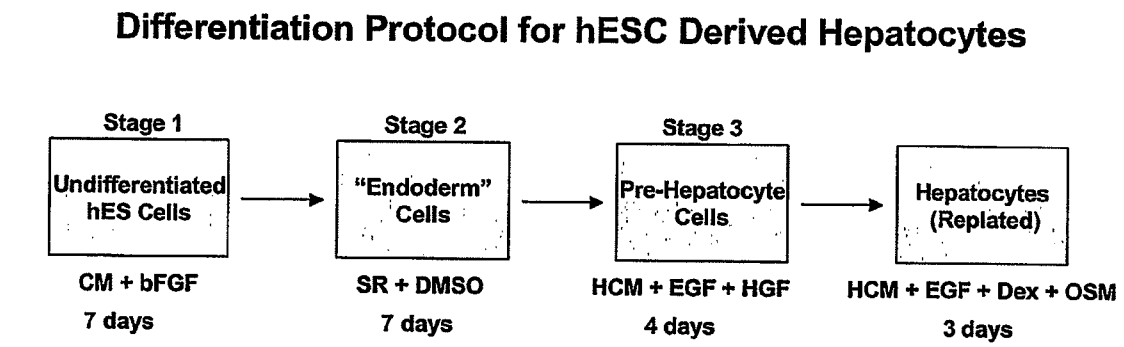
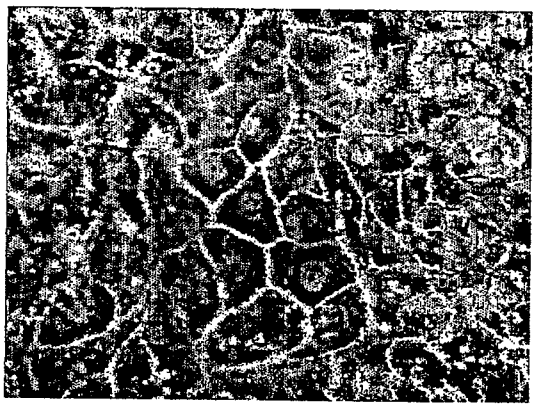
Figure 1


Differentiation Protocol for hESC Derived Hepatocytes
Stage 1
Undifferentiated hES Cells
CM + bFGF
7 days
Stage 2
"Endoderm" Cells
SR + DMSO
7 days
Stage 3
Pre-Hepatocyte Cells
HCM + EGF + HGF
4 days
Hepatocytes (Replated)
HCM + EGF + Dex + OSM
3 days



