Figure 1

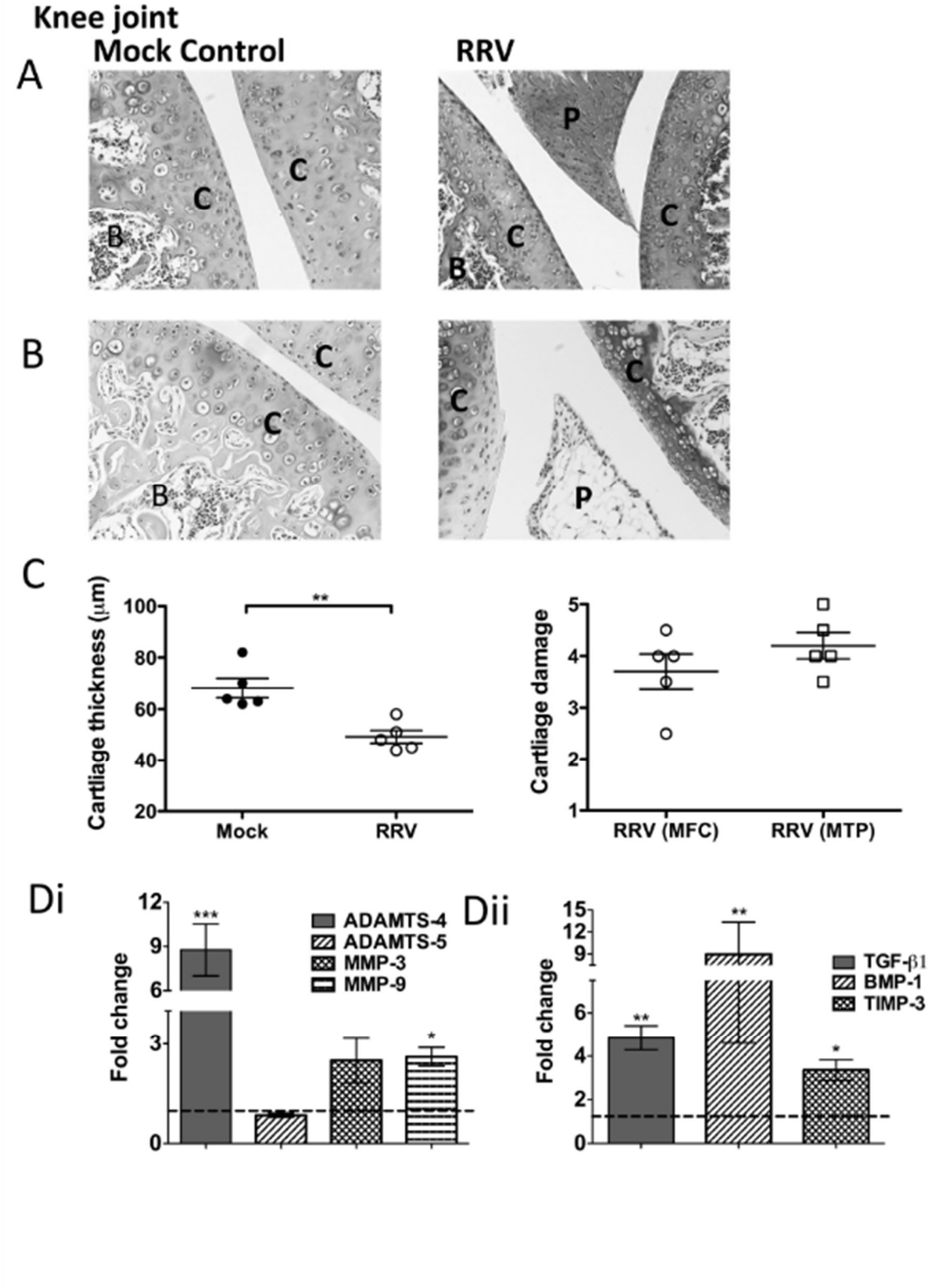

Knee joint
Mock Control
RRV
A
B
C
P
B
C
Cartliage thickness (μm)
100
80
60
40
20
**
Mock
RRV
Cartliage damage
5
4
3
2
1
RRV (MFC)
RRV (MTP)
Di
Fold change
12
9
6
3
0
***
*
ADAMTS-4
ADAMTS-5
MMP-3
MMP-9
Dii
Fold change
15
12
9
6
4
2
0
**
**
*
TGF-β1
BMP-1
TIMP-3

