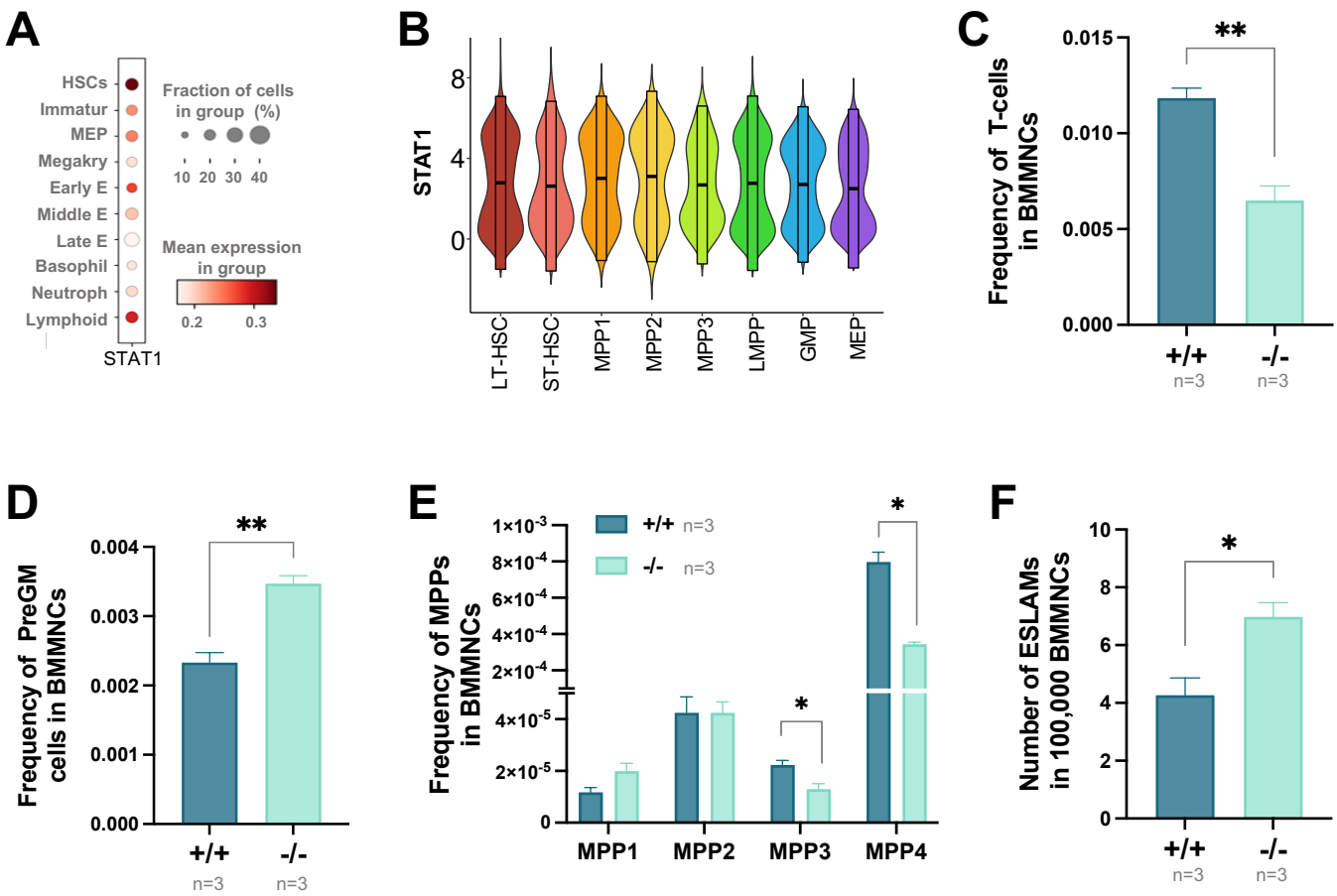

A
HSCs
Immatur
MEP
Megakry
Early E
Middle E
Late E
Basophil
Neutroph
Lymphoid
STAT1
Fraction of cells in group (%)
10 20 30 40
Mean expression in group
0.2 0.3
B
STAT1
8
4
0
LT-HSC
ST-HSC
MPP1
MPP2
MPP3
LMPP
GMP
MEP
C
Frequency of T-cells in BMMNCs
0.015
0.010
0.005
0.000
**
+/+
-/-
n=3
n=3
D
Frequency of PreGM cells in BMMNCs
0.004
0.003
0.002
0.001
0.000
**
+/+
-/-
n=3
n=3
E
Frequency of MPPs in BMMNCs
1×10-3
8×10-4
6×10-4
4×10-4
2×10-4
4×10-5
2×10-5
0
+/+ n=3
-/- n=3
*
*
MPP1
MPP2
MPP3
MPP4
F
Number of ESLAMs in 100,000 BMMNCs
10
8
6
4
2
0
*
+/+
-/-
n=3
n=3

