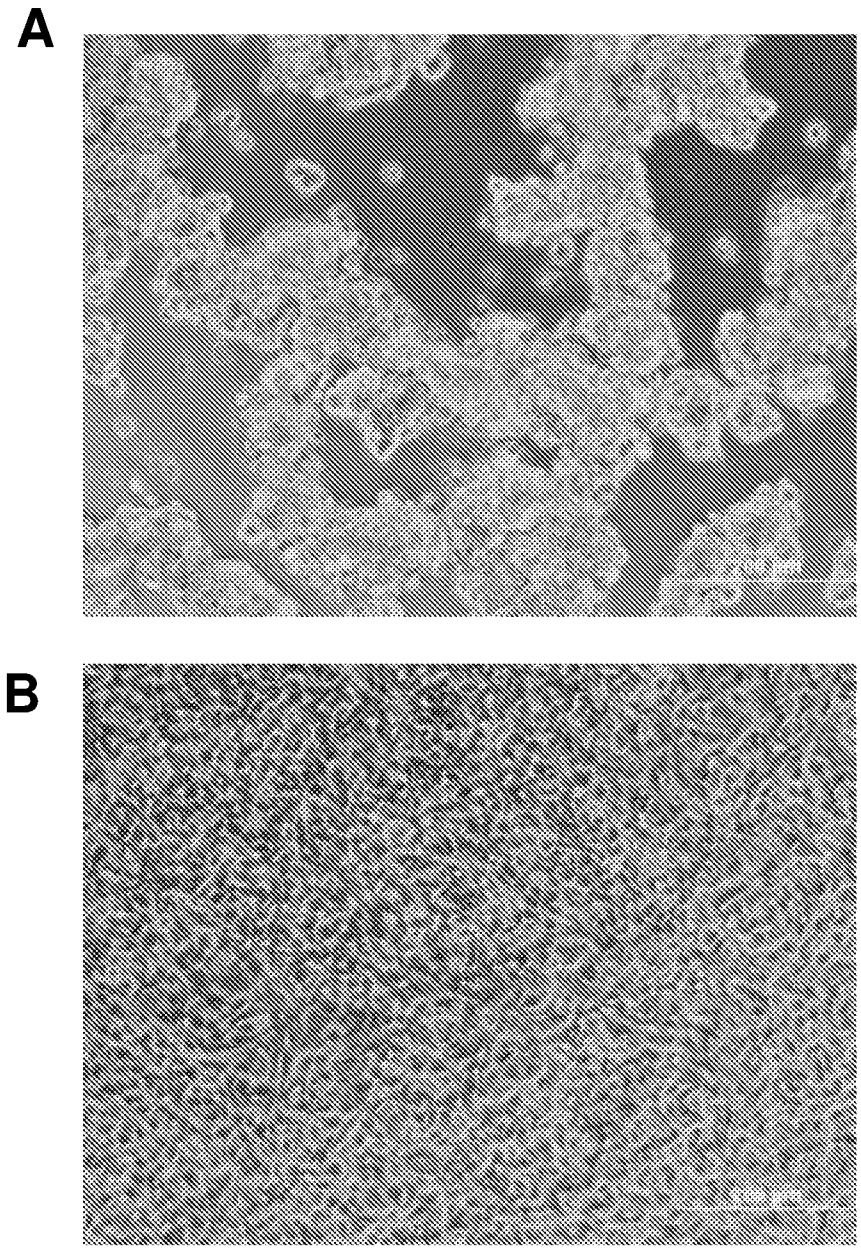


Fig. 7

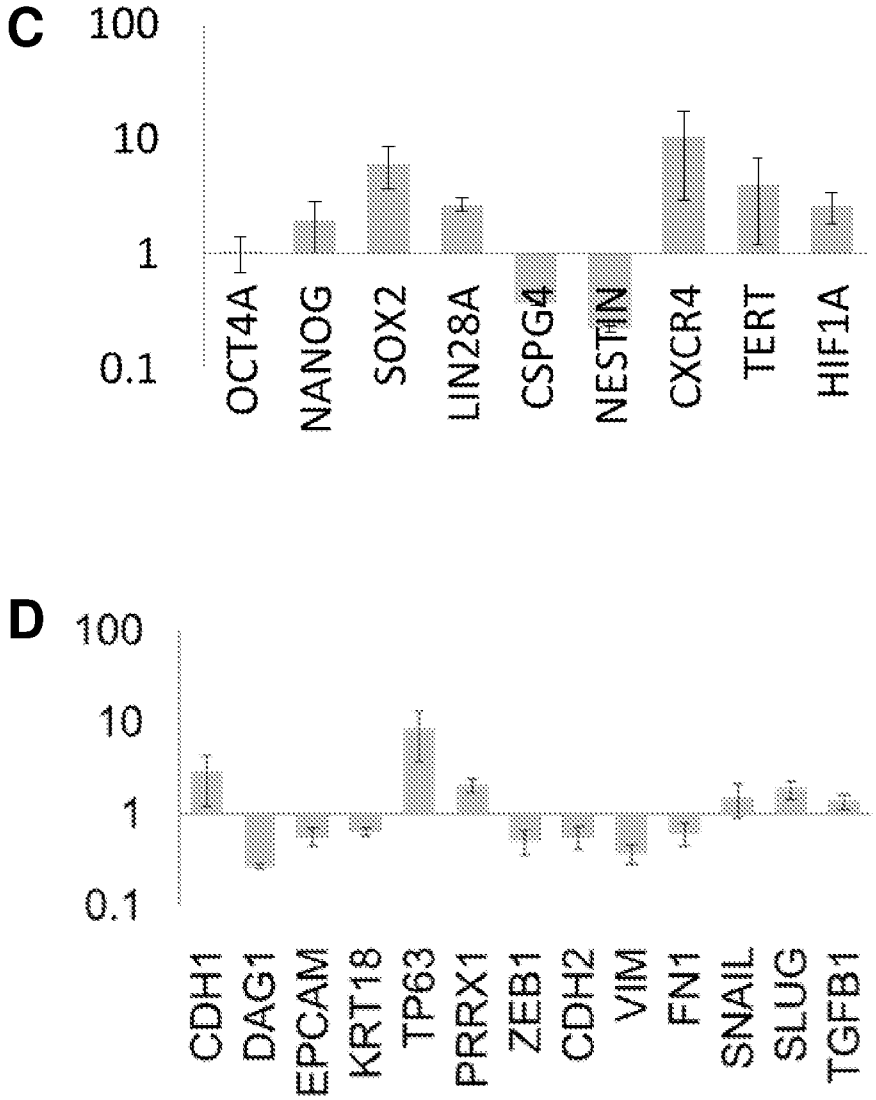

C
100
10
1
0.1
OCT4A
NANOG
SOX2
LIN28A
CSPG4
NESTIN
CXCR4
TERT
HIF1A
D
100
10
1
0.1
CDH1
DAG1
EPCAM
KRT18
TP63
PRRX1
ZEB1
CDH2
VIM
FN1
SNAIL
SLUG
TGFB1

Fig. 8

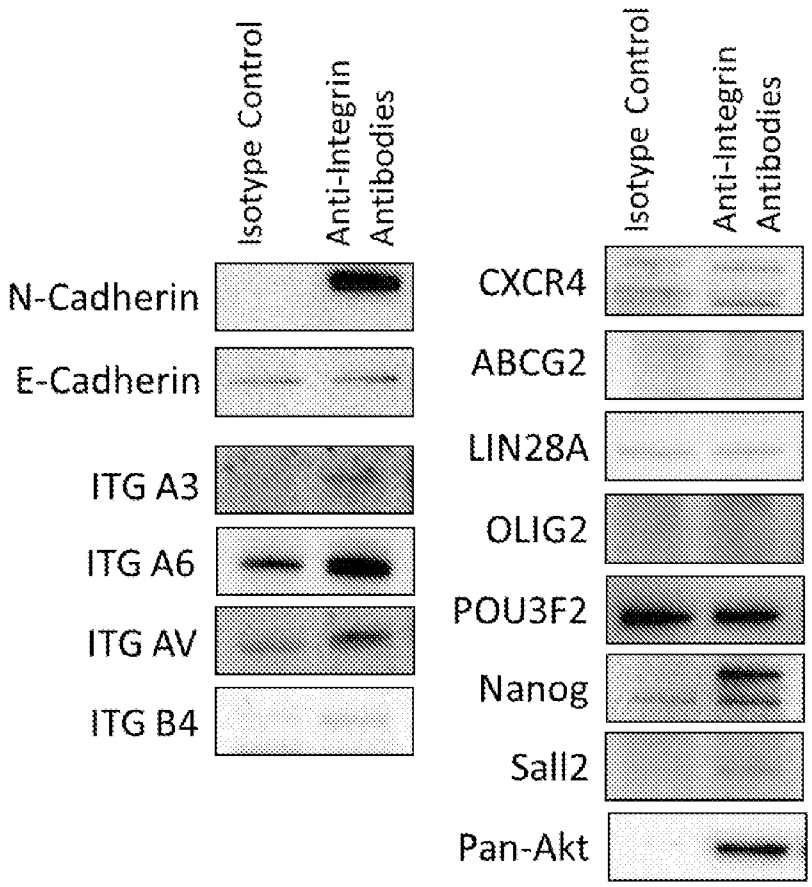

Isotype Control
Anti-Integrin Antibodies
N-Cadherin
E-Cadherin
ITG A3
ITG A6
ITG AV
ITG B4
Isotype Control
Anti-Integrin Antibodies
CXCR4
ABCG2
LIN28A
OLIG2
POU3F2
Nanog
Sall2
Pan-Akt