Figure 2

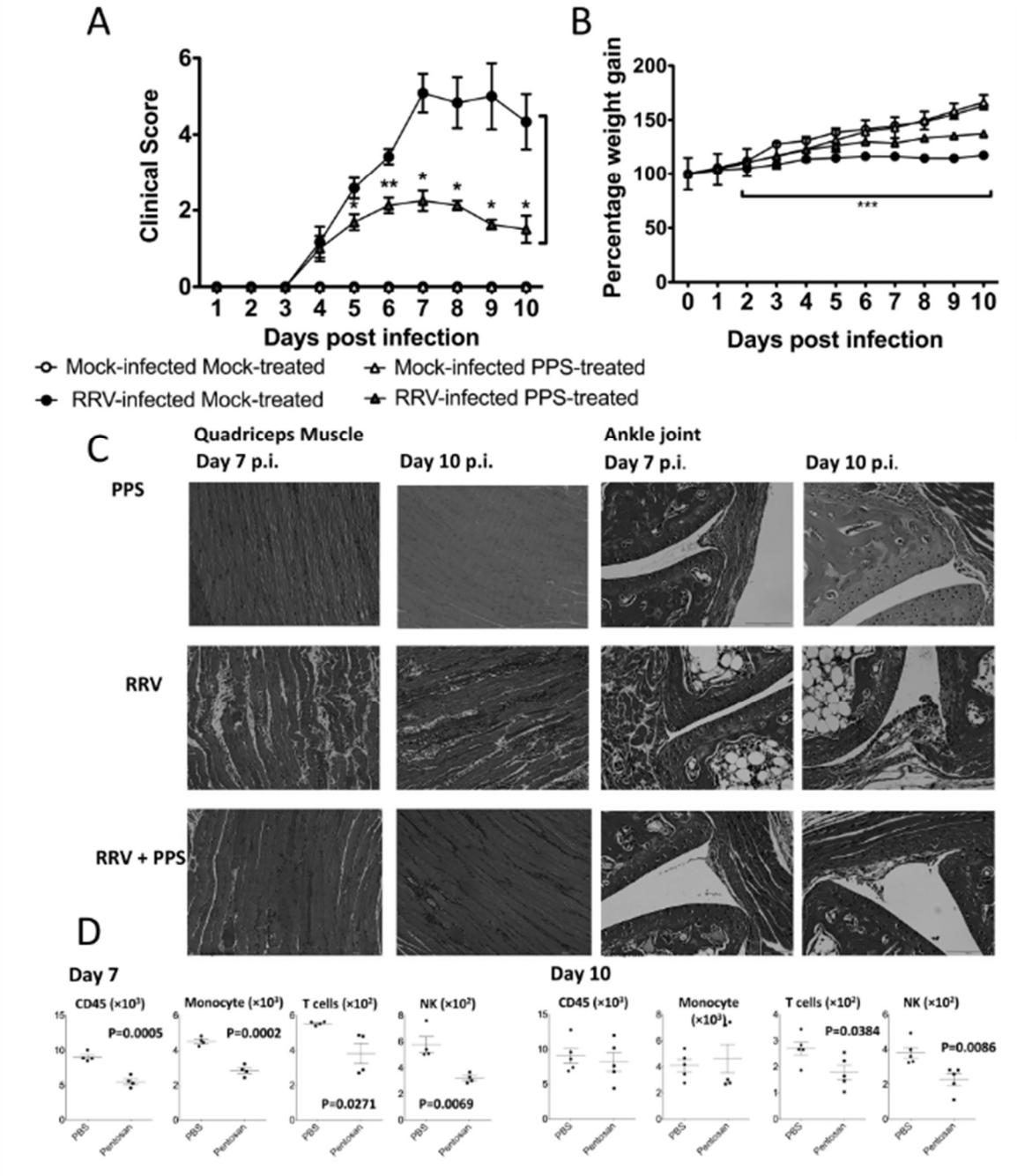

A
Clinical Score
Days post infection
B
Percentage weight gain
Days post infection
Mock-infected Mock-treated
Mock-infected PPS-treated
RRV-infected Mock-treated
RRV-infected PPS-treated
C
Quadriceps Muscle
Ankle joint
Day 7 p.i.
Day 10 p.i.
Day 7 p.i.
Day 10 p.i.
PPS
RRV
RRV + PPS
D
Day 7
Day 10
CD45 (×10³)
Monocyte (×10³)
T cells (×10²)
NK (×10²)
P=0.0005
P=0.0002
P=0.0271
P=0.0069
P=0.0384
P=0.0086
PBS