Figure 1

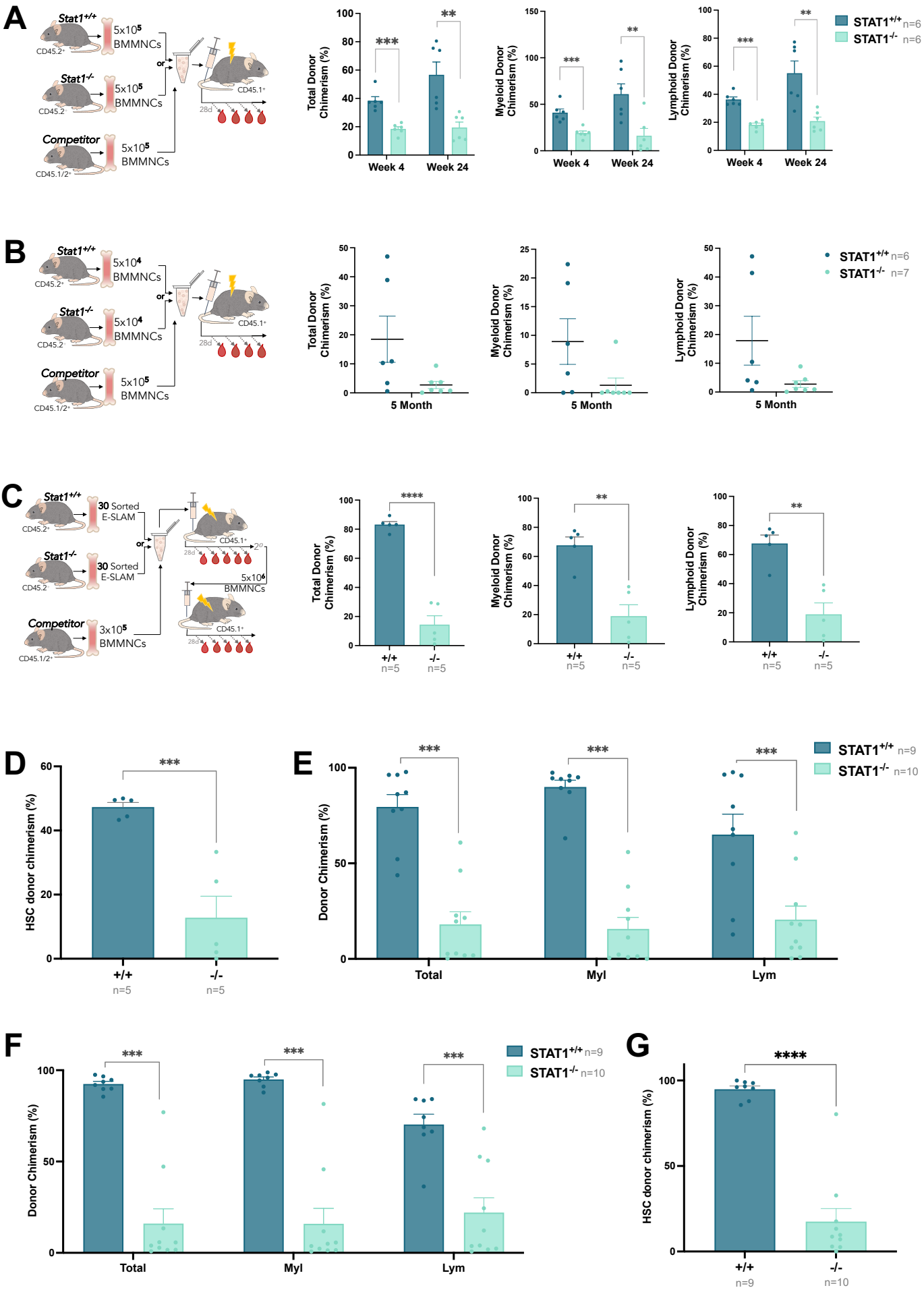

A
Stat1+/+
CD45.2+
5x10^5 BMMNCs
or
Stat1-/-
CD45.2
5x10^5 BMMNCs
Competitor
CD45.1/2+
5x10^5 BMMNCs
CD45.1+
28d
Total Donor Chimerism (%)
Myeloid Donor Chimerism (%)
Lymphoid Donor Chimerism (%)
Week 4
Week 24
STAT1+/+ n=6
STAT1-/- n=6
B
5x10^4 BMMNCs
5x10^5 BMMNCs
5 Month
STAT1+/+ n=6
STAT1-/- n=7
C
30 Sorted E-SLAM
3x10^5 BMMNCs
5x10^6 BMMNCs
2°
+/+ n=5
-/- n=5
D
HSC donor chimerism (%)
E
Donor Chimerism (%)
Total
Myl
Lym
STAT1+/+ n=9
STAT1-/- n=10
F
G
+/+ n=9
-/- n=10

