Mast cell activation triggered by retrovirus promotes acute viral infection

Supplementary Figure legends

Figure S1. Immune cells population. C57BL/6 and Sash mice were infected i.p. with MuLV/Friend (1×10^9 copies) for indicated times, the frequencies of $CD4^+$ T, $CD8^+$ T and NK cells in spleen were quantified. One-way ANOVA was performed to analyze significance differences. Data are presented as mean ± SD. * $p<0.05$, ** $p<0.01$ and *** $p<0.001$ are considered significant differences.

Figure S2. BMMCs reconstruction. BMMCs (5×10^6) were injected i.v. into Sash mice to reconstruct MCs. The splenic c-Kit^+ Fc$\varepsilon$$RI^+$ MCs were quantified. Data from one representative mouse are shown.

Figure S3. MDSCs profile. Mice of WT, Sash and Sash/BMMCs were infected i.p. with MuLV/Friend (1×10^9 copies) for 5 d, (A) the expressions of PD-L1 and CD39 in G-MDSCs were measured with flow cytometry. Data from one representative mouse are shown, (B) the frequency and phenotype of splenic M-MDSCs were profiled. One-way ANOVA was performed to analyze significance differences. Data are presented as mean ± SD. * $p<0.05$ and *** $p<0.001$ are considered significant differences.

Figure S4. M-MDSCs in C48/80-treated infected mice. C57BL/6 mice was administered with C48/80 (1 mg/kg) along with MuLV/Friend i.p. infection (1×10^9 copies). At 5dpi, the phenotypes of splenic M-MDSCs were profiled. One-way

ANOVA was performed to analyze significance differences. Data are presented as mean ± SD. *** $p<0.001$ is considered significant differences.

Figure S5. Phenotypes of M-MDSCs in histamine-treated infected mice. WT C57BL/6 mice were administrated with histamine (2.5 mg/kg) via i.p. during viral infection as above, at 5 dpi, the phenotypes of M-MDSCs in spleen were profiled.

Figure S6. Phenotypes of M-MDSCs in Ebastine- or Loratadine-treated infected mice. C57BL/6 mice were infected i.p. with MuLV/Friend (1×10^9 copies), and Ebastine (5mg/kg) or Loratadine(10mg/kg) was administered 1 day before infection and continued daily throughout infection. At 5 dpi, the phenotypes of M-MDSCs in spleen were profiled. One-way ANOVA was performed to analyze significance differences. Data are presented as mean ± SD. ** $p<0.01$ is considered significant differences.

Figure S1

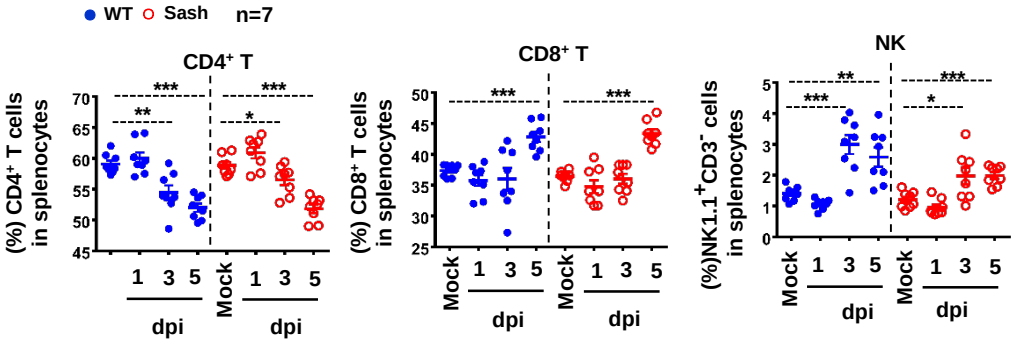

WT
Sash
n=7
CD4+ T
(%) CD4+ T cells in splenocytes
CD8+ T
(%) CD8+ T cells in splenocytes
NK
(%)NK1.1+CD3- cells in splenocytes
Mock
1
3
5
dpi
***
**
*