Pentosan

Figure 3

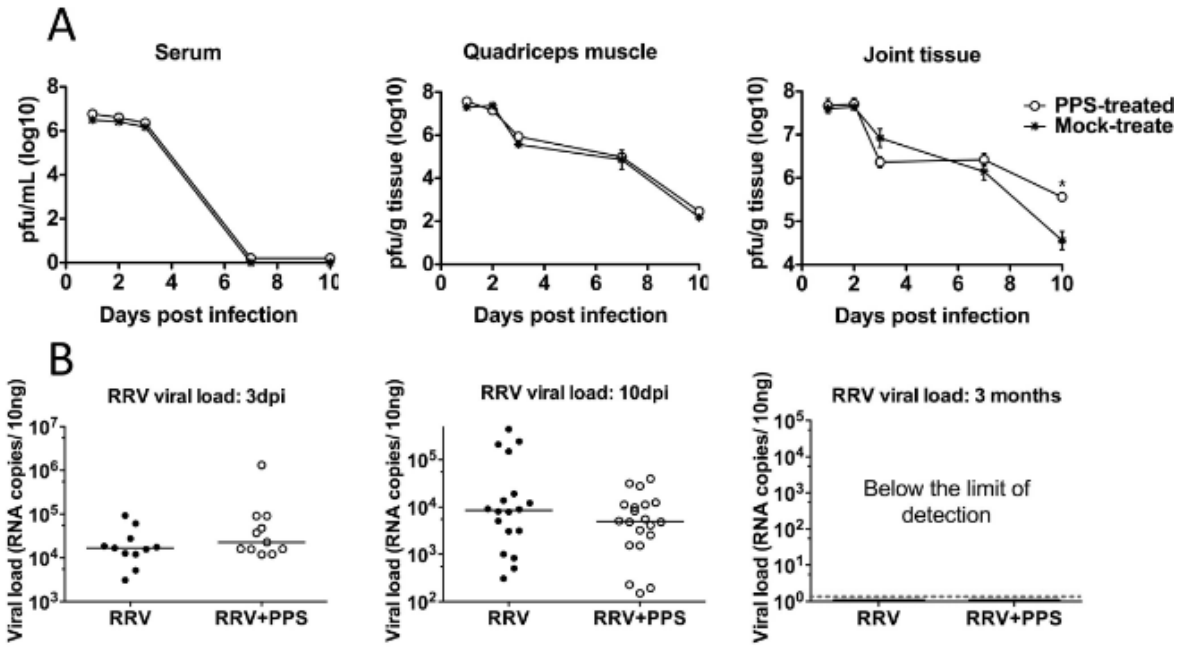

A
Serum
pfu/mL (log10)
Days post infection
Quadriceps muscle
pfu/g tissue (log10)
Days post infection
Joint tissue
pfu/g tissue (log10)
Days post infection
PPS-treated
Mock-treate
B
RRV viral load: 3dpi
Viral load (RNA copies/ 10ng)
RRV
RRV+PPS
RRV viral load: 10dpi
Viral load (RNA copies/ 10ng)
RRV
RRV+PPS
RRV viral load: 3 months
Viral load (RNA copies/ 10ng)
Below the limit of detection
RRV
RRV+PPS