Figure 2

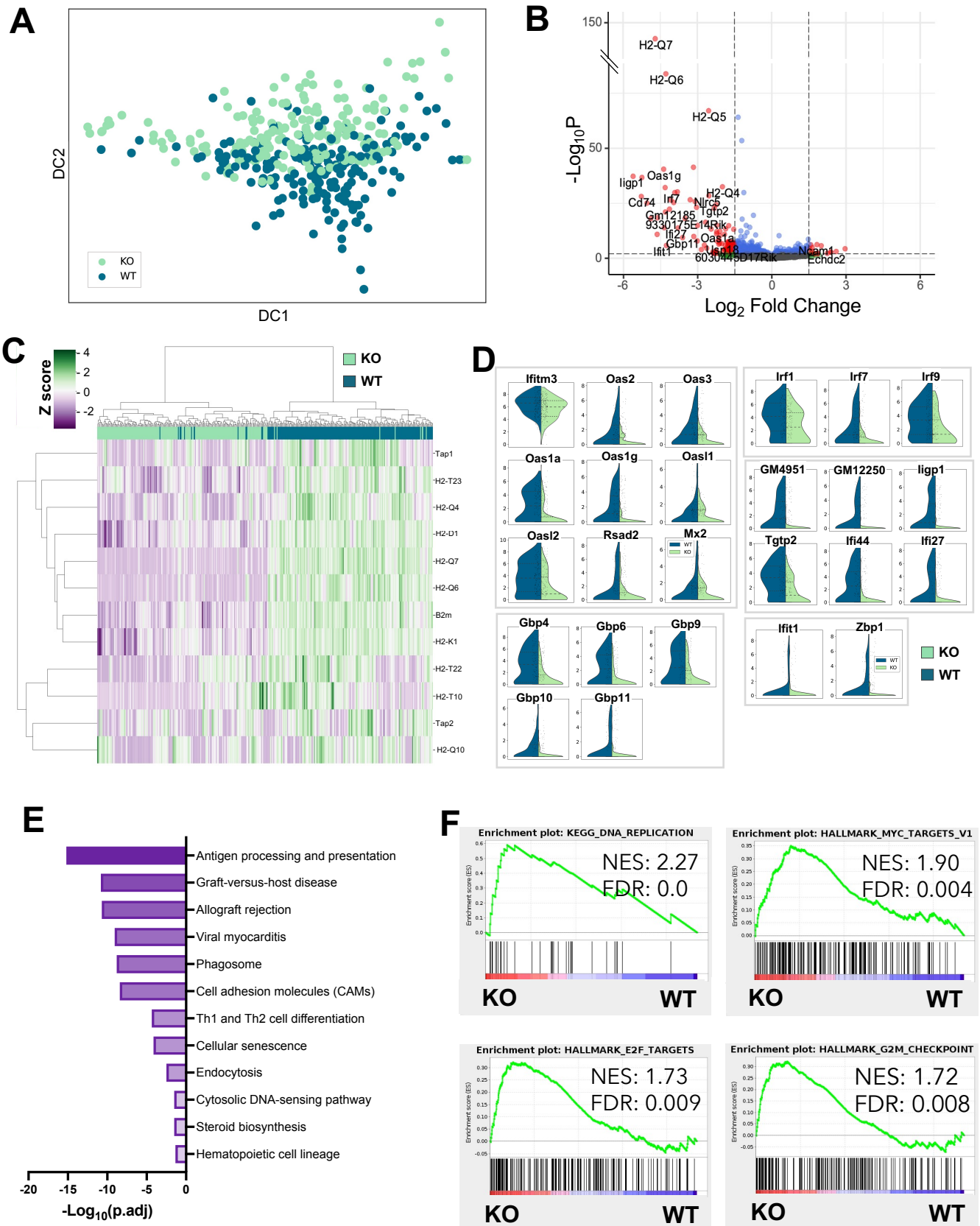

A
DC2
DC1
KO
WT
B
-Log10P
Log2 Fold Change
H2-Q7
H2-Q6
H2-Q5
Oas1g
Iigp1
Cd74
Irf7
H2-Q4
Nlrc5
Tgtp2
Gm12185
9330175E14Rik
Ifi27
Oas1a
Gbp11
Ifit1
Ncam1
Echdc2
C
Z score
KO
WT
Tap1
H2-T23
H2-Q4
H2-D1
H2-Q7
H2-Q6
B2m
H2-K1
H2-T22
H2-T10
Tap2
H2-Q10
D
Ifitm3
Oas2
Oas3
Irf1
Irf7
Irf9
Oas1a
Oas1g
Oasl1
GM4951
GM12250
Iigp1
Oasl2
Rsad2
Mx2
Tgtp2
Ifi44
Ifi27
Gbp4
Gbp6
Gbp9
Ifit1
Zbp1
Gbp10
Gbp11
KO
WT
E
Antigen processing and presentation
Graft-versus-host disease
Allograft rejection
Viral myocarditis
Phagosome
Cell adhesion molecules (CAMs)
Th1 and Th2 cell differentiation
Cellular senescence
Endocytosis
Cytosolic DNA-sensing pathway
Steroid biosynthesis
Hematopoietic cell lineage
-Log10(p.adj)
F
Enrichment plot: KEGG_DNA_REPLICATION
NES: 2.27
FDR: 0.0
Enrichment plot: HALLMARK_MYC_TARGETS_V1
NES: 1.90
FDR: 0.004
Enrichment plot: HALLMARK_E2F_TARGETS
NES: 1.73
FDR: 0.009
Enrichment plot: HALLMARK_G2M_CHECKPOINT
NES: 1.72
FDR: 0.008
KO
WT