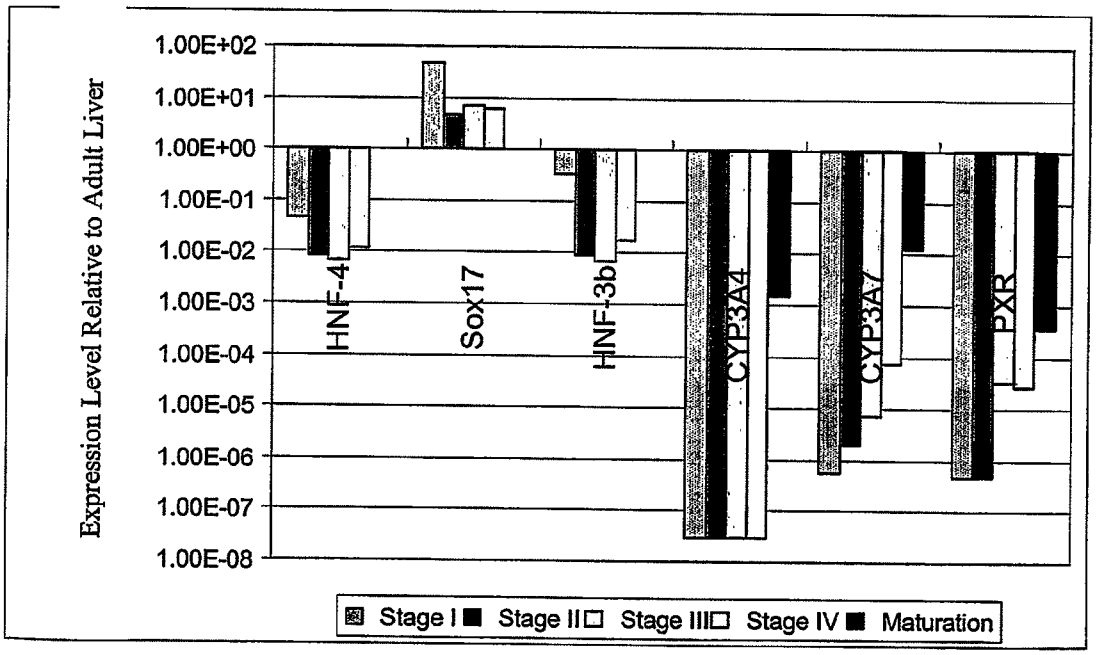

Expression Level Relative to Adult Liver
1.00E+02
1.00E+01
1.00E+00
1.00E-01
1.00E-02
1.00E-03
1.00E-04
1.00E-05
1.00E-06
1.00E-07
1.00E-08
HNF-4
Sox17
HNF-3b
CYP3A4
CYP3A7
PXR
Stage I Stage II Stage III Stage IV Maturation

Figure 2(A)

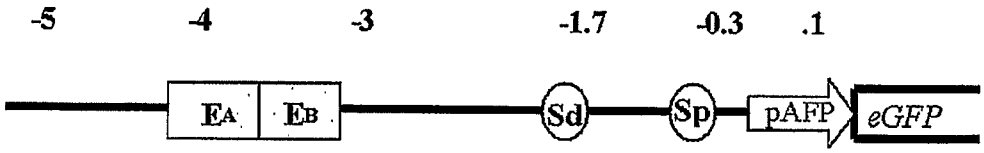


Figure 2(B)

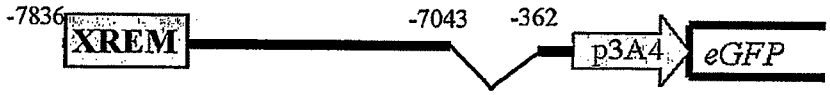
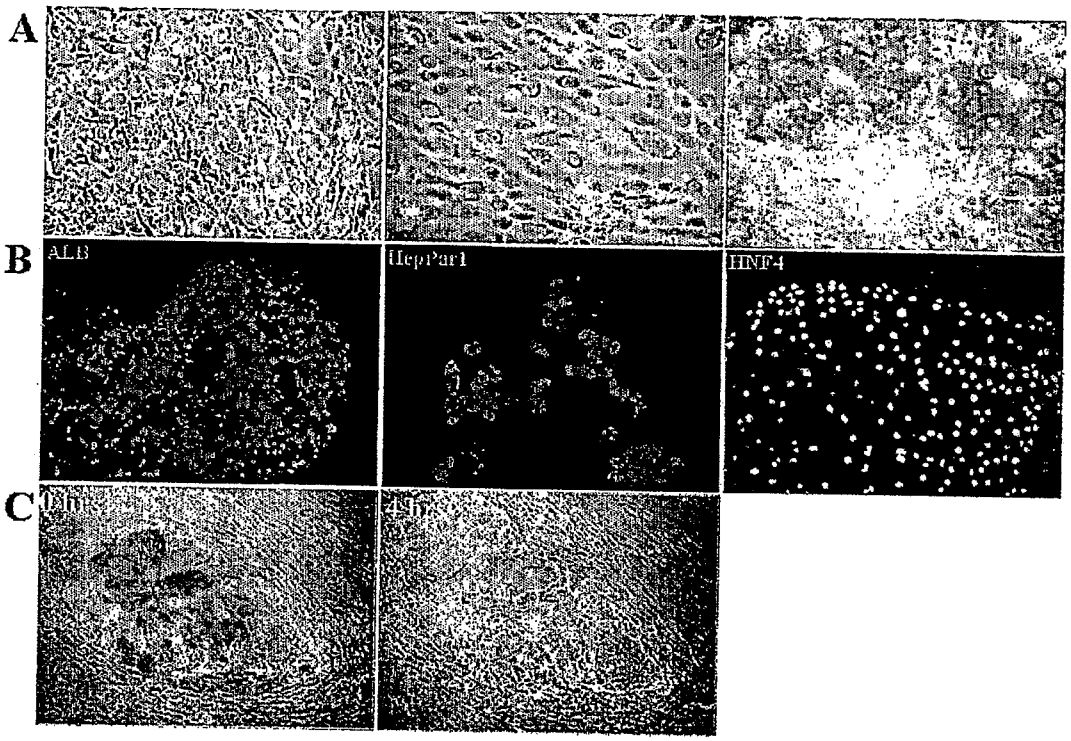