Figure S2

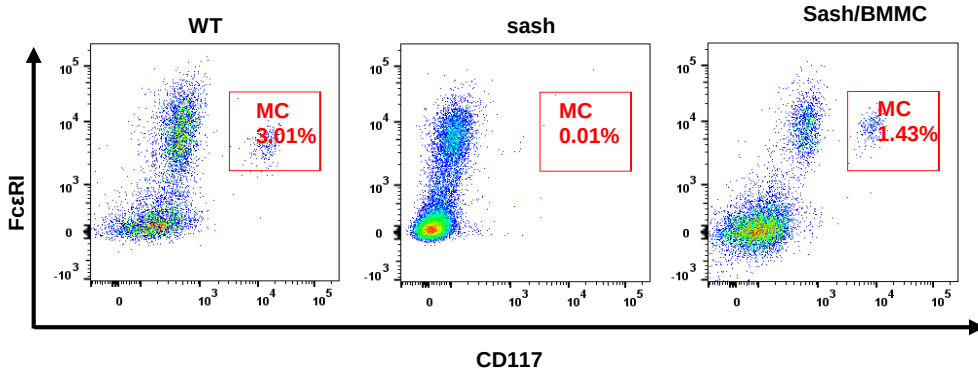


Figure S3

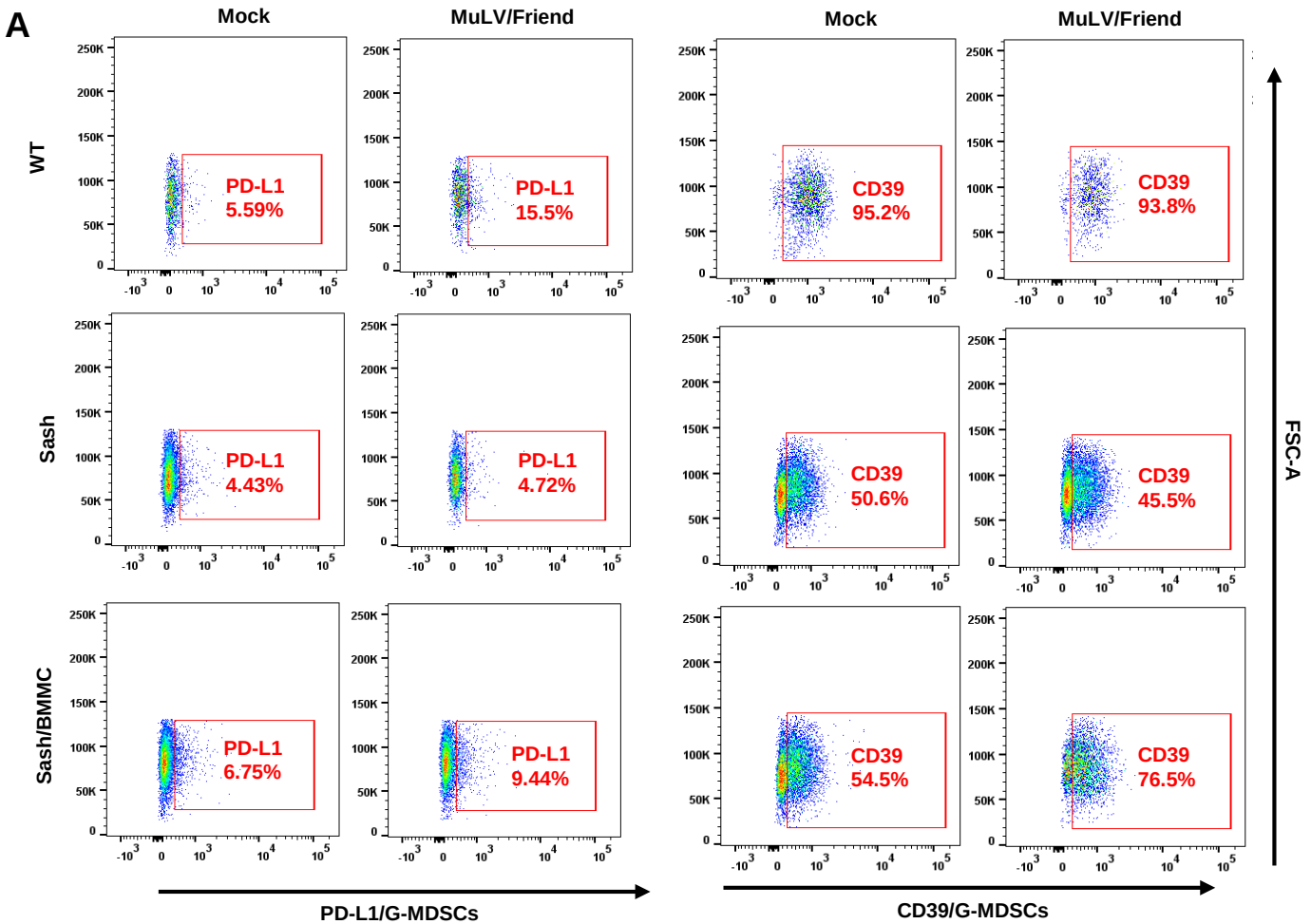

A
Mock
MuLV/Friend
Mock
MuLV/Friend
WT
Sash
Sash/BMMC
PD-L1 5.59%
PD-L1 15.5%
CD39 95.2%
CD39 93.8%
PD-L1 4.43%
PD-L1 4.72%
CD39 50.6%
CD39 45.5%
PD-L1 6.75%
PD-L1 9.44%
CD39 54.5%