Figure 3

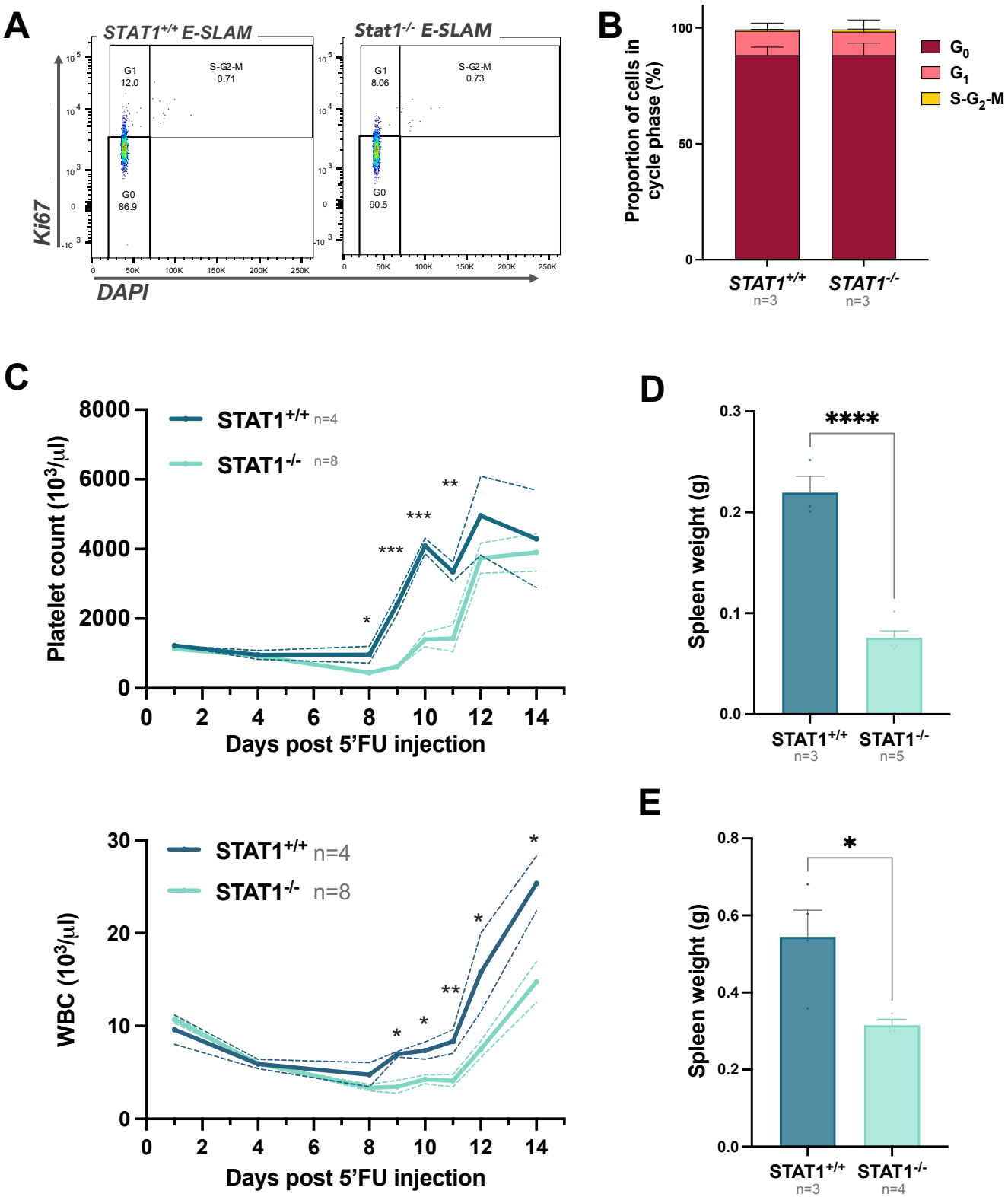

A
STAT1+/+ E-SLAM
Stat1-/- E-SLAM
G1
12.0
S-G2-M
0.71
G0
86.9
G1
8.06
S-G2-M
0.73
G0
90.5
Ki67
DAPI
B
Proportion of cells in cycle phase (%)
G0
G1
S-G2-M
STAT1+/+
n=3
STAT1-/-
n=3
C
Platelet count (10³/µl)
STAT1+/+ n=4
STAT1-/- n=8
Days post 5'FU injection
WBC (10³/µl)
STAT1+/+ n=4
STAT1-/- n=8
Days post 5'FU injection
D
Spleen weight (g)
****
STAT1+/+
n=3
STAT1-/-
n=5
E
Spleen weight (g)
*
STAT1+/+
n=3
STAT1-/-
n=4

