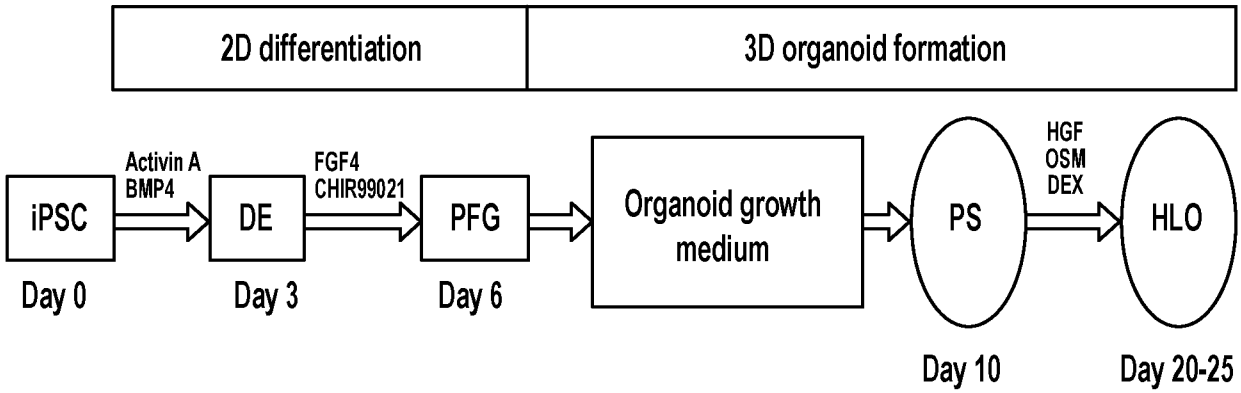

2D differentiation
3D organoid formation
iPSC
Activin A
BMP4
DE
FGF4
CHIR99021
PFG
Organoid growth medium