Fig. 9

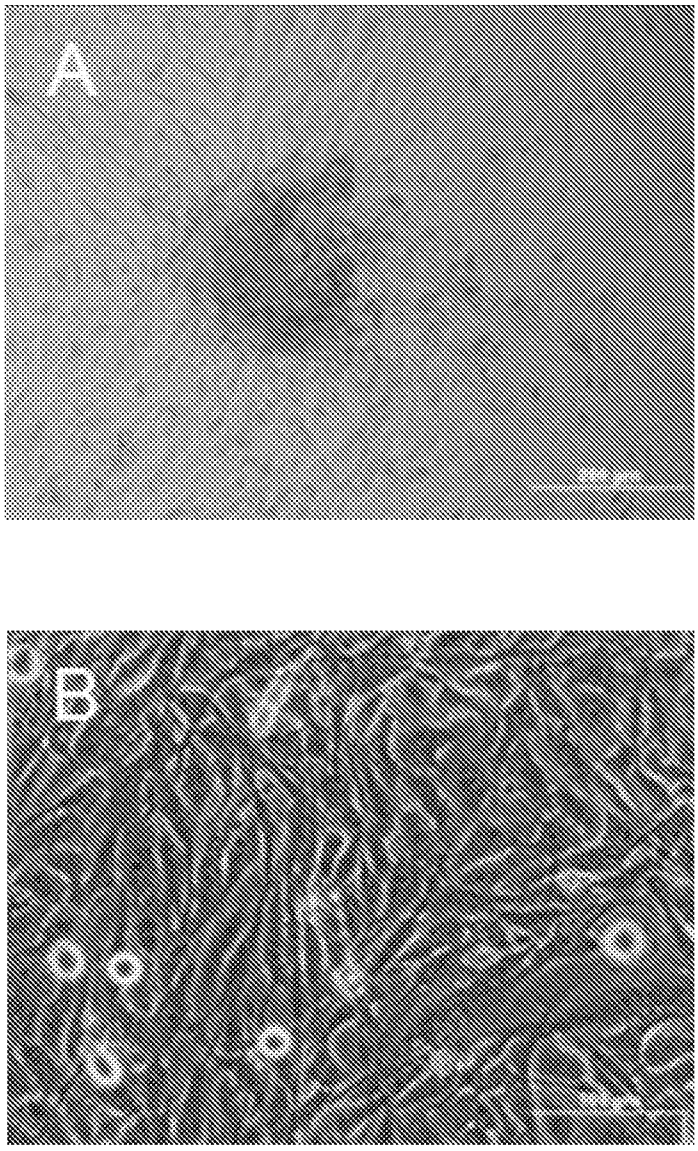


Fig. 9

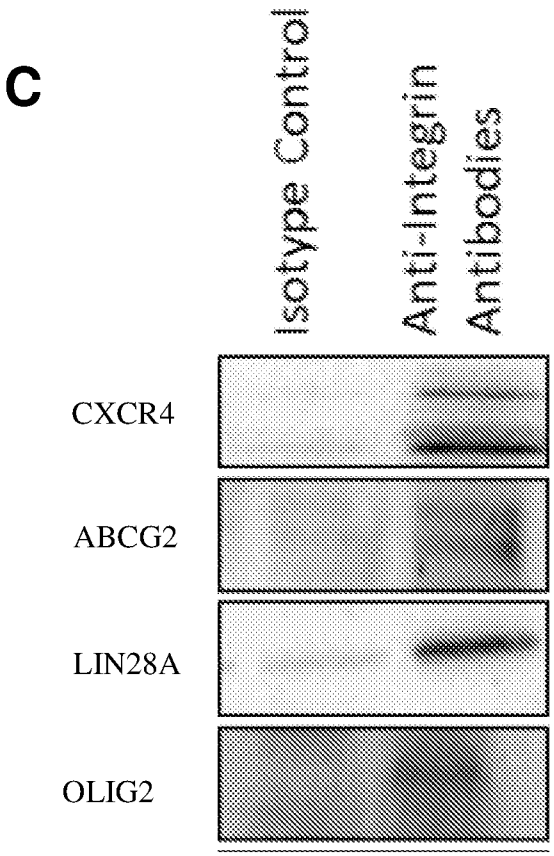

C
Isotype Control
Anti-Integrin Antibodies
CXCR4
ABCG2
LIN28A
OLIG2

Fig. 10

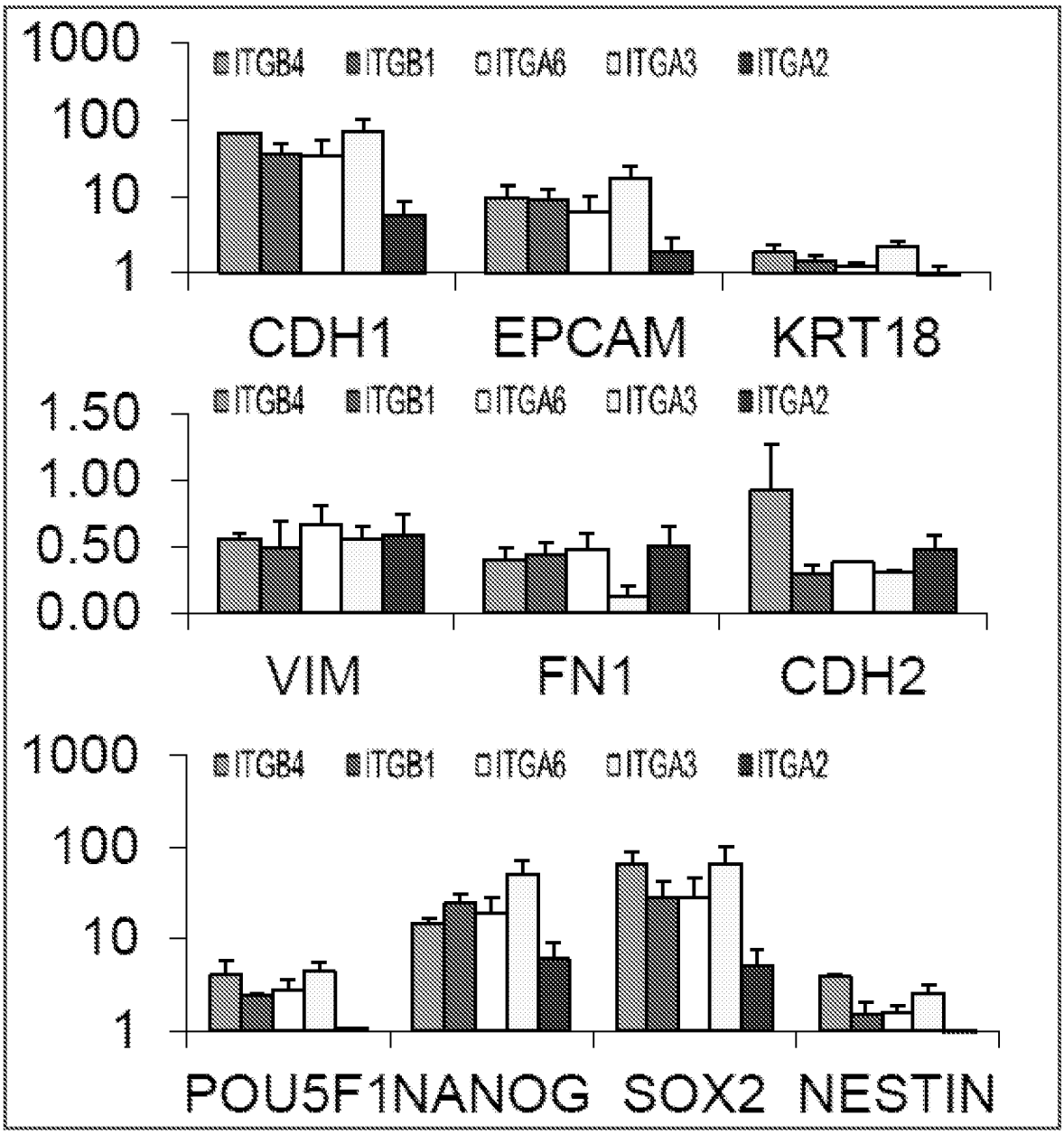

A
1000
100
10
1
ITGB4
ITGB1
ITGA6
ITGA3
ITGA2
CDH1
EPCAM
KRT18
1.50
1.00
0.50
0.00
VIM
FN1
CDH2
POU5F1
NANOG
SOX2
NESTIN

Fig. 10

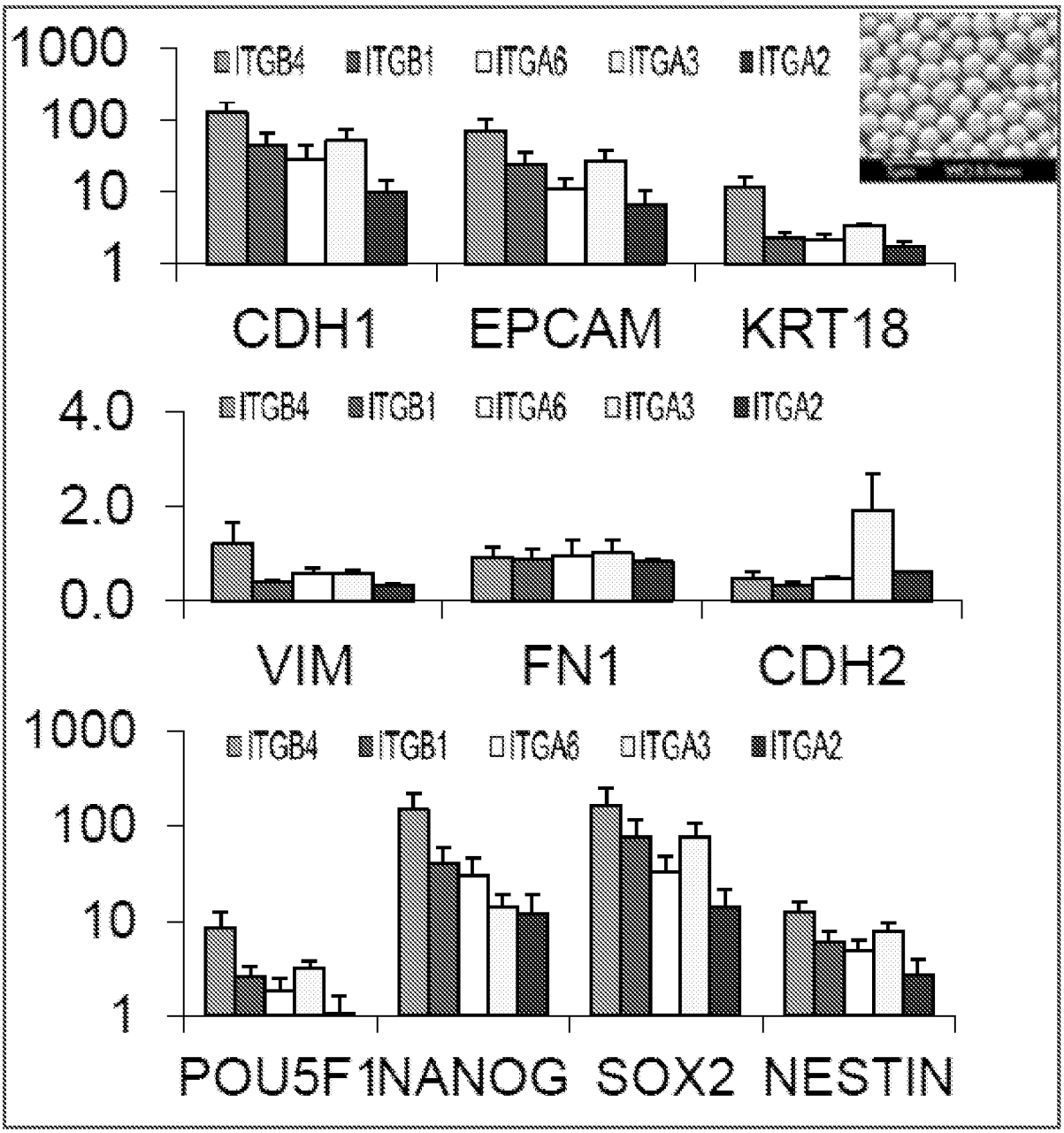

B
1000
100
10
1
ITGB4 ITGB1 ITGA6 ITGA3 ITGA2
CDH1 EPCAM KRT18
4.0
2.0
0.0
ITGB4 ITGB1 ITGA6 ITGA3 ITGA2
VIM FN1 CDH2
1000
100
10
1