Figure 4

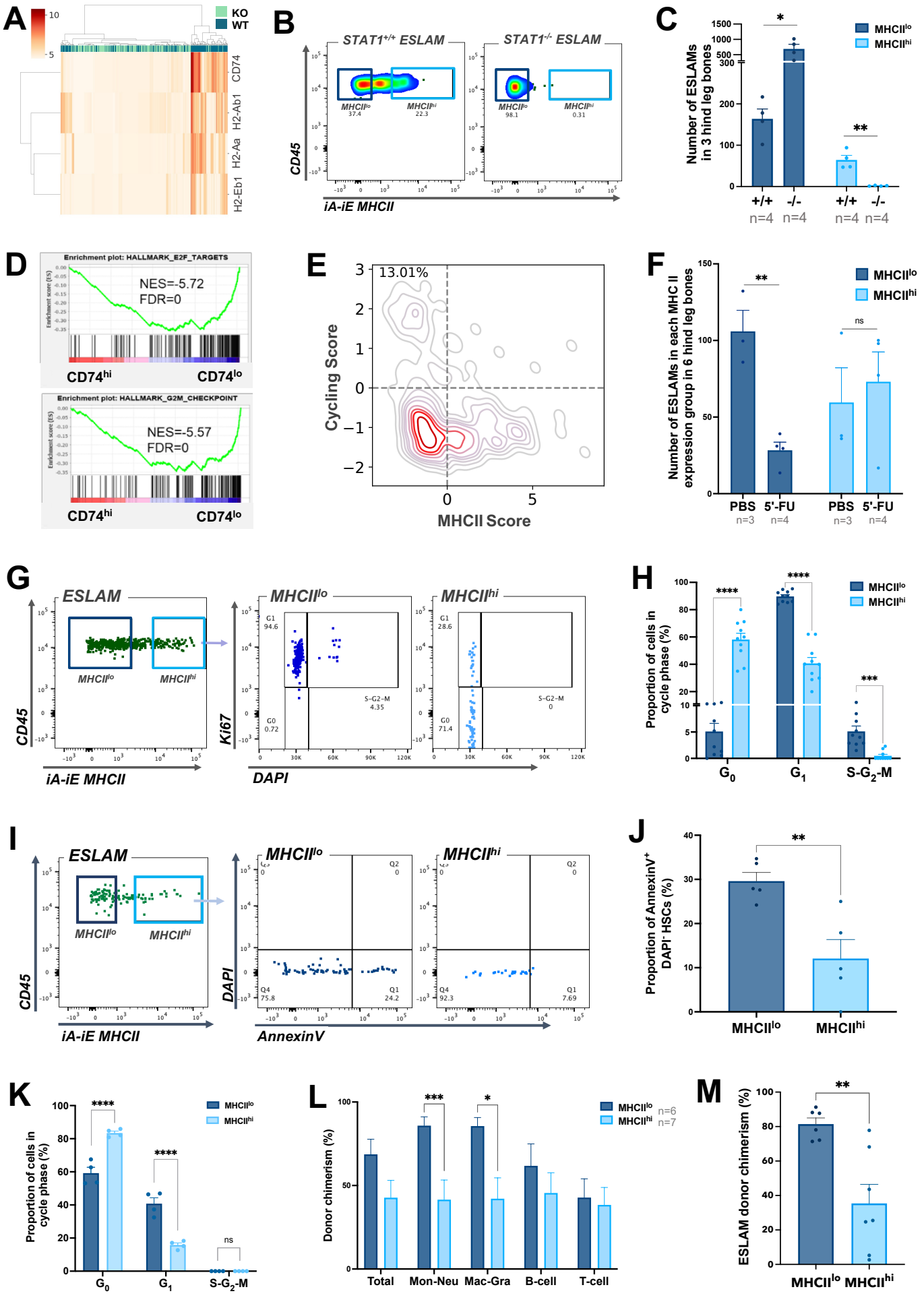

A
KO
WT
CD74
H2-Ab1
H2-Aa
H2-Eb1
B
STAT1+/+ ESLAM
STAT1-/- ESLAM
MHCIIlo
MHCIIhi
CD45
iA-iE MHCII
C
Number of ESLAMs in 3 hind leg bones
+/+ -/- +/+ -/-
n=4 n=4 n=4 n=4
D
Enrichment plot: HALLMARK_E2F_TARGETS
NES=-5.72
FDR=0
CD74hi CD74lo
Enrichment plot: HALLMARK_G2M_CHECKPOINT
NES=-5.57
FDR=0
CD74hi CD74lo
E
13.01%
Cycling Score
MHCII Score
F
Number of ESLAMs in each MHC II expression group in 6 hind leg bones
PBS 5'-FU PBS 5'-FU
n=3 n=4 n=3 n=4
ns
G
ESLAM
MHCIIlo
MHCIIhi
CD45
iA-iE MHCII
Ki67
DAPI
G1 94.6
G0 0.72
S-G2-M 4.35
G1 28.6
G0 71.4
S-G2-M 0
H
Proportion of cells in cycle phase (%)
G0 G1 S-G2-M
I
ESLAM
MHCIIlo
MHCIIhi
CD45
iA-iE MHCII
DAPI
AnnexinV
Q2 0
Q4 75.8
Q1 24.2
Q4 92.3
Q1 7.69
J
Proportion of AnnexinV+ DAPI- HSCs (%)
MHCIIlo MHCIIhi
K
Proportion of cells in cycle phase (%)
G0 G1 S-G2-M
ns
L
Donor chimerism (%)
MHCIIlo n=6
MHCIIhi n=7
Total Mon-Neu Mac-Gra B-cell T-cell
M
ESLAM donor chimerism (%)
MHCIIlo MHCIIhi