Figure 3


A
B
C
ALB
HepPar1
HNF4
Tuj1
AFP

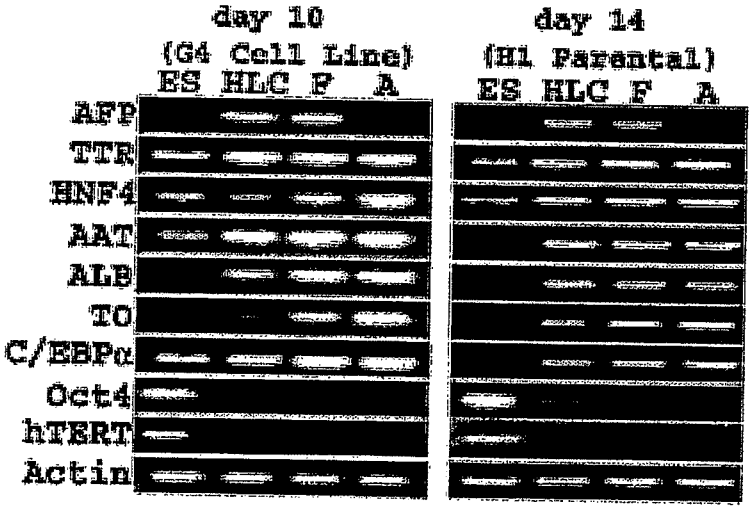

day 10
(G4 Cell Line)
ES HLC F A
day 14
(H1 Parental)
ES HLC F A
AFP
TTR
HNF4
AAT
ALB
TO
C/EBPα
Oct4
hTERT
Actin