CD39 76.5%
FSC-A
PD-L1/G-MDSCs
CD39/G-MDSCs
B
WT Sash Sash/BMMC n=4
M-MDSC
PD-L1
CD39
(%) Ly6G⁻Ly6C⁺ cells in CD11b⁺splenocytes
(%)PD-L1⁺ M-MDSCs
(%)CD39⁺M-MDSCs
MuLV/Friend - + - + - +

Figure S4

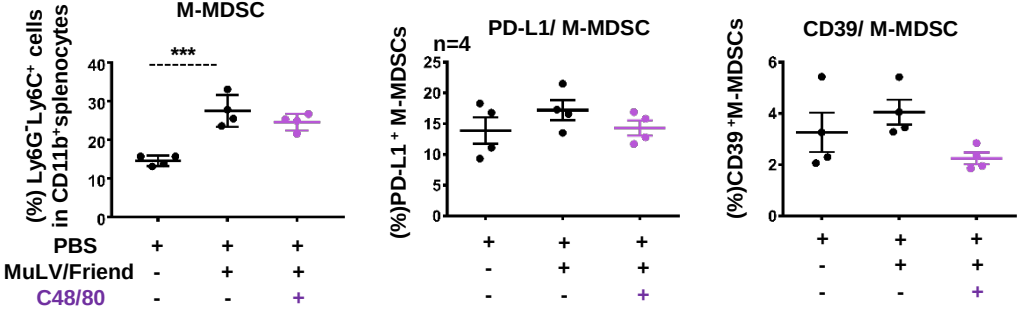
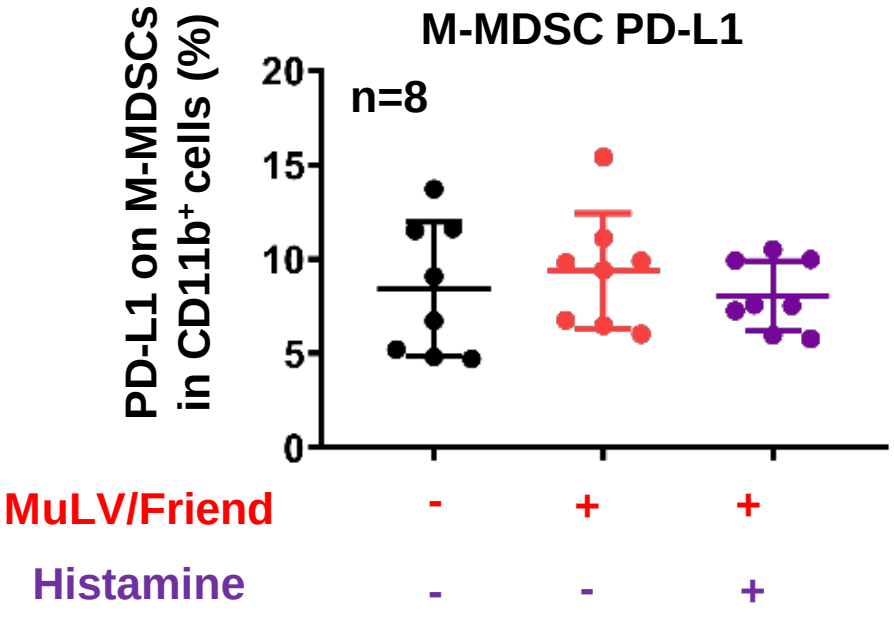