Figure 5

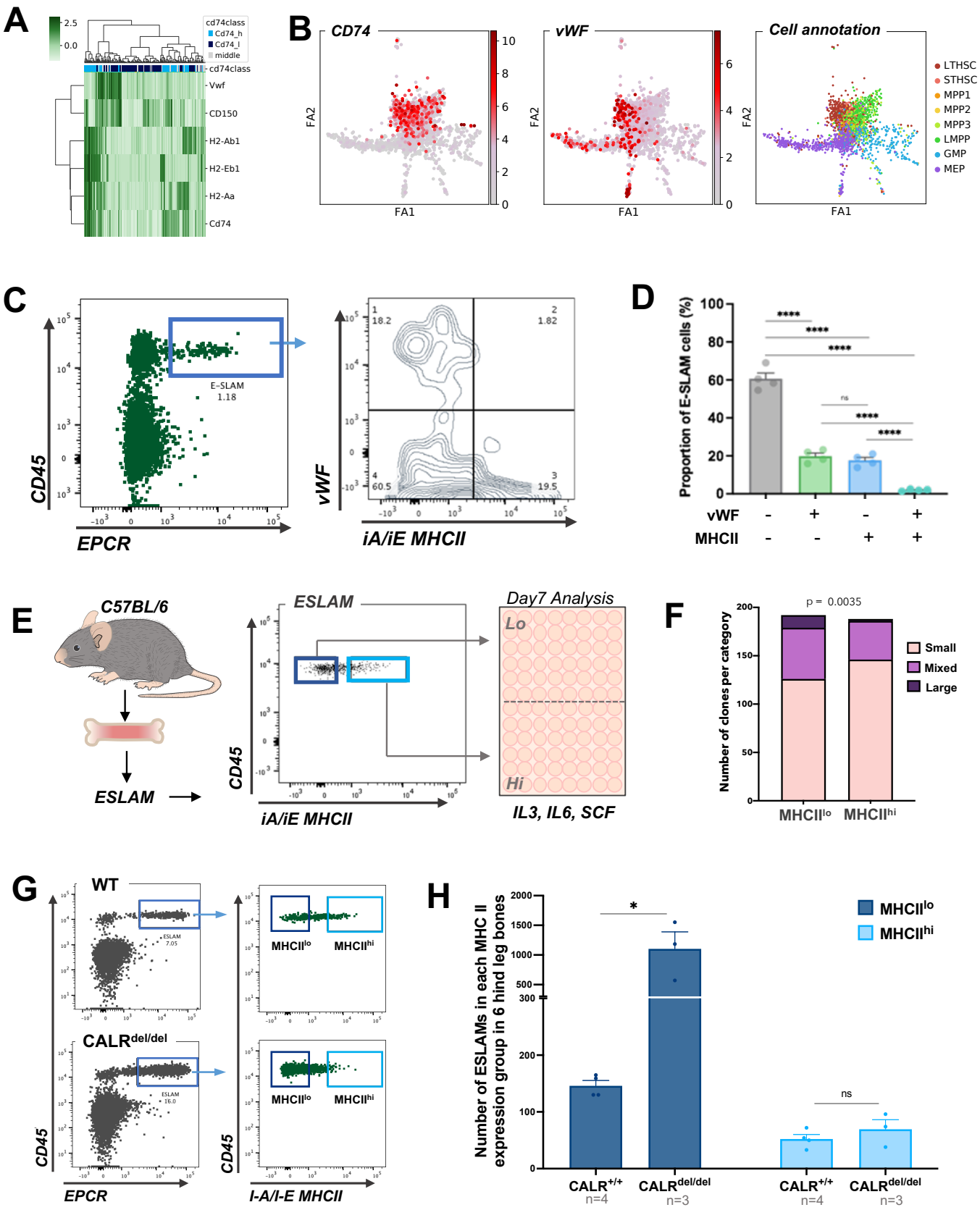
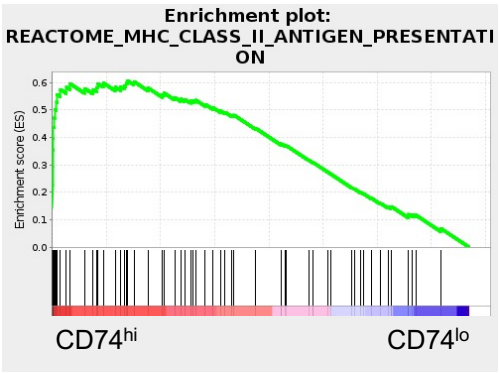
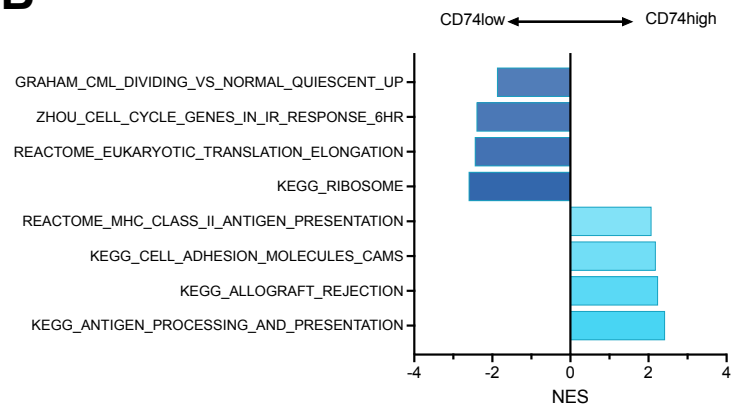