ITGB4 ITGB1 ITGA6 ITGA3 ITGA2
POU5F1 NANOG SOX2 NESTIN

Fig. 11

A

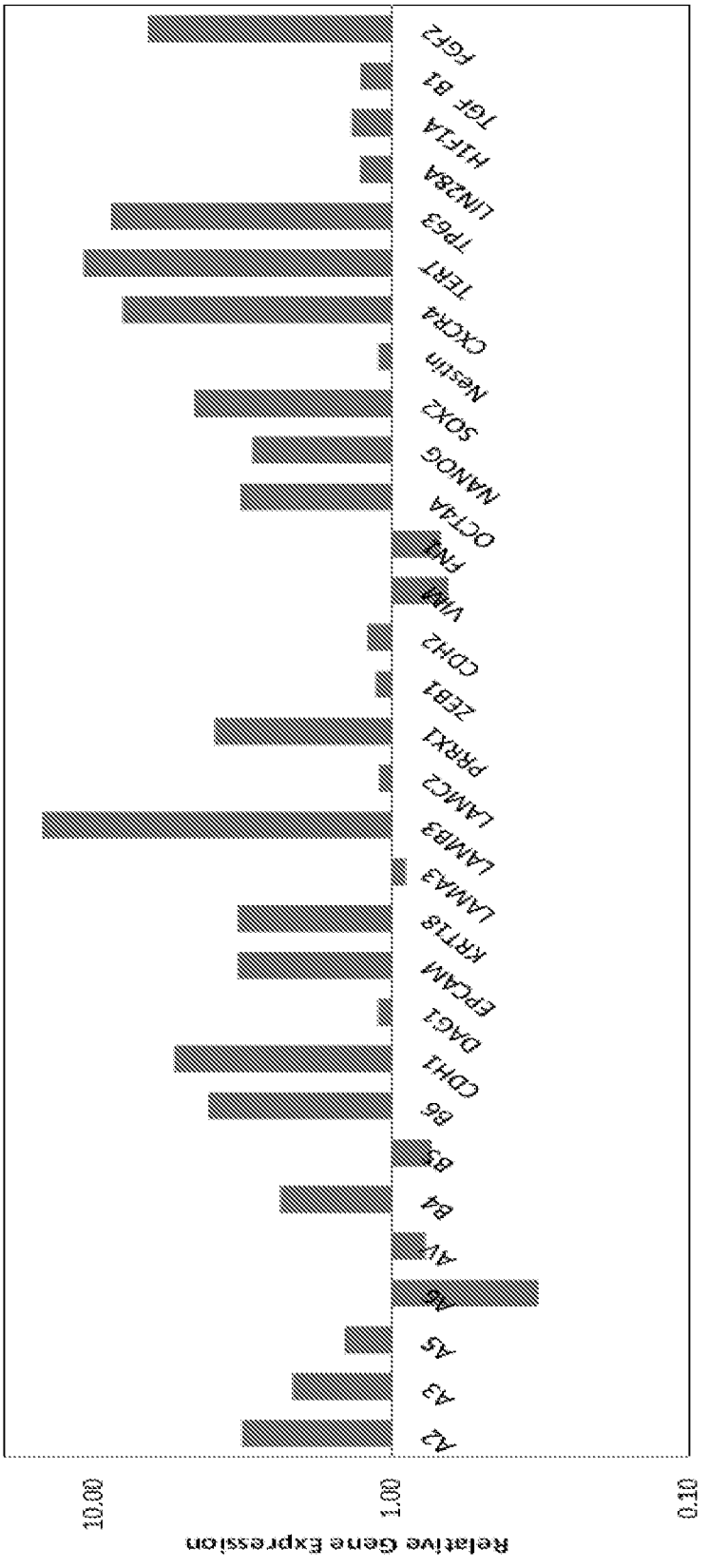

FGF2
TGF B1
HIF1A
LIN28A
TP63
TERT
CXCR4
Nestin
SOX2
NANOG
OCT4A
FN1
VIM
CDH2
ZEB1
PRRX1
LAMC2
LAMB3
LAMA3
KRT18
EPCAM
DAG1
CDH1
B6
B5
B4
A1
A5
A3
A2
10.00
1.00
0.10
Relative Gene Expression

Fig. 11

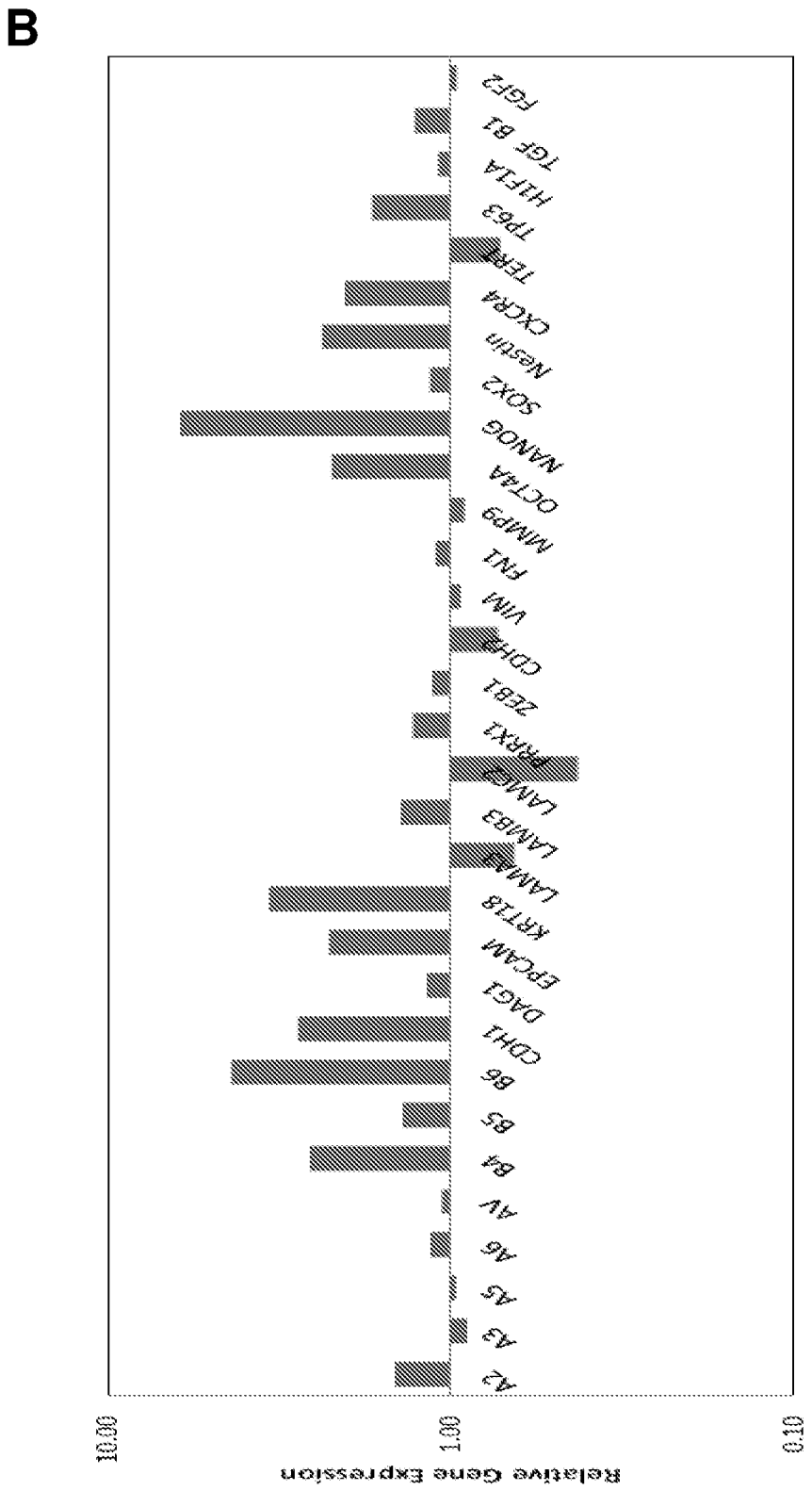

B
10.00
1.00
0.10
Relative Gene Expression
A2
A3
A5
A6
AV
B4
B5
B6
CDH1
DAG1
EPCAM
KRT18
LAMA3
LAMB3
LAMC2
PRRX1
ZEB1
CDH2
VIM
FN1
MMP9
OCT4A
NANOG
SOX2
Nestin
CXCR4
TERT
TP63
HIF1A
TGF B1
FGF2