PS
HGF
OSM
DEX
HLO
Day 0
Day 3
Day 6
Day 10
Day 20-25

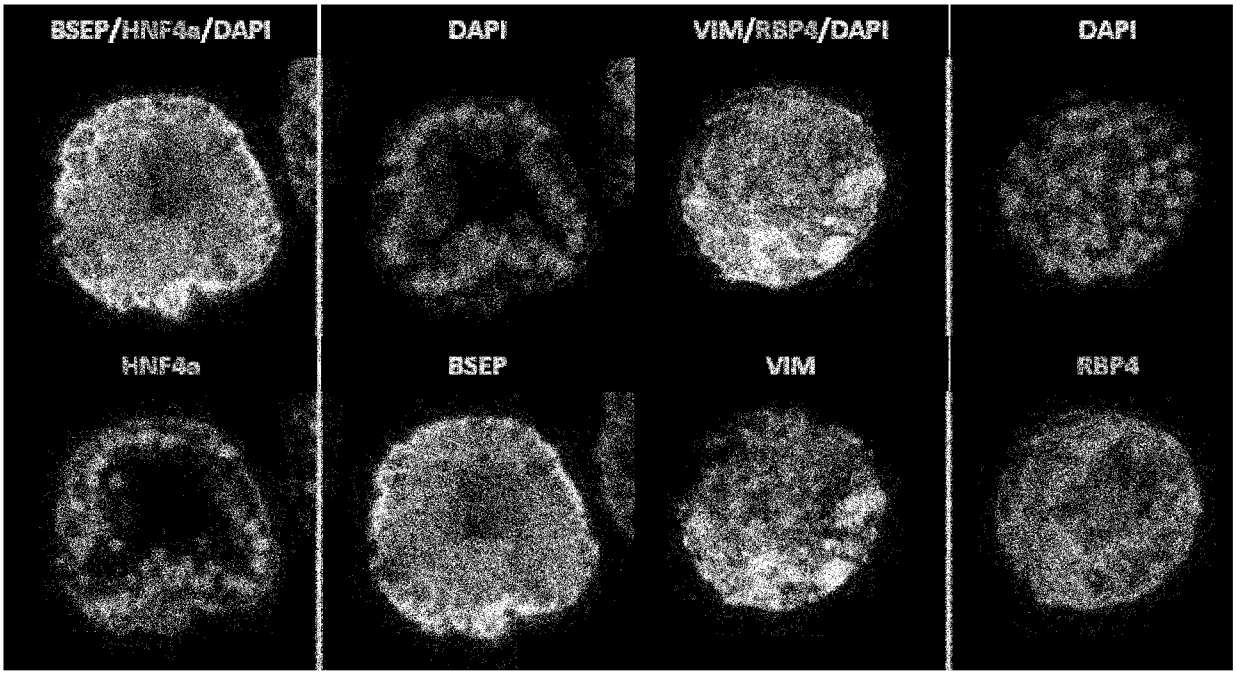
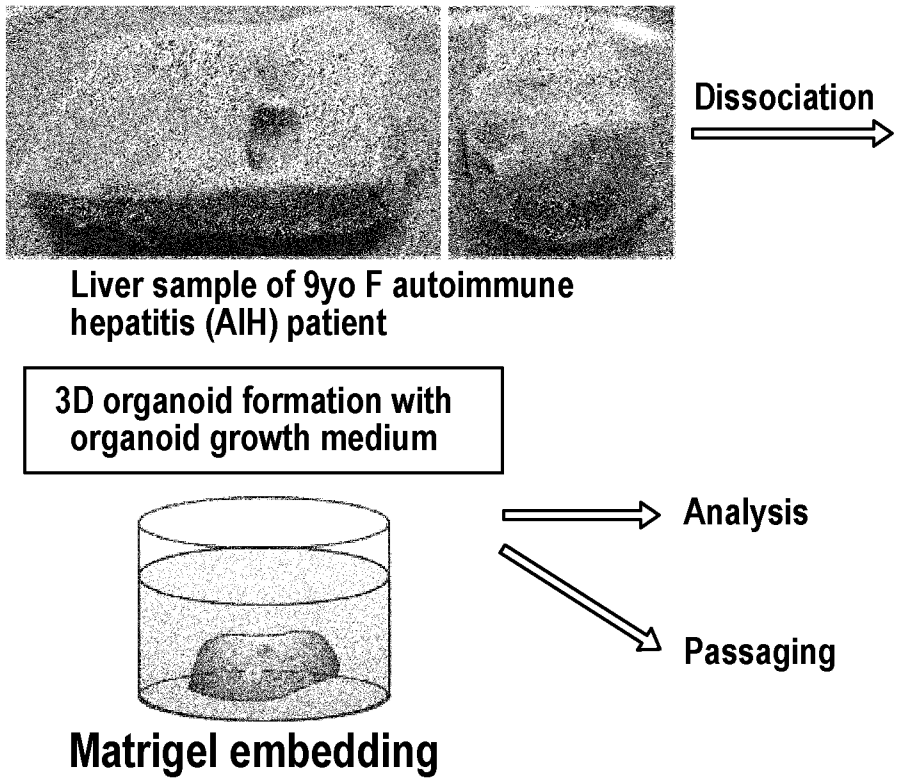