Figure 4

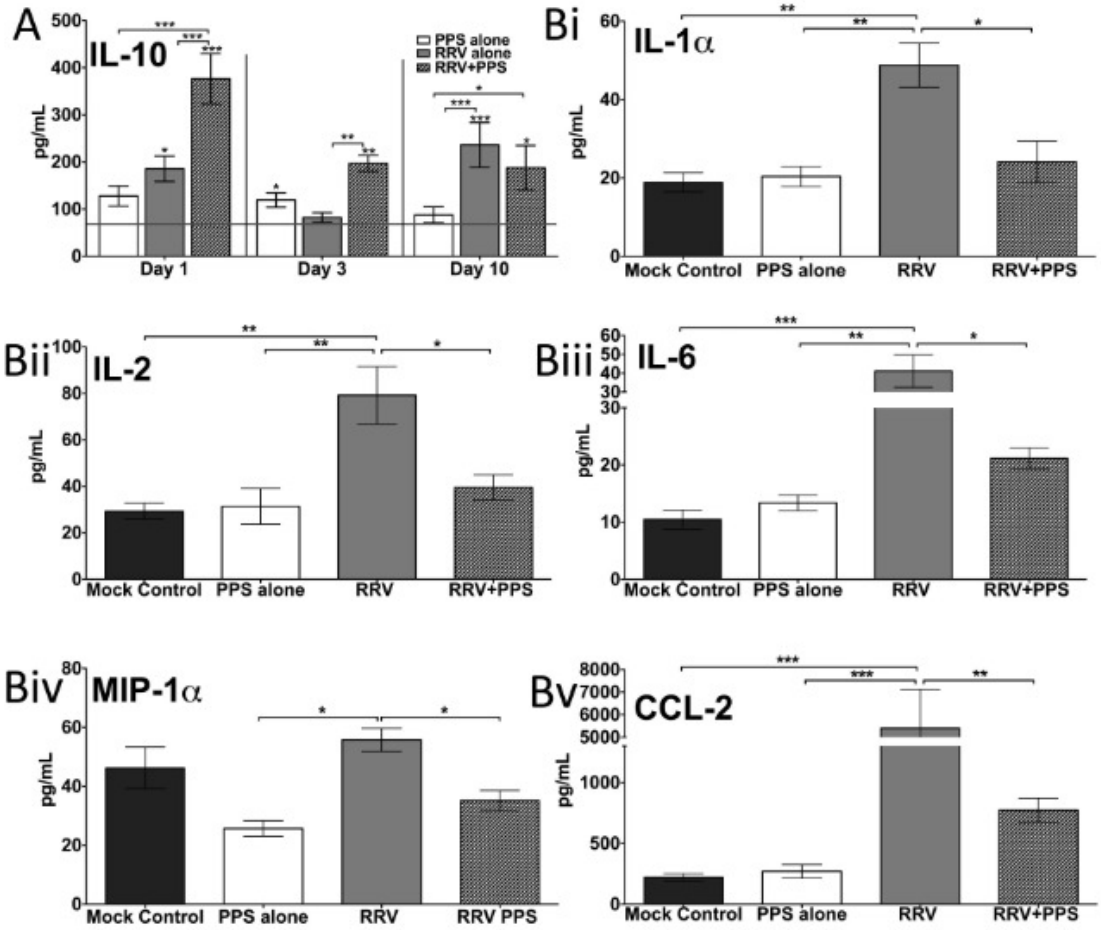
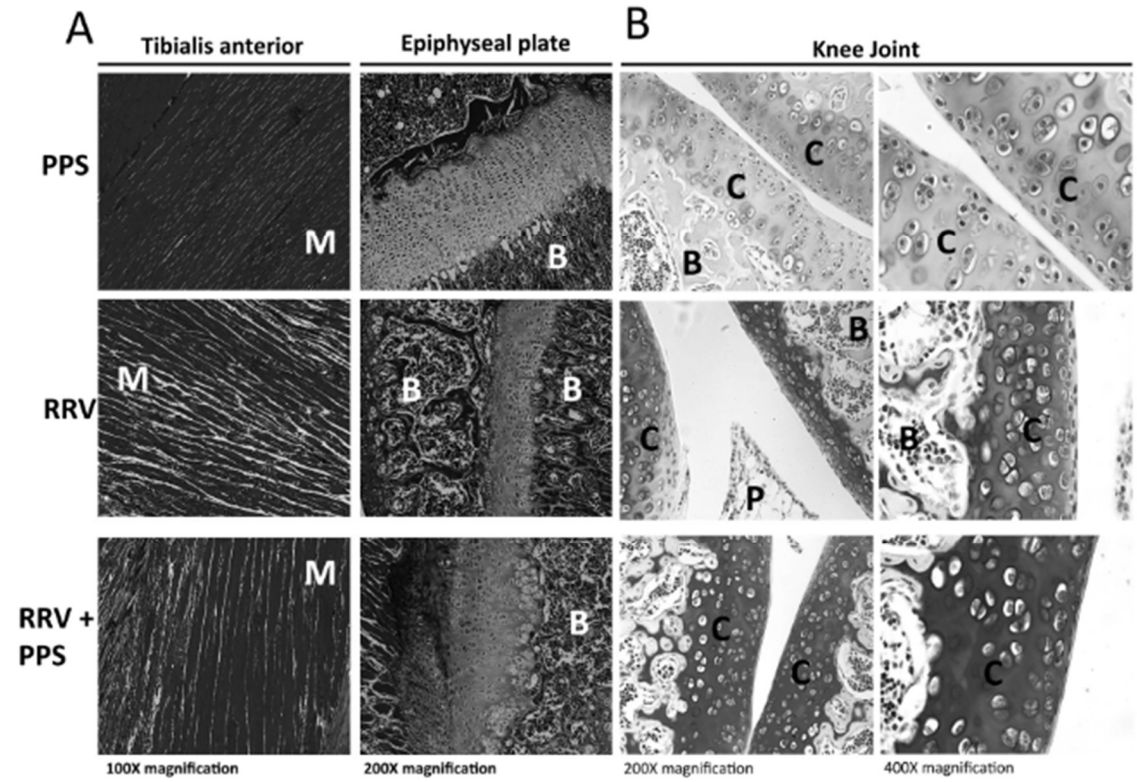