Fig. 12

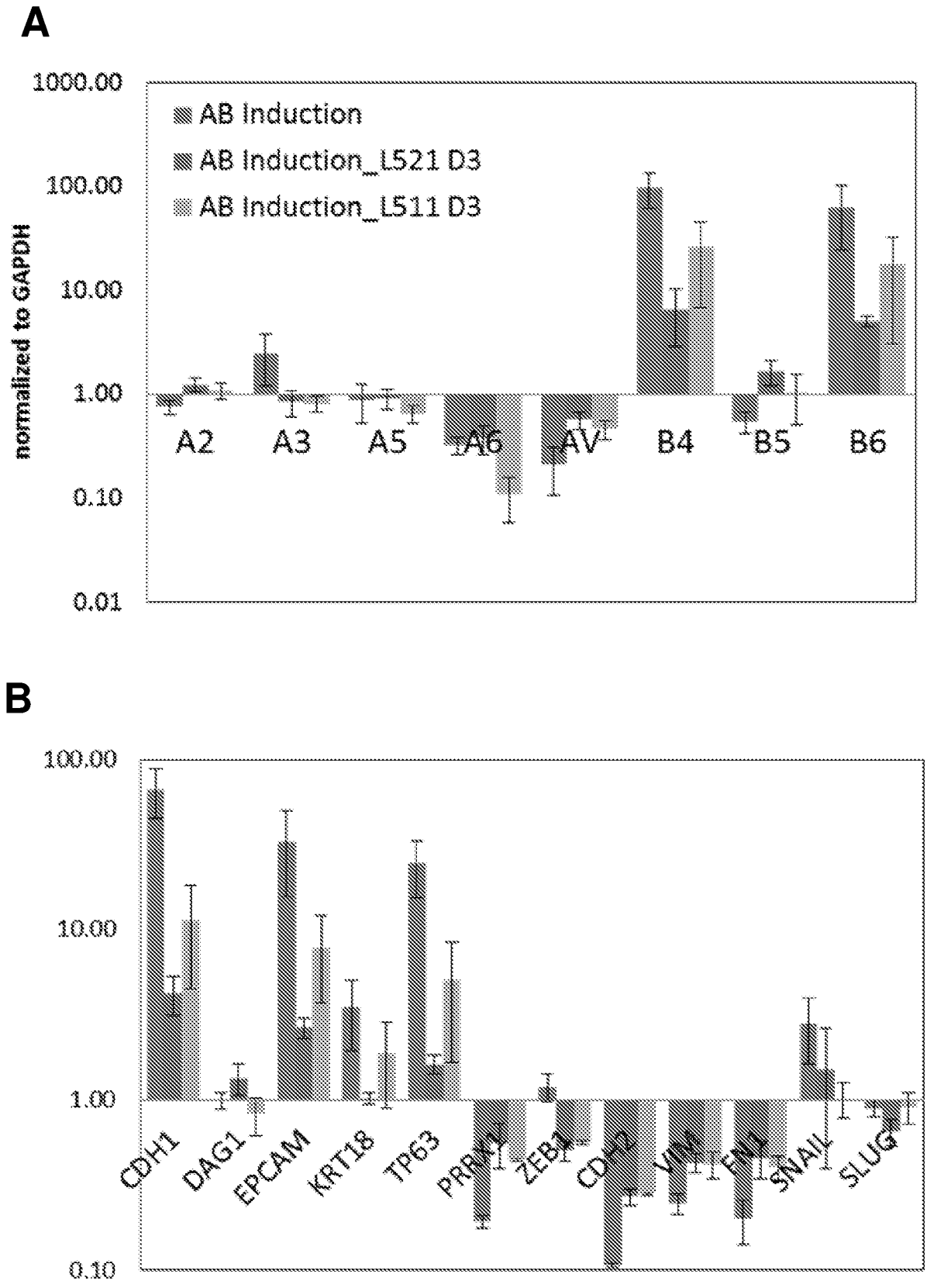
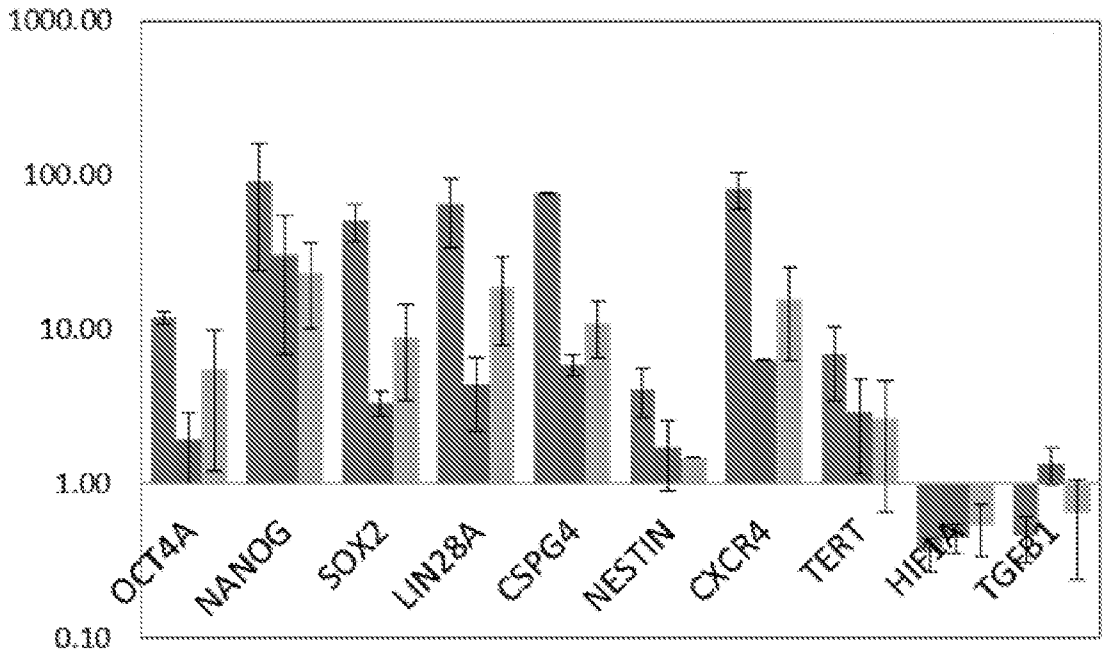

A
1000.00
100.00
10.00
1.00
0.10
0.01
normalized to GAPDH
AB Induction
AB Induction_L521 D3
AB Induction_L511 D3
A2
A3
A5
A6
AV
B4
B5
B6
B
100.00
10.00
1.00
0.10
CDH1
DAG1
EPCAM
KRT18
TP63
PRRX1
ZEB1
CDH2
VIM
FN1
SNAIL
SLUG