BSEP/HNF4a/DAPI
DAPI
VIM/RBP4/DAPI
DAPI
HNF4a
BSEP
VIM
RBP4

FIG. 1


Dissociation
Liver sample of 9yo F autoimmune hepatitis (AIH) patient
3D organoid formation with organoid growth medium
Analysis
Passaging
Matrigel embedding

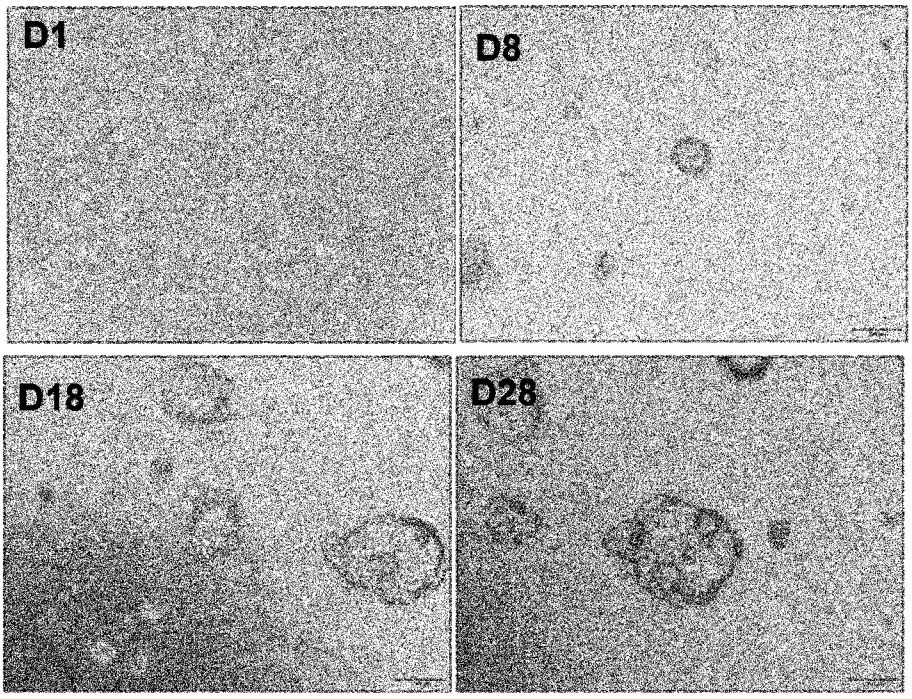

D1
D8
D18
D28

FIG. 2

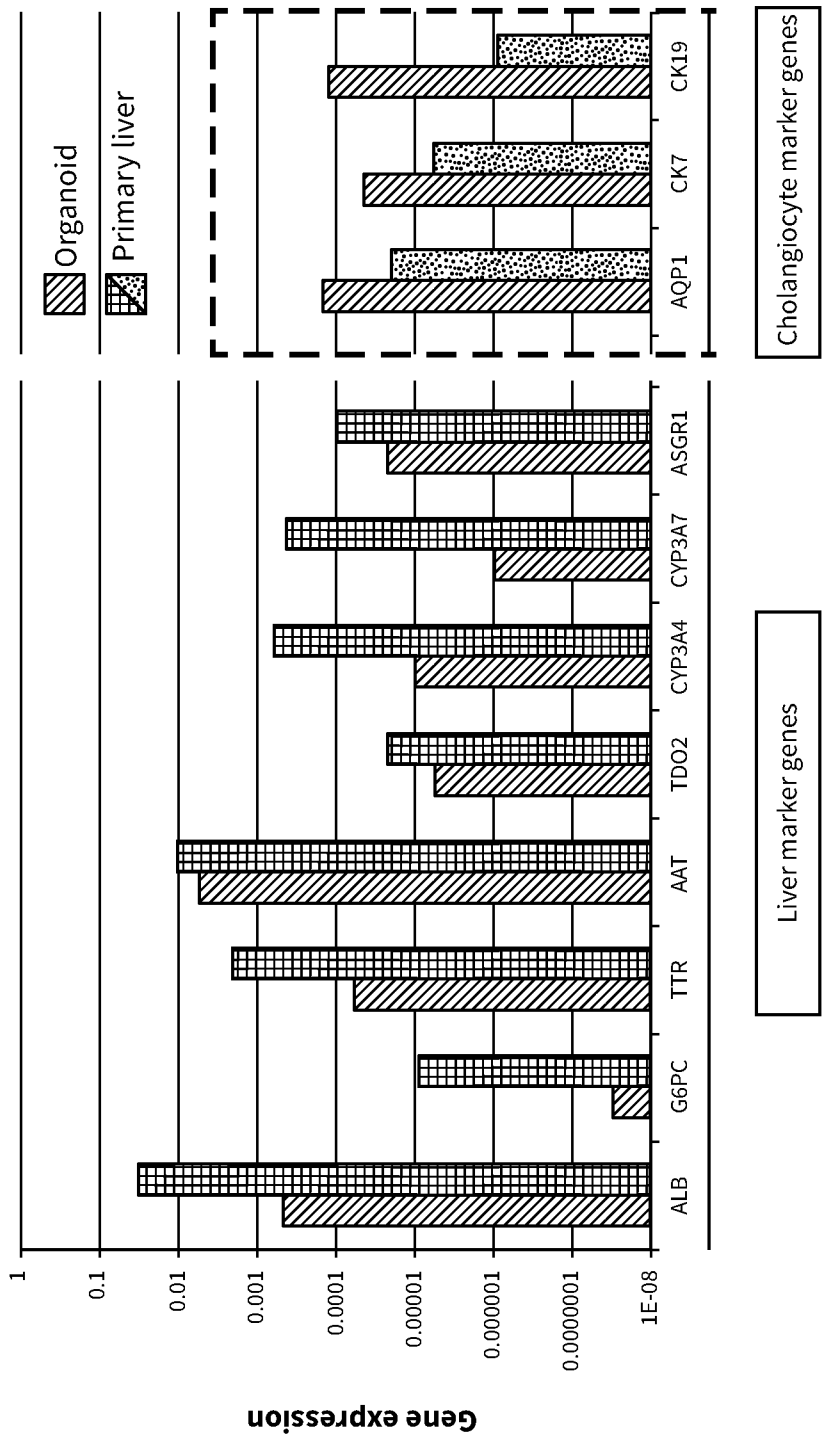

Organoid
Primary liver
Gene expression
1
0.1
0.01
0.001
0.0001
0.00001
0.000001
0.0000001
1E-08
ALB
G6PC
TTR
AAT
TDO2
CYP3A4
CYP3A7
ASGR1
AQP1
CK7
CK19
Liver marker genes
Cholangiocyte marker genes