A
IL-10
pg/mL
PPS alone
RRV alone
RRV+PPS
Day 1
Day 3
Day 10
Bi
IL-1α
Mock Control
PPS alone
RRV
RRV+PPS
Bii
IL-2
Biii
IL-6
Biv
MIP-1α
RRV PPS
Bv
CCL-2

Figure 5


A
Tibialis anterior
Epiphyseal plate
B
Knee Joint
PPS
RRV
RRV + PPS
M
B
C
P
100X magnification
200X magnification
200X magnification
400X magnification

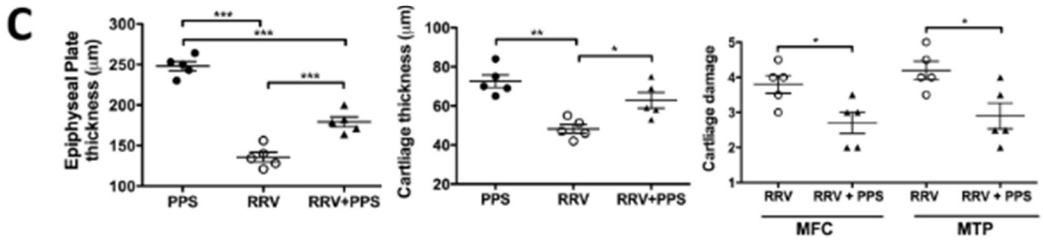

C
Epiphyseal Plate thickness (μm)
Cartilage thickness (μm)
Cartilage damage
PPS
RRV
RRV+PPS
RRV + PPS
MFC
MTP