Fig. 12

C


1000.00
100.00
10.00
1.00
0.10
OCT4A
NANOG
SOX2
LIN28A
CSPG4
NESTIN
CXCR4
TERT
HIF1A
TGFB1

D

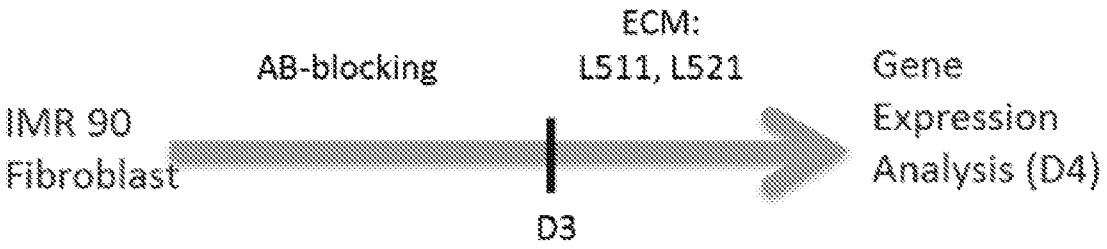

AB-blocking
ECM:
L511, L521
IMR 90
Fibroblast
Gene
Expression
Analysis (D4)
D3

Fig. 13

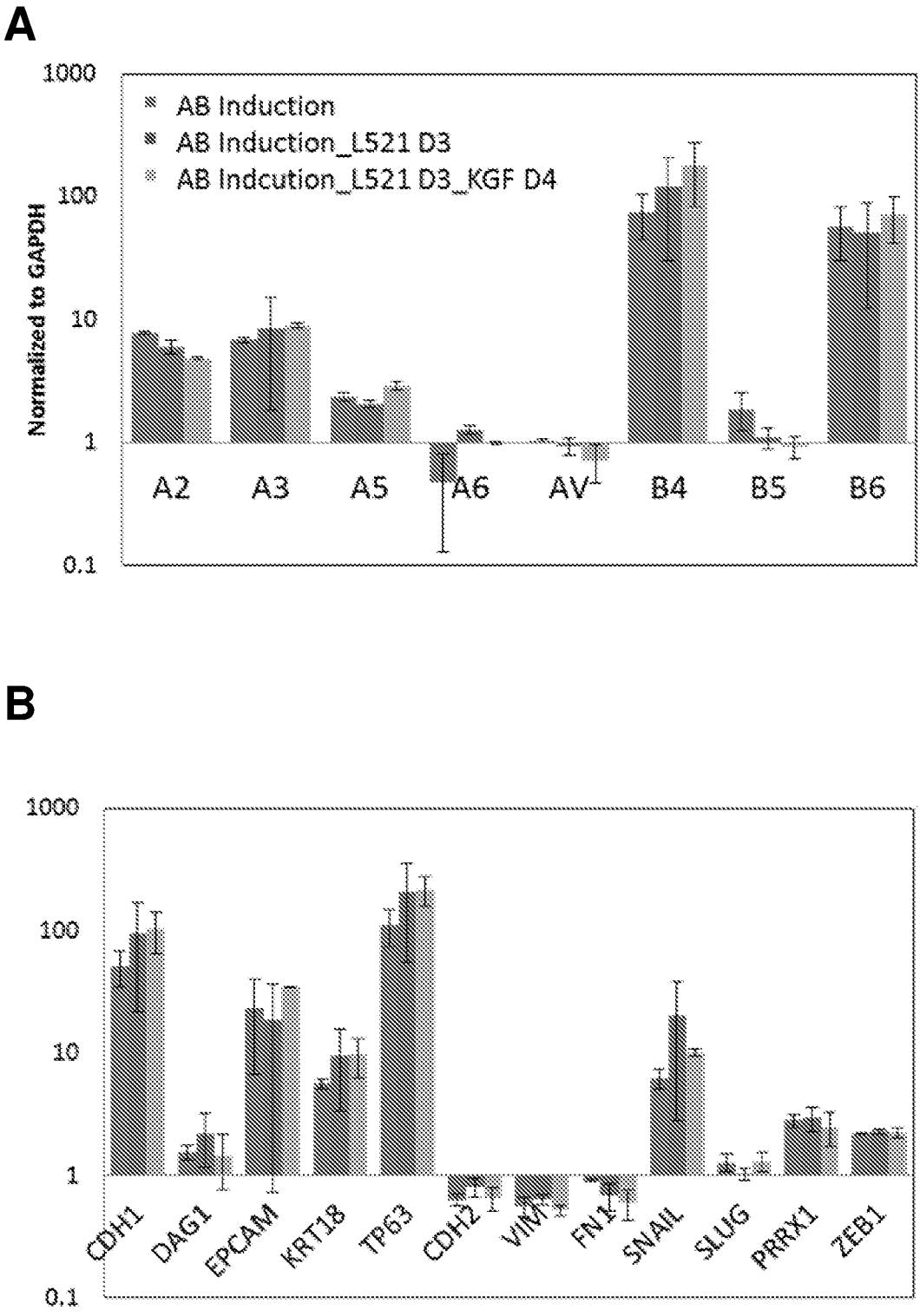

A
1000
100
10
1
0.1
Normalized to GAPDH
AB Induction
AB Induction_L521 D3
AB Indcution_L521 D3_KGF D4
A2
A3
A5
A6
AV
B4
B5
B6
B
1000
100
10
1
0.1
CDH1
DAG1
EPCAM
KRT18
TP63
CDH2
VIM
FN1
SNAIL
SLUG
PRRX1
ZEB1

Fig. 13

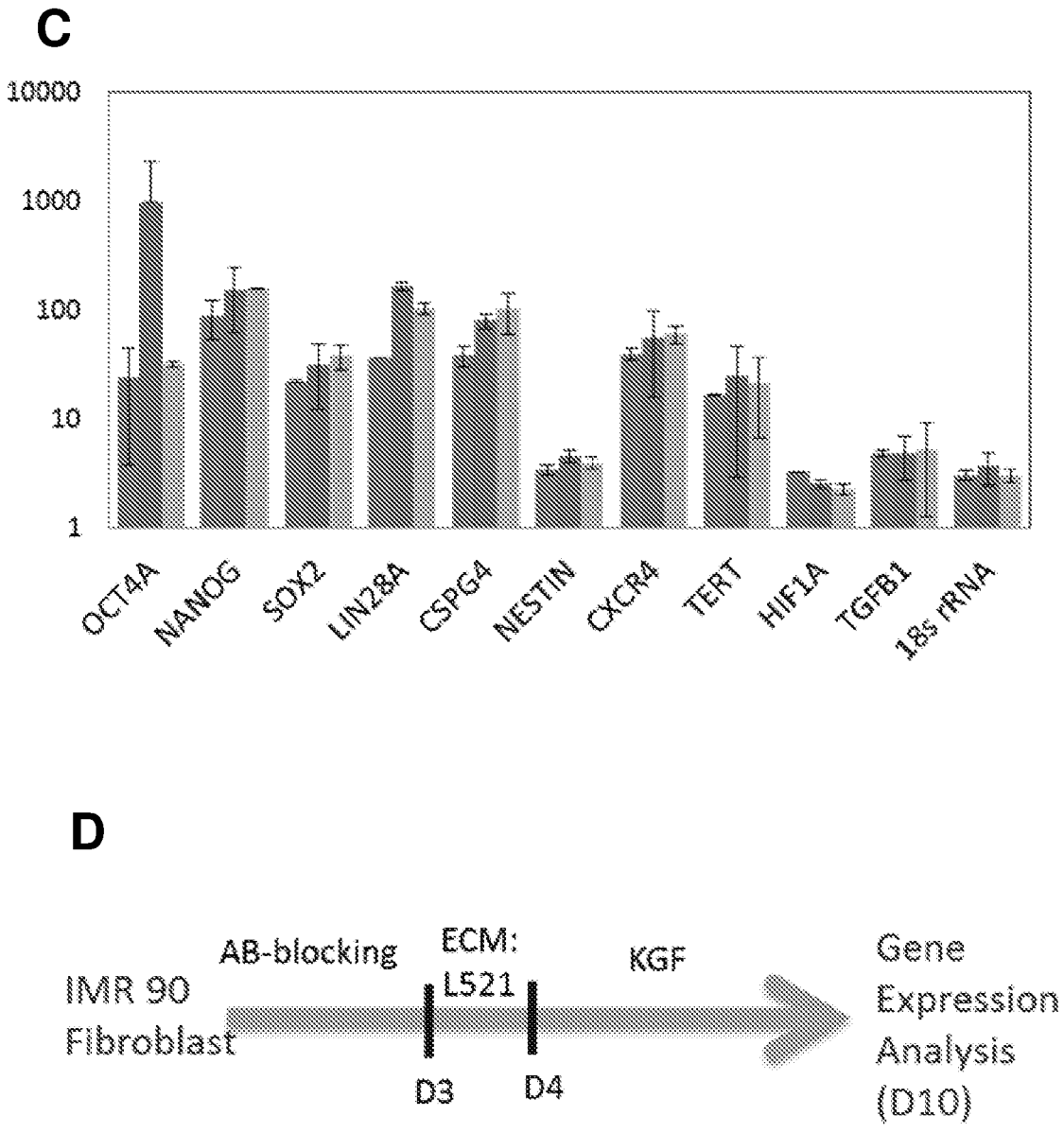

C
10000
1000
100
10
1
OCT4A
NANOG
SOX2
LIN28A
CSPG4
NESTIN
CXCR4
TERT
HIF1A
TGFB1
18s rRNA
D
IMR 90
Fibroblast
AB-blocking
ECM:
L521
KGF
Gene
Expression
Analysis
(D10)
D3
D4