FIG. 3

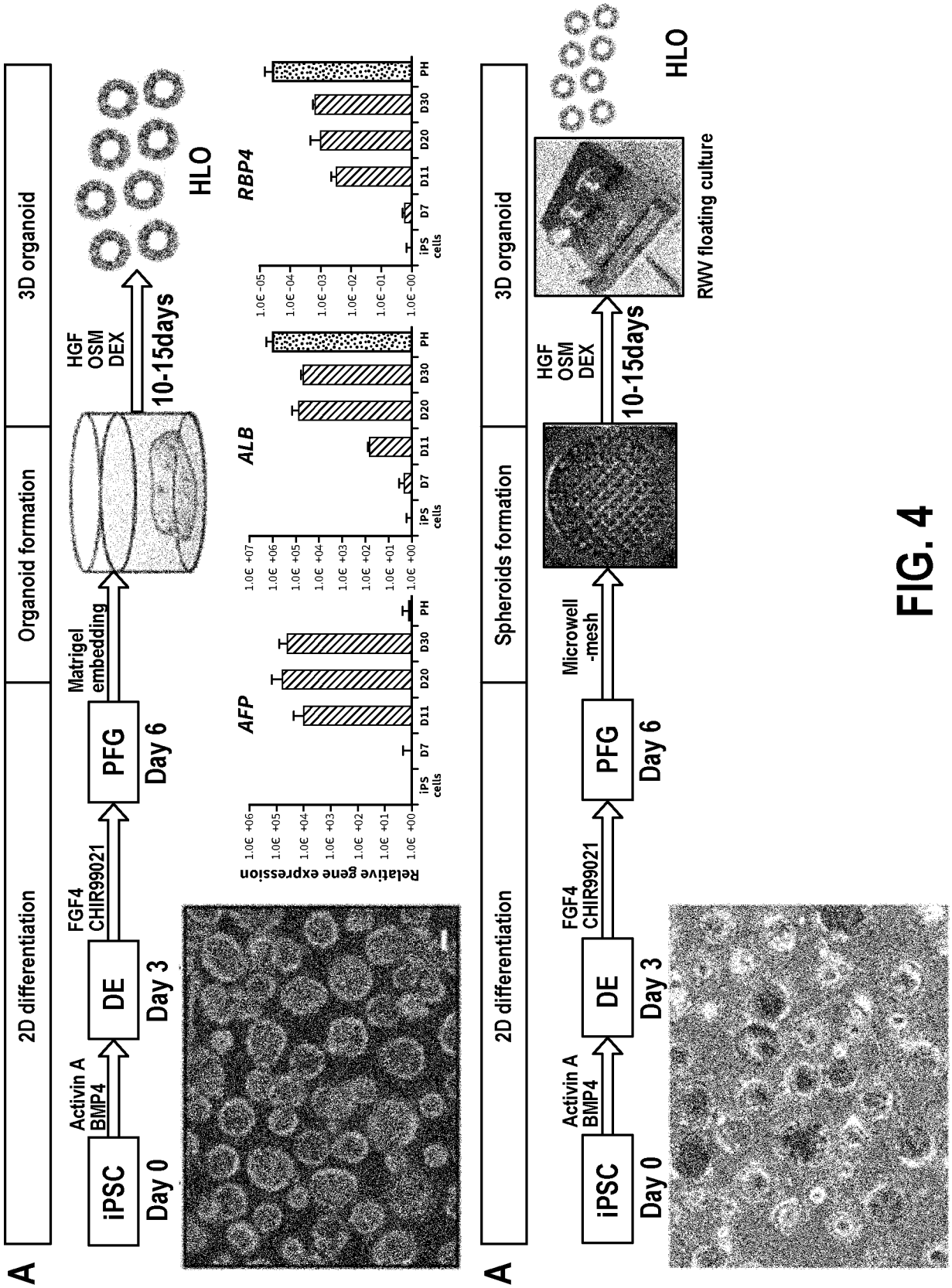

A
2D differentiation
Organoid formation
3D organoid
iPSC
Day 0
Activin A
BMP4
DE
Day 3
FGF4
CHIR99021
PFG
Day 6
Matrigel
embedding
HGF
OSM
DEX
10-15days
HLO
AFP
ALB
RBP4
Relative gene expression
iPS cells
D7
D11
D20
D30
PH
Spheroids formation
Microwell
-mesh
RWV floating culture

FIG. 4