Figure 4

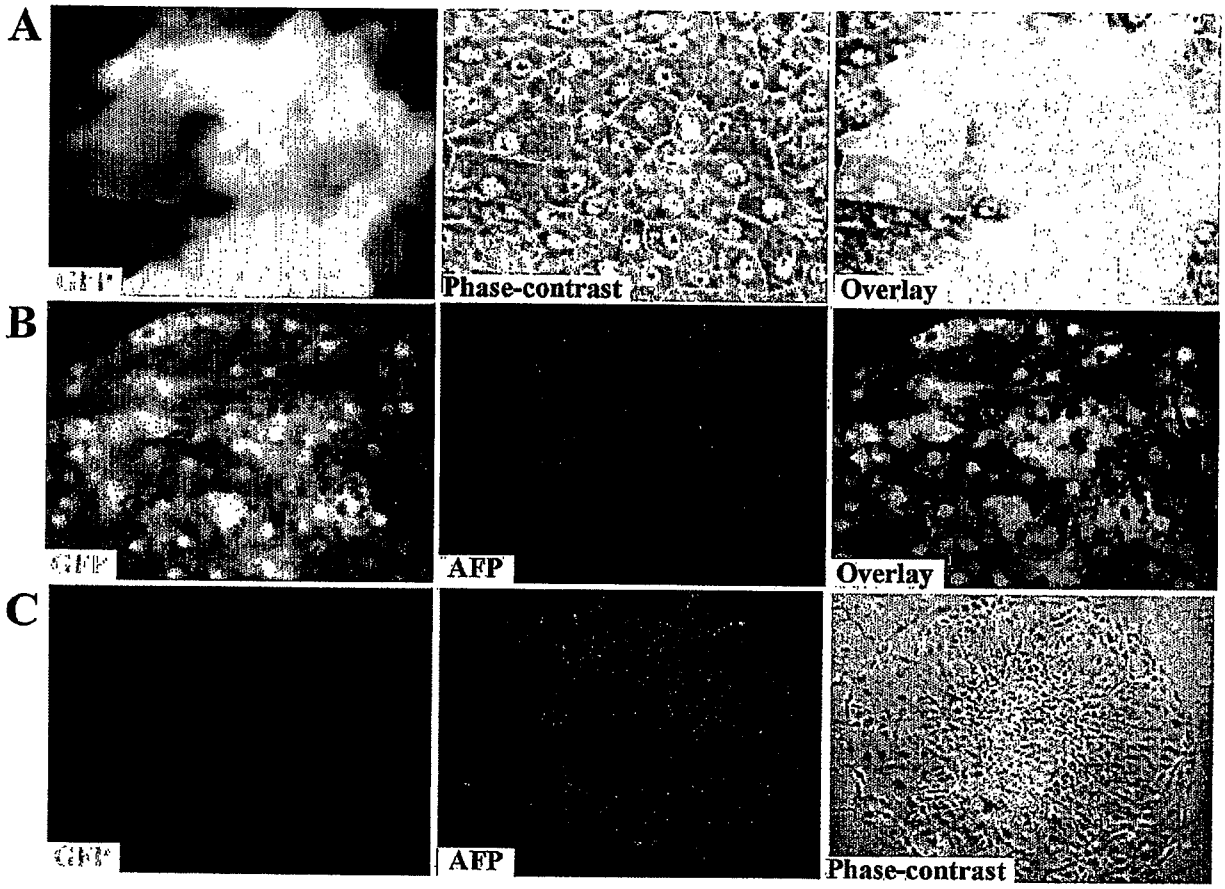


Figure 5

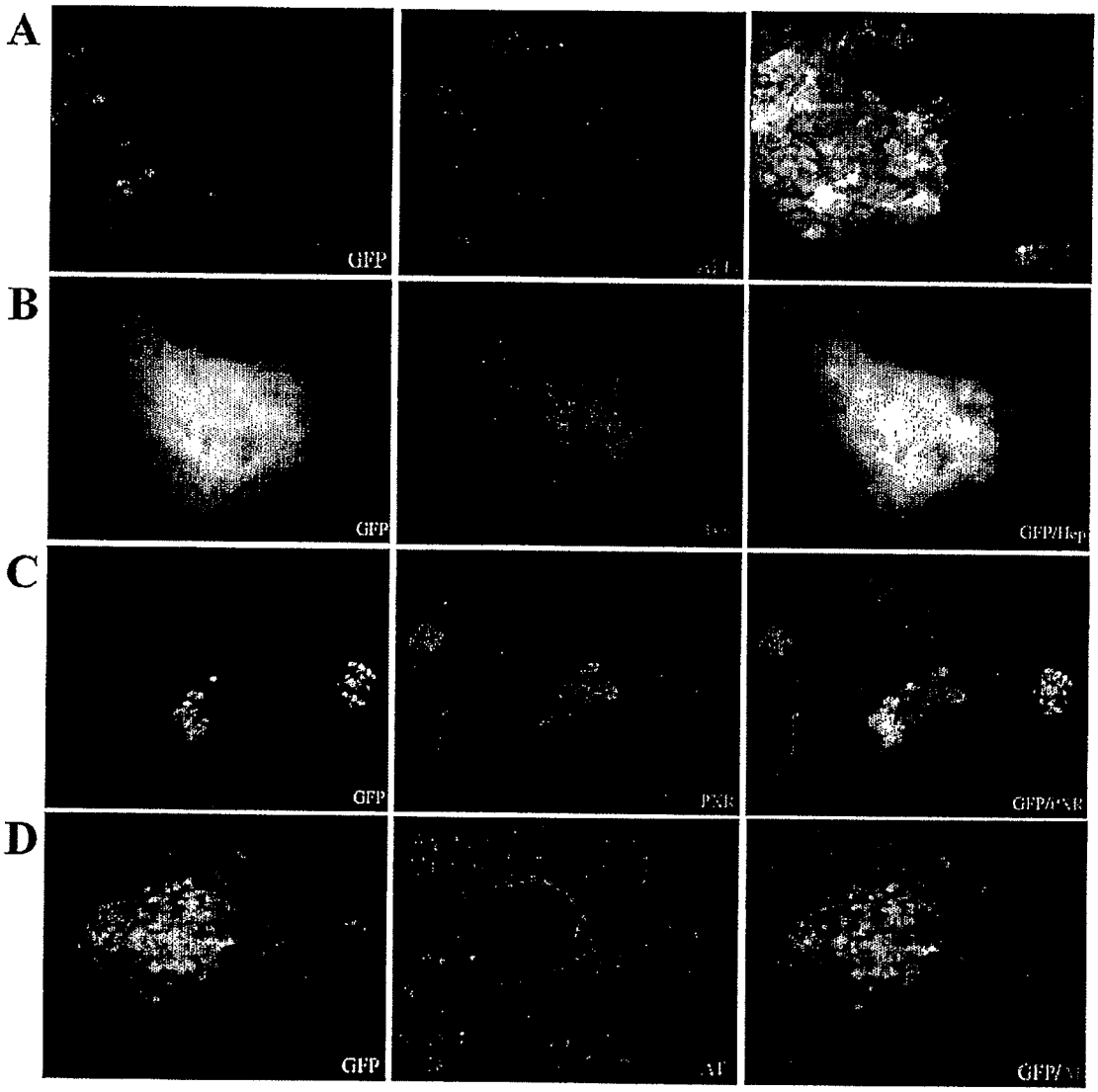