Fig. 14

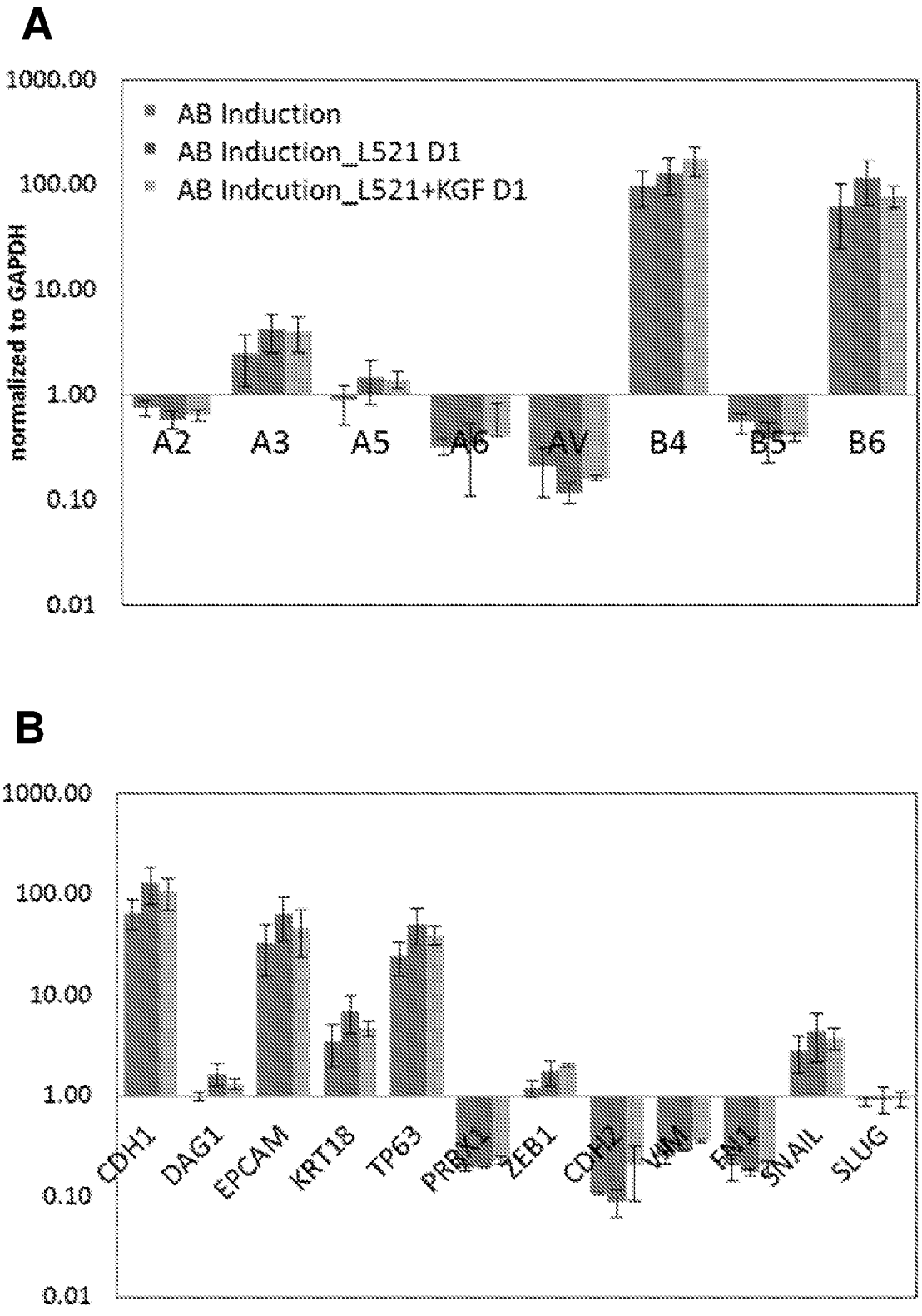
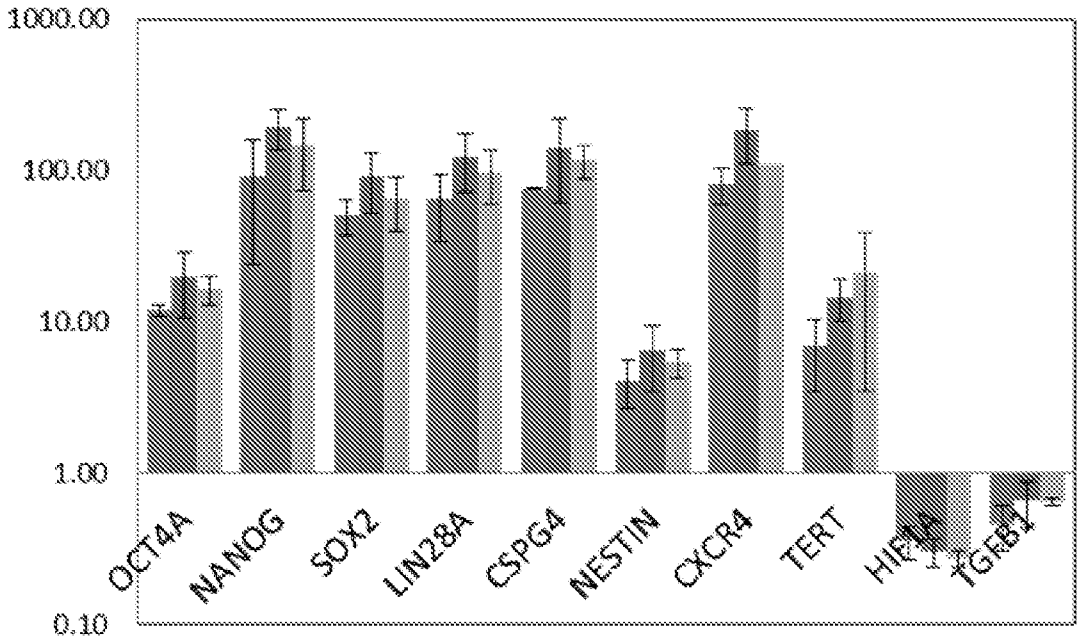

A
1000.00
100.00
10.00
1.00
0.10
0.01
normalized to GAPDH
AB Induction
AB Induction_L521 D1
AB Indcution_L521+KGF D1
A2
A3
A5
A6
AV
B4
B5
B6
B
1000.00
100.00
10.00
1.00
0.10
0.01
CDH1
DAG1
EPCAM
KRT18
TP63
ZEB1
SNAIL
SLUG

Fig. 14

C


1000.00
100.00
10.00
1.00
0.10
OCT4A
NANOG
SOX2
LIN28A
CSPG4
NESTIN
CXCR4
TERT
HIF1A
TGFB1

D

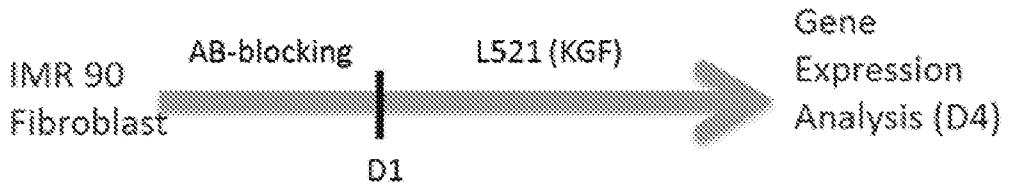

IMR 90
Fibroblast
AB-blocking
L521 (KGF)
D1
Gene
Expression
Analysis (D4)

Fig. 15

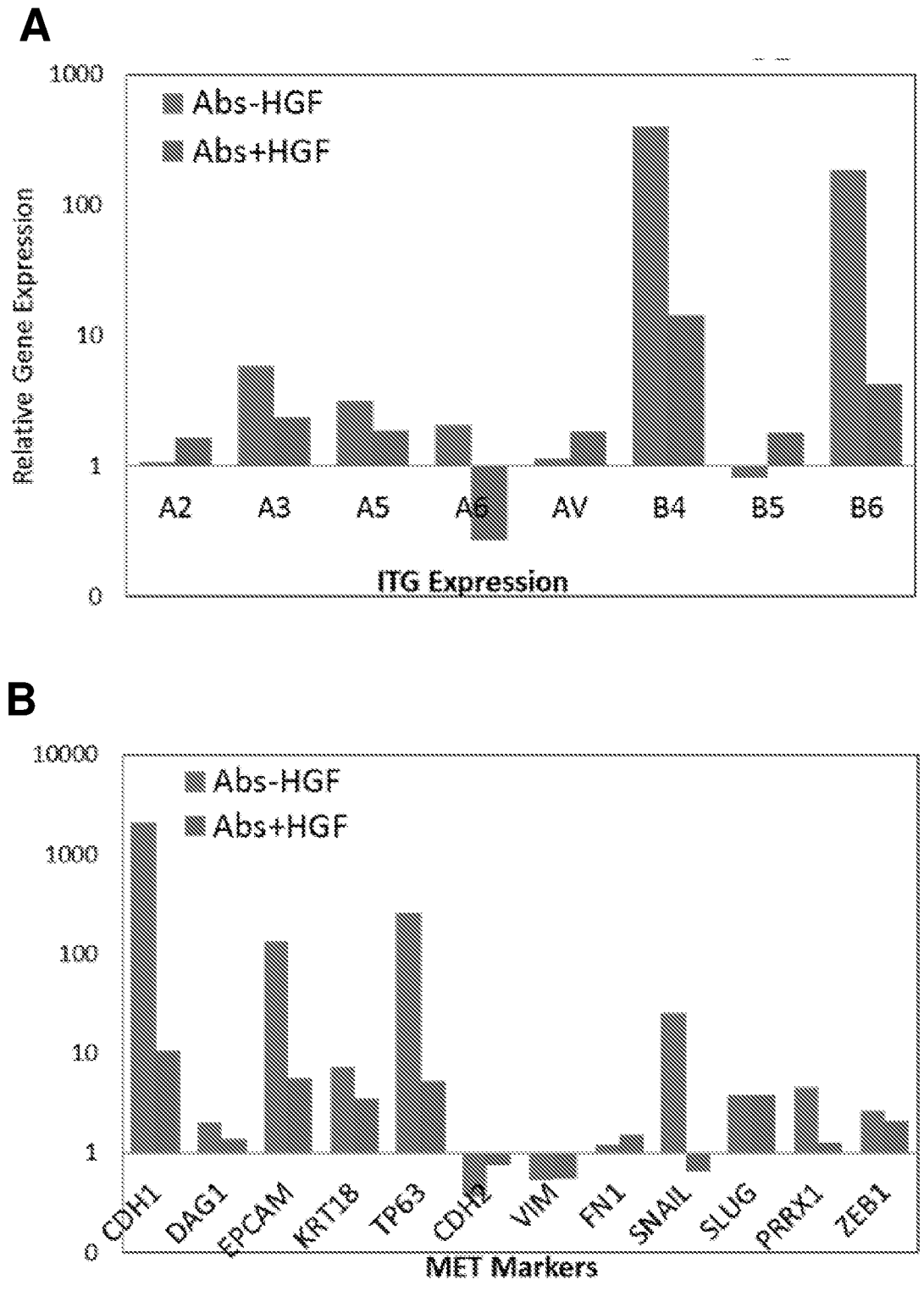

A
1000
100
10
1
0
Relative Gene Expression
Abs-HGF
Abs+HGF
A2
A3
A5
A6
AV
B4
B5
B6
ITG Expression
B
10000
1000
100
10
1
0
Abs-HGF
Abs+HGF
CDH1
DAG1
EPCAM
KRT18
TP63
CDH2
VIM
FN1
SNAIL
SLUG
PRRX1
ZEB1
MET Markers

