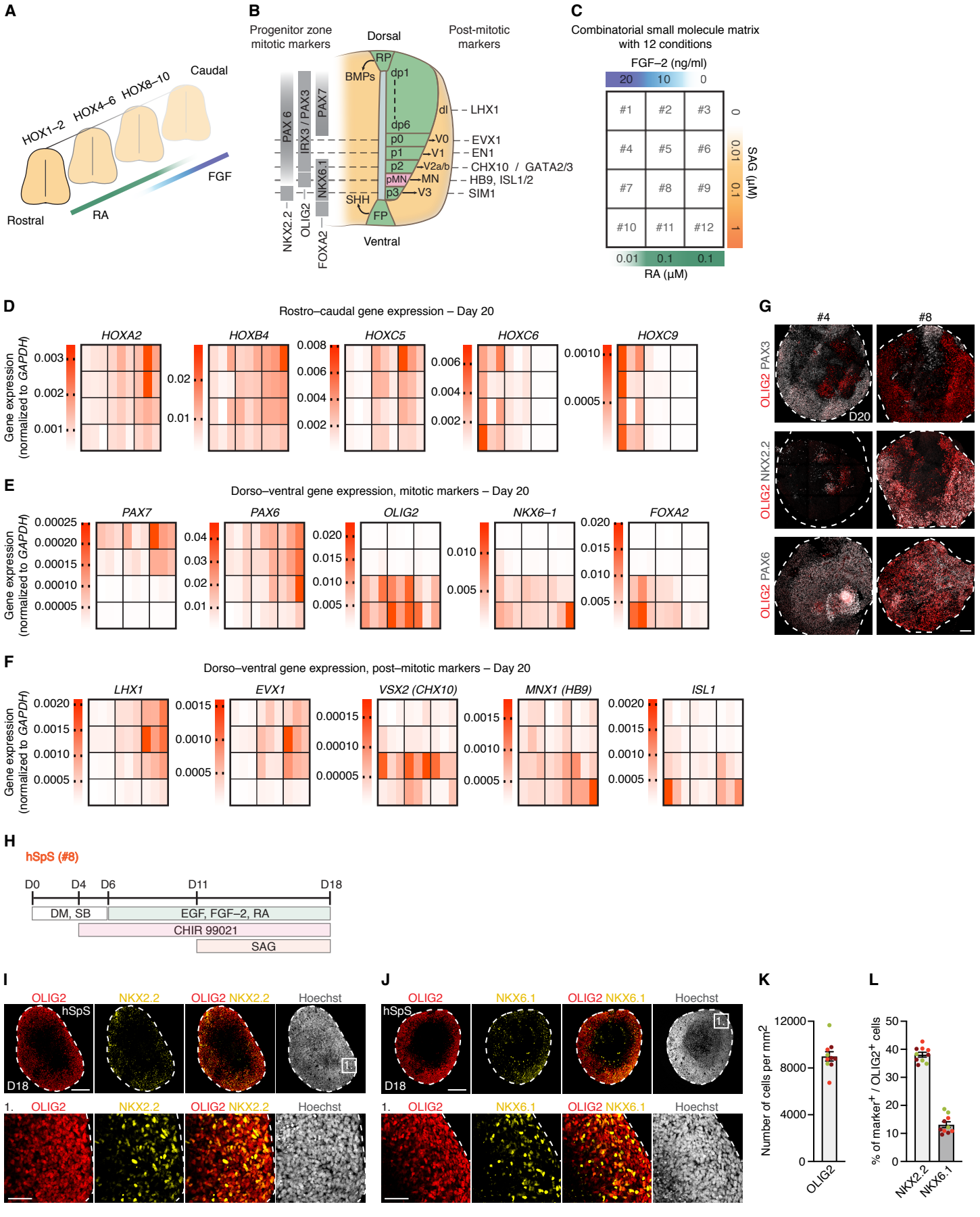
Figure S1


A
HOX1–2
HOX4–6
HOX8–10
Caudal
FGF
RA
Rostral
B
Progenitor zone mitotic markers
Dorsal
Post-mitotic markers
RP
BMPs
dp1
dl
LHX1
dp6
p0
V0
EVX1
p1
V1
EN1
p2
V2a/b
CHX10 / GATA2/3
pMN
MN
HB9, ISL1/2
p3
V3
SIM1
SHH
FP
Ventral
PAX 6
IRX3 / PAX3
PAX7
NKX6.1
NKX2.2
OLIG2
FOXA2
C
Combinatorial small molecule matrix with 12 conditions
FGF–2 (ng/ml)
20
10
0
#1
#2
#3
#4
#5
#6
#7
#8
#9
#10
#11
#12
SAG (μM)
0.01
0.1
1
RA (μM)
D
Rostro–caudal gene expression – Day 20
Gene expression (normalized to GAPDH)
HOXA2
HOXB4
HOXC5
HOXC6
HOXC9
E
Dorso–ventral gene expression, mitotic markers – Day 20
PAX7
PAX6
OLIG2
NKX6–1
FOXA2
F
Dorso–ventral gene expression, post–mitotic markers – Day 20
LHX1
EVX1
VSX2 (CHX10)
MNX1 (HB9)
ISL1
G
#4
#8
OLIG2 PAX3
OLIG2 NKX2.2
OLIG2 PAX6
D20
H
hSpS (#8)
D0
D4
D6
D11
D18
DM, SB
EGF, FGF–2, RA
CHIR 99021
SAG
I
OLIG2
NKX2.2
OLIG2 NKX2.2
Hoechst
hSpS
D18
1.
J
OLIG2
NKX6.1
OLIG2 NKX6.1
Hoechst
hSpS
D18
1.
K
Number of cells per mm2
12000
8000
4000
0
OLIG2
L
% of marker+ / OLIG2+ cells
50
40
30
20
10
0
NKX2.2
NKX6.1