Figure 6(A)

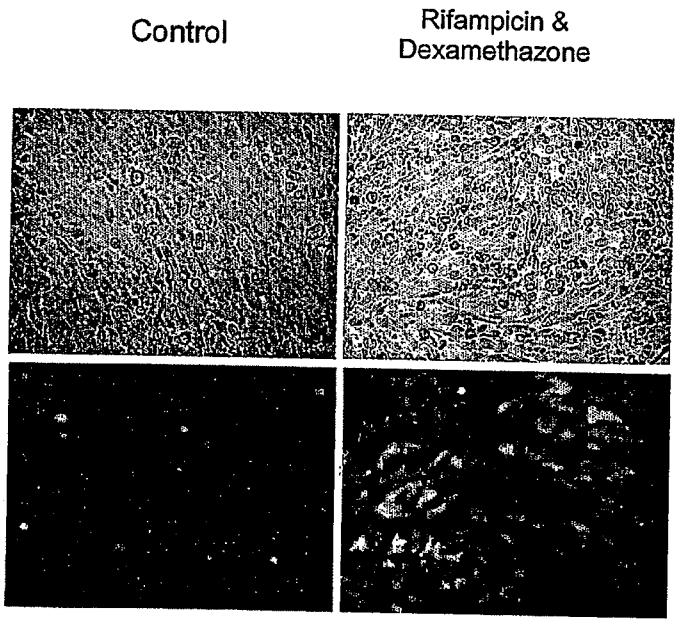


Figure 6(B)