Fig. 15

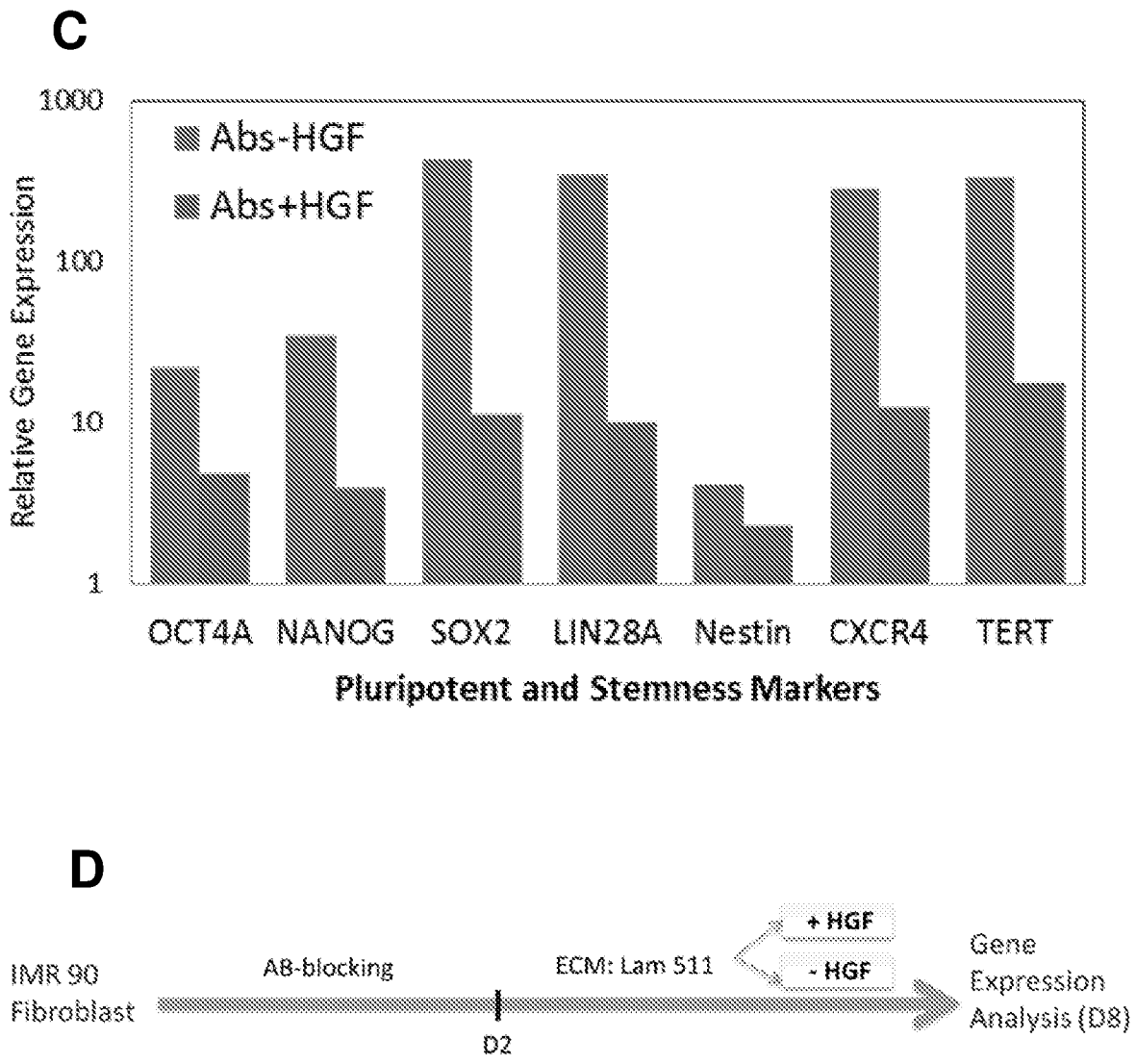

C
1000
100
10
1
Relative Gene Expression
Abs-HGF
Abs+HGF
OCT4A
NANOG
SOX2
LIN28A
Nestin
CXCR4
TERT
Pluripotent and Stemness Markers
D
IMR 90
Fibroblast
AB-blocking
D2
ECM: Lam 511
+ HGF
- HGF
Gene
Expression
Analysis (D8)

Fig. 16

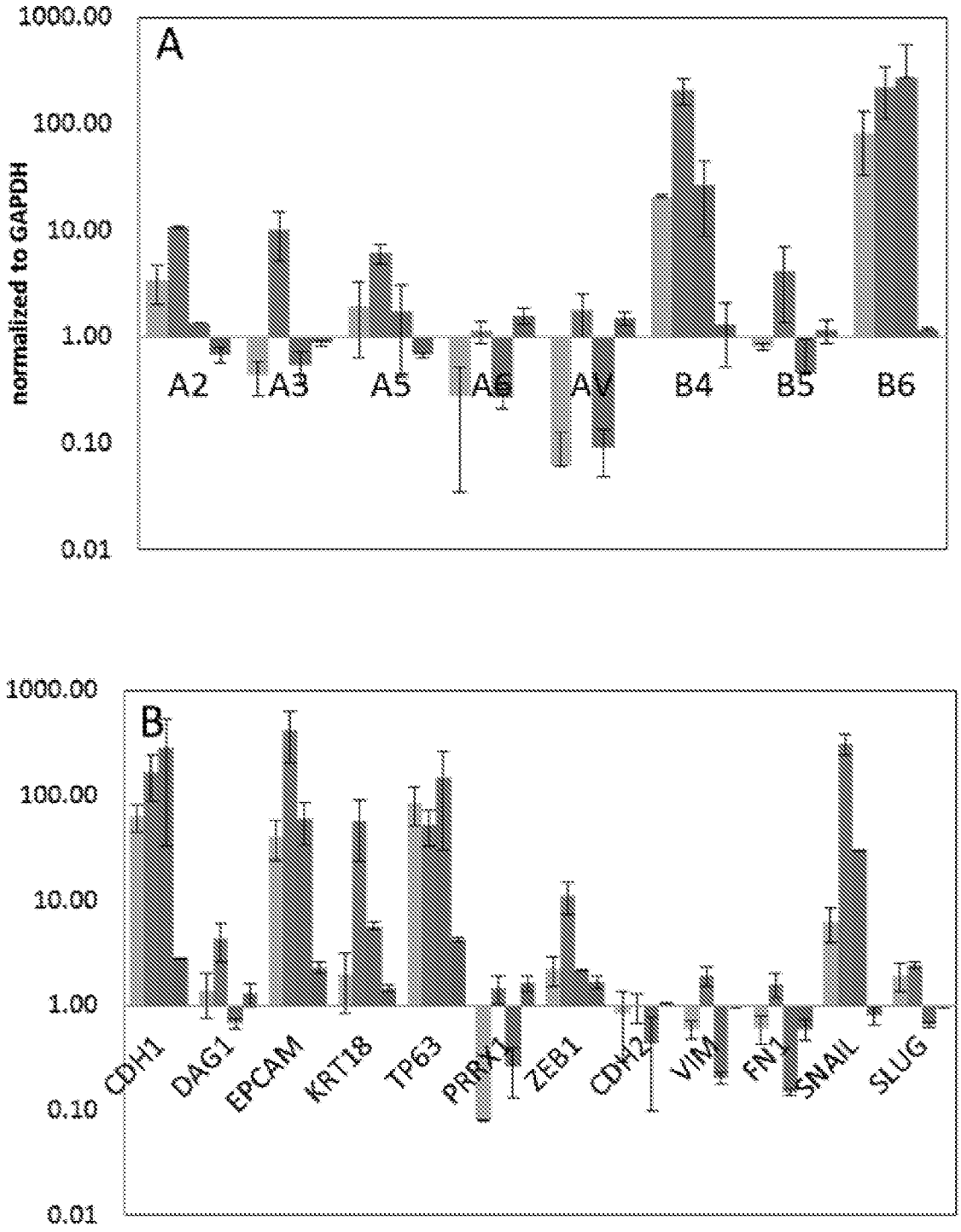

A
normalized to GAPDH
1000.00
100.00
10.00
1.00
0.10
0.01
A2
A3
A5
A6
AV
B4
B5
B6
B
CDH1
DAG1
EPCAM
KRT18
TP63
PRRX1
ZEB1
CDH2
VIM
FN1
SNAIL
SLUG