A
2.5
0.0
cd74class
Cd74_h
Cd74_l
middle
cd74class
Vwf
CD150
H2-Ab1
H2-Eb1
H2-Aa
Cd74
B
CD74
vWF
Cell annotation
FA1
FA2
LTHSC
STHSC
MPP1
MPP2
MPP3
LMPP
GMP
MEP
C
CD45
EPCR
E-SLAM
1.18
vWF
iA/iE MHCII
18.2
1.82
60.5
19.5
D
Proportion of E-SLAM cells (%)
vWF
MHCII
E
C57BL/6
ESLAM
CD45
iA/iE MHCII
Day7 Analysis
Lo
Hi
IL3, IL6, SCF
F
p = 0.0035
Number of clones per category
Small
Mixed
Large
MHCIIlo
MHCIIhi
G
WT
CALRdel/del
ESLAM
7.05
16.0
MHCIIlo
MHCIIhi
CD45
EPCR
I-A/I-E MHCII
H
Number of ESLAMs in each MHC II expression group in 6 hind leg bones
MHCIIlo
MHCIIhi
ns
CALR+/+
n=4
CALRdel/del
n=3

Figure 6

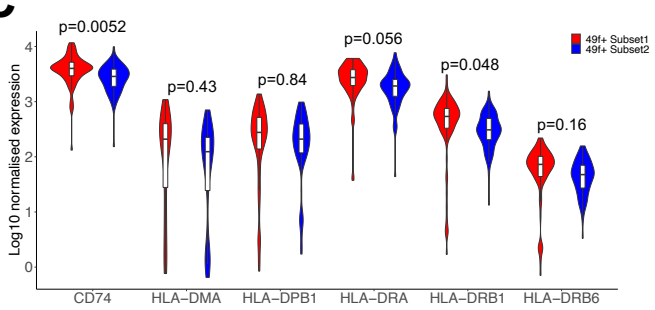
A



B



C



D

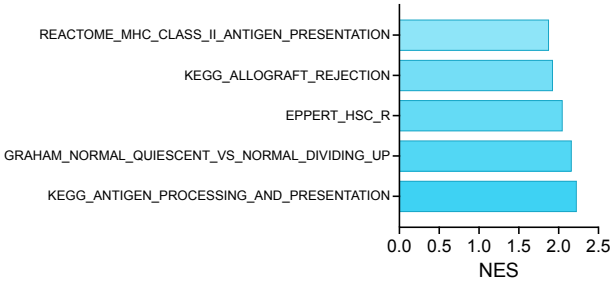


Figure 7