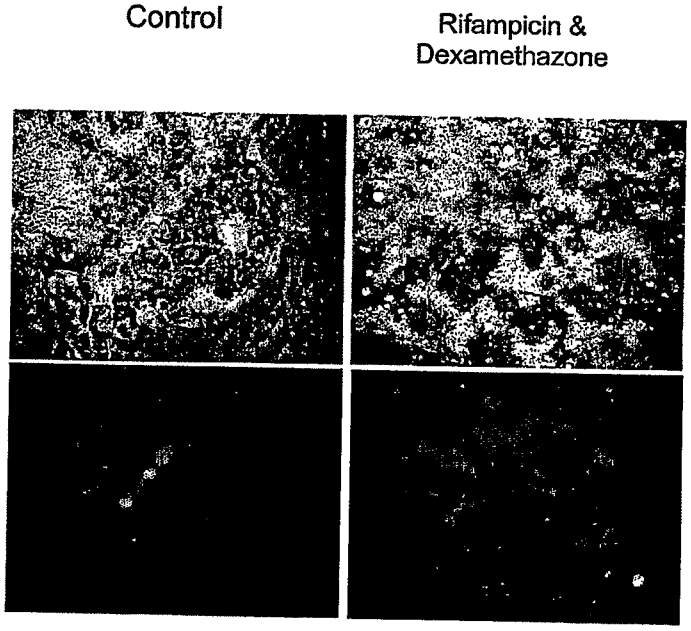
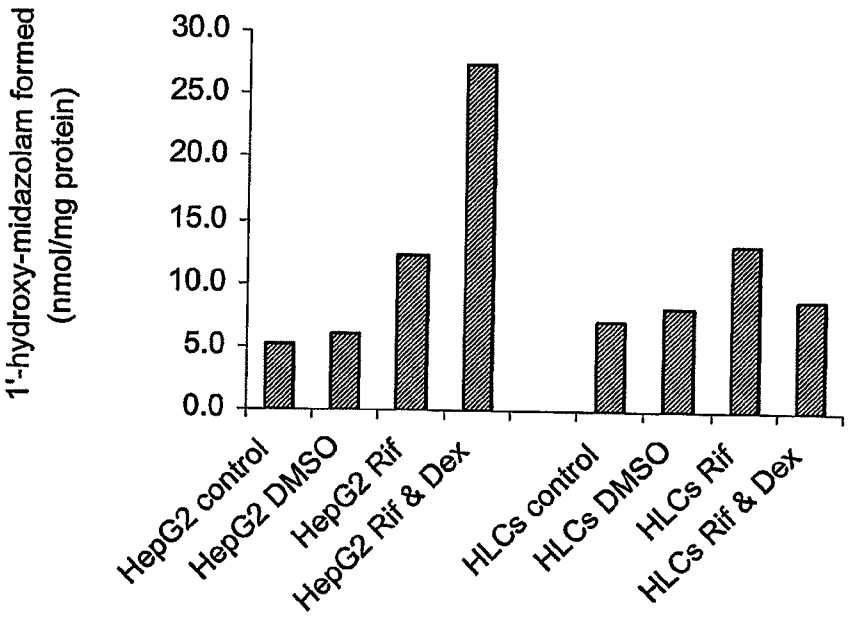


Figure 7


1'-hydroxy-midazolam formed
(nmol/mg protein)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
HepG2 control
HepG2 DMSO
HepG2 Rif
HepG2 Rif & Dex
HLCs control
HLCs DMSO
HLCs Rif
HLCs Rif & Dex

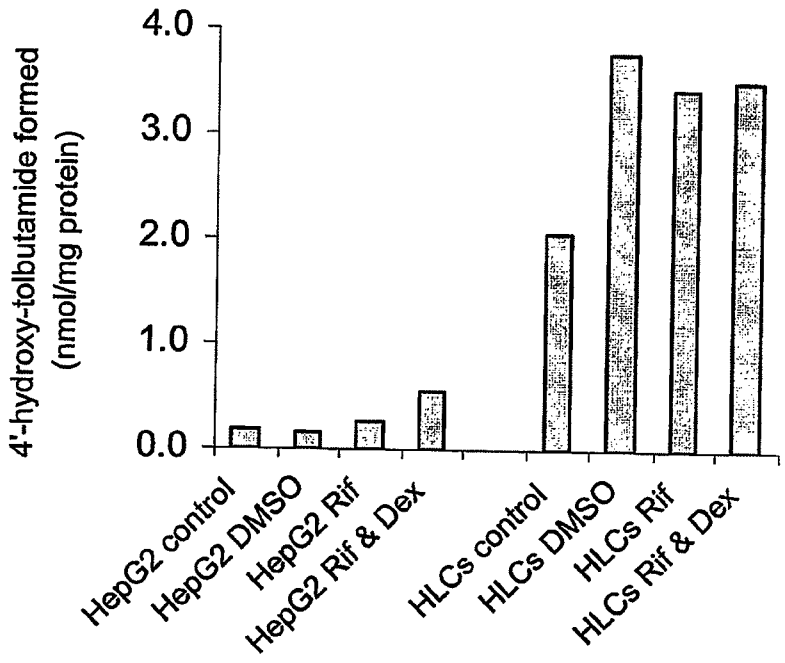

4'-hydroxy-tolbutamide formed
(nmol/mg protein)
4.0
3.0
2.0
1.0
0.0
HepG2 control
HepG2 DMSO
HepG2 Rif
HepG2 Rif & Dex
HLCs control
HLCs DMSO
HLCs Rif
HLCs Rif & Dex