Fig. 16

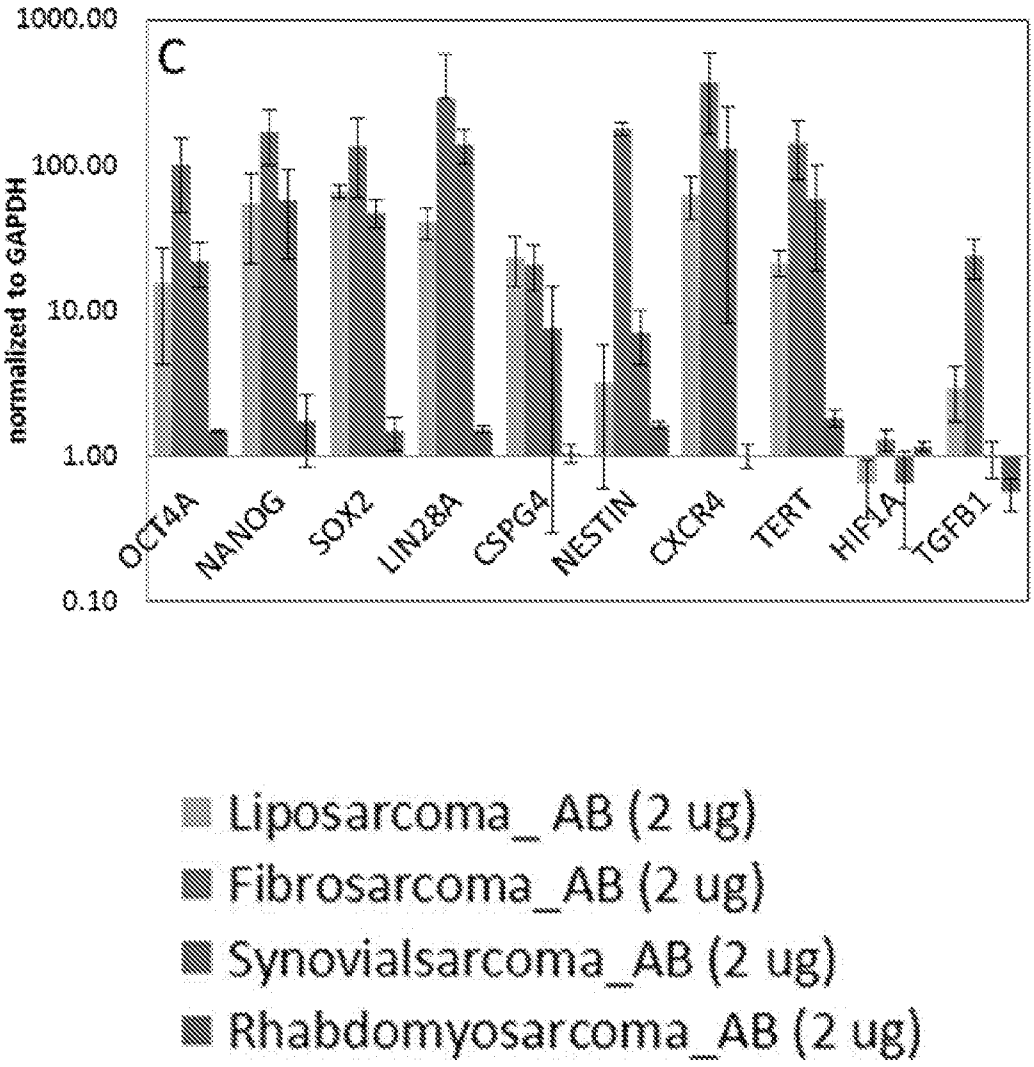

C
1000.00
100.00
10.00
1.00
0.10
normalized to GAPDH
OCT4A
NANOG
SOX2
LIN28A
CSPG4
NESTIN
CXCR4
TERT
HIF1A
TGFB1
Liposarcoma_ AB (2 ug)
Fibrosarcoma_AB (2 ug)
Synovialsarcoma_AB (2 ug)
Rhabdomyosarcoma_AB (2 ug)

Fig. 17

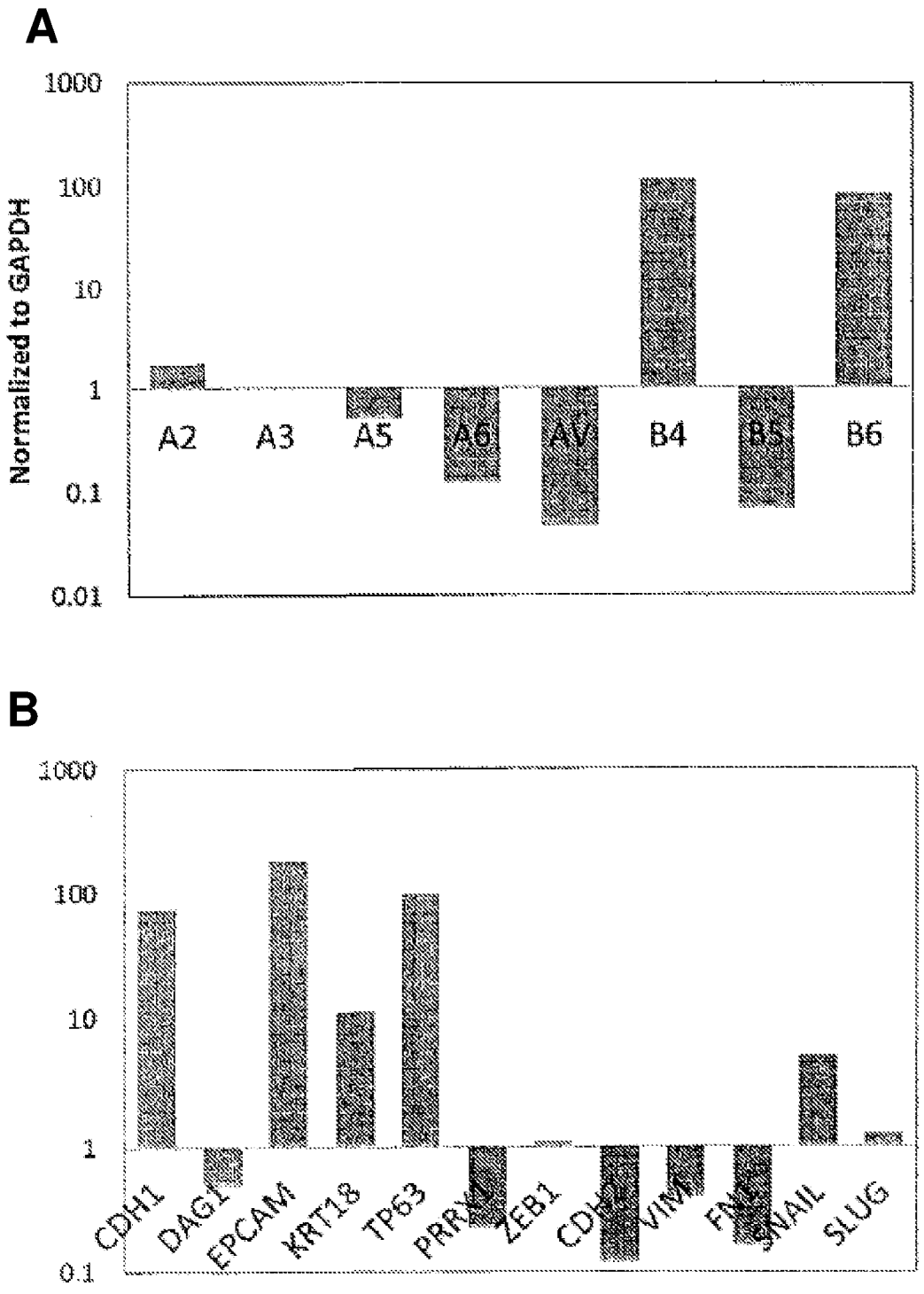
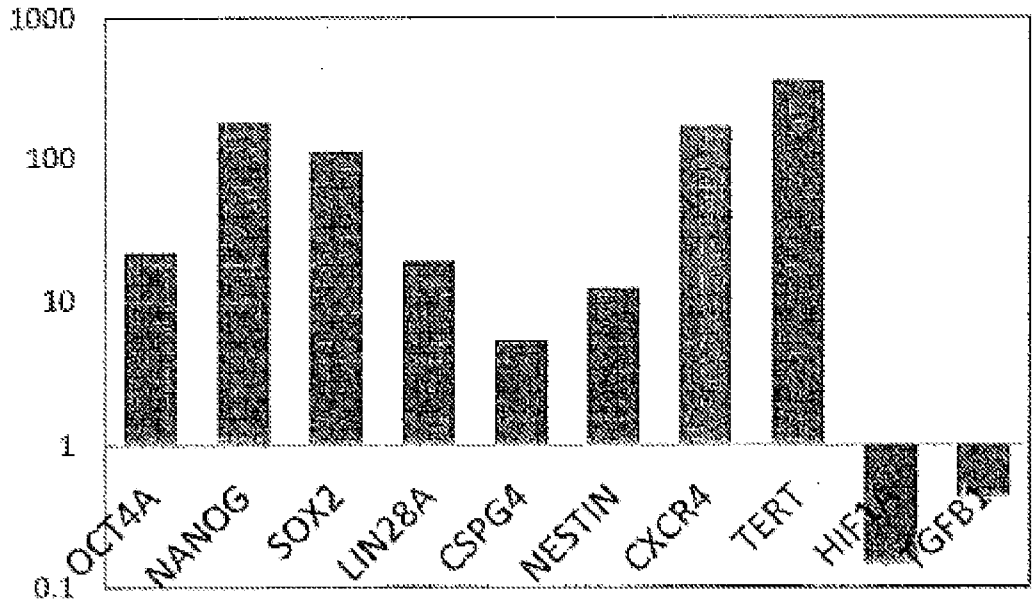
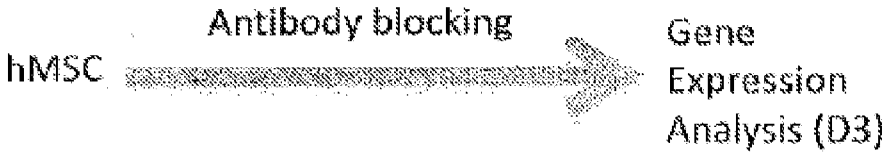

A
Normalized to GAPDH
1000
100
10
1
0.1
0.01
A2
A3
A5
A6
AV
B4
B5
B6
B
1000
100
10
1
0.1
CDH1
DAG1
EPCAM
KRT18
TP63
ZEB1
VIM
SNAIL
SLUG

Fig. 17

C


1000
100
10
1
0.1
OCT4A
NANOG
SOX2
LIN28A
CSPG4
NESTIN
CXCR4
TERT
HIF1A
TGFB1

D


hMSC
Antibody blocking
Gene
Expression
Analysis (D3)