M-MDSC
(%) Ly6G+Ly6C+ cells in CD11b+splenocytes
***
40
30
20
10
0
PBS + + +
MuLV/Friend - + +
C48/80 - - +
PD-L1/ M-MDSC
n=4
(%)PD-L1+ M-MDSCs
25
20
15
10
5
0
+ + +
- + +
- - +
CD39/ M-MDSC
(%)CD39+M-MDSCs
6
4
2
0
+ + +
- + +
- - +

Figure S5


M-MDSC PD-L1
PD-L1 on M-MDSCs in CD11b+ cells (%)
n=8
20
15
10
5
0
MuLV/Friend
-
+
+
Histamine
-
-
+

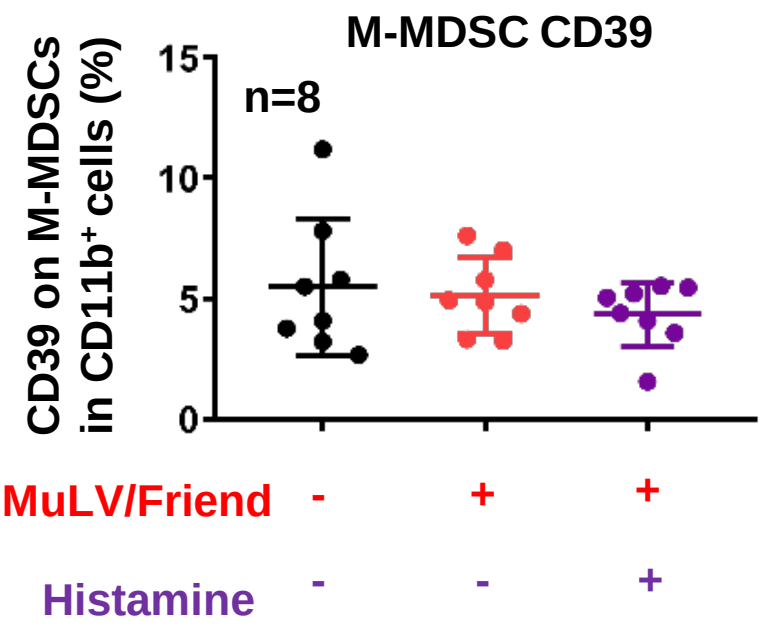
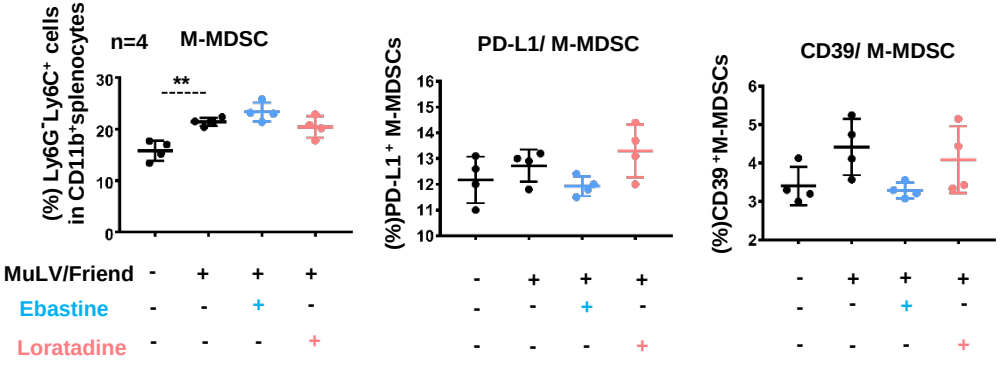

M-MDSC CD39
CD39 on M-MDSCs in CD11b+ cells (%)
n=8
15
10
5
0
MuLV/Friend
-
+
+
Histamine
-
-
+

Figure S6


n=4
M-MDSC
(%) Ly6G⁻Ly6C⁺ cells in CD11b⁺splenocytes
**
30
20
10
0
PD-L1/ M-MDSC
(%)PD-L1⁺ M-MDSCs
16
15
14
13
12
11
10
CD39/ M-MDSC
(%)CD39⁺M-MDSCs
6
5
4
3
2
MuLV/Friend - + + +
Ebastine - - + -
Loratadine - - - +