Figure 8(A)

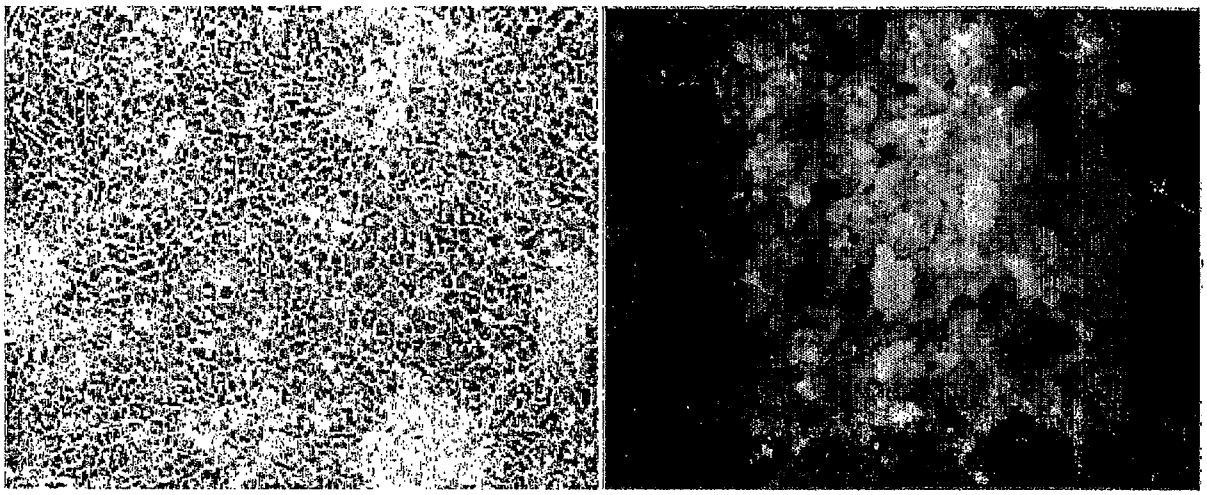
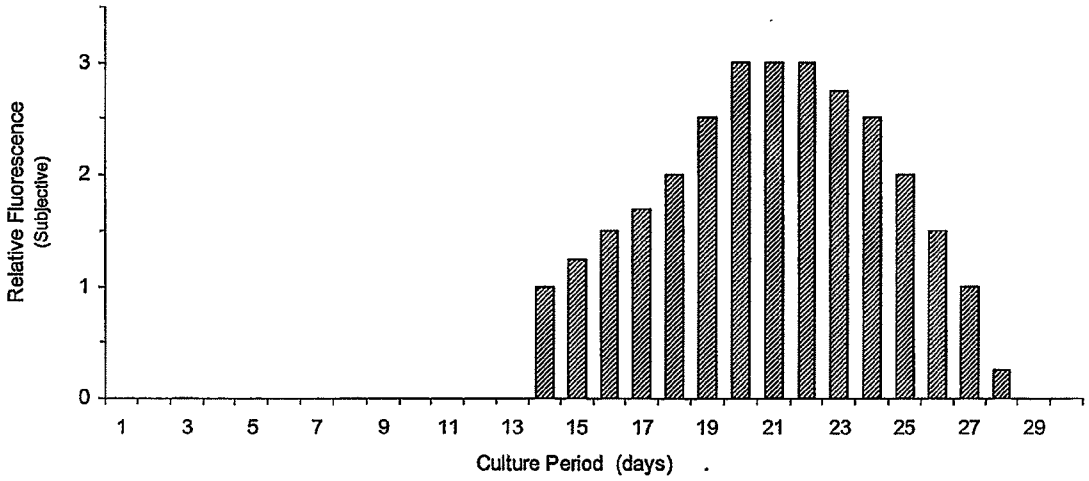


Figure 8(B)



Media Components:

Day 1	Day 4	Day 11	Day 21
RPMI		HCM	HCM
Actvin	SR	HGF	HGF
NaBut.	DMSO	EGF	EGF
		DEX	OSM