Figure 6

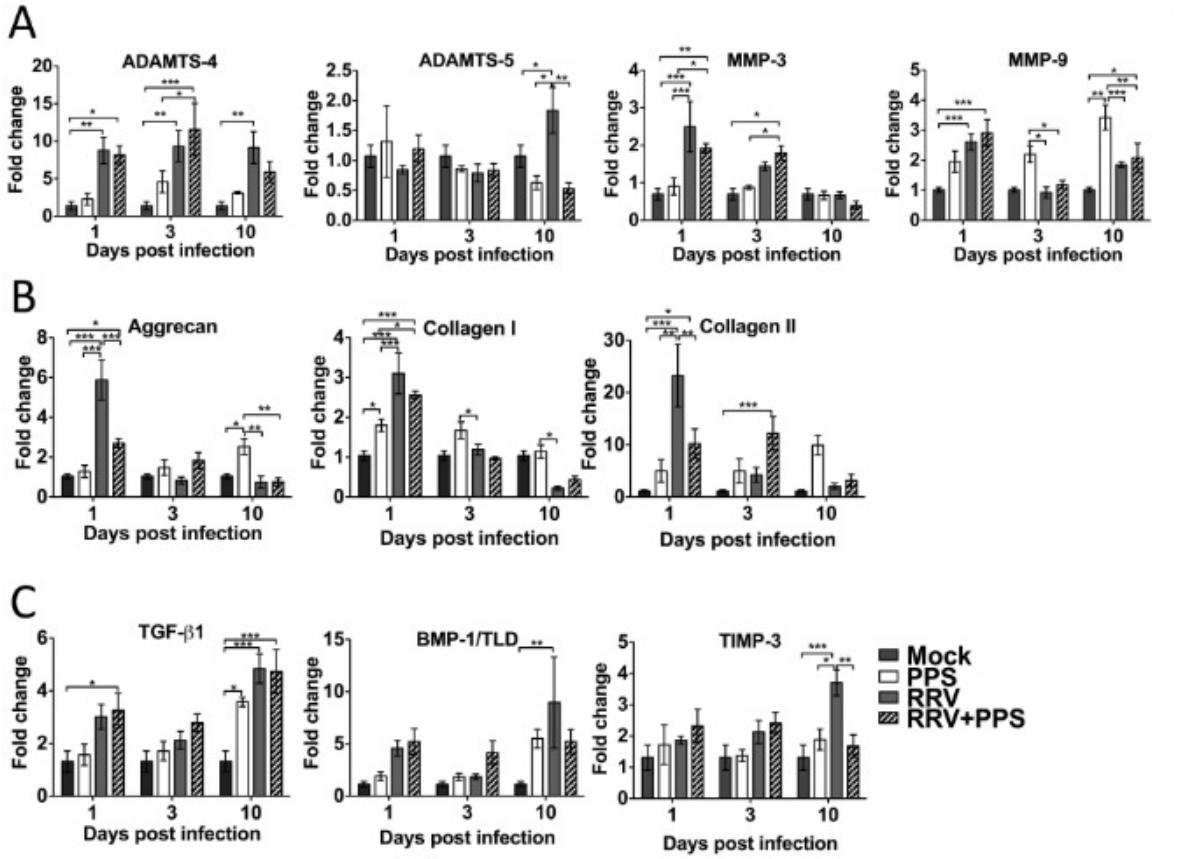

A
ADAMTS-4
ADAMTS-5
MMP-3
MMP-9
Fold change
Days post infection
B
Aggrecan
Collagen I
Collagen II
C
TGF-β1
BMP-1/TLD
TIMP-3
Mock
PPS
RRV
RRV+PPS

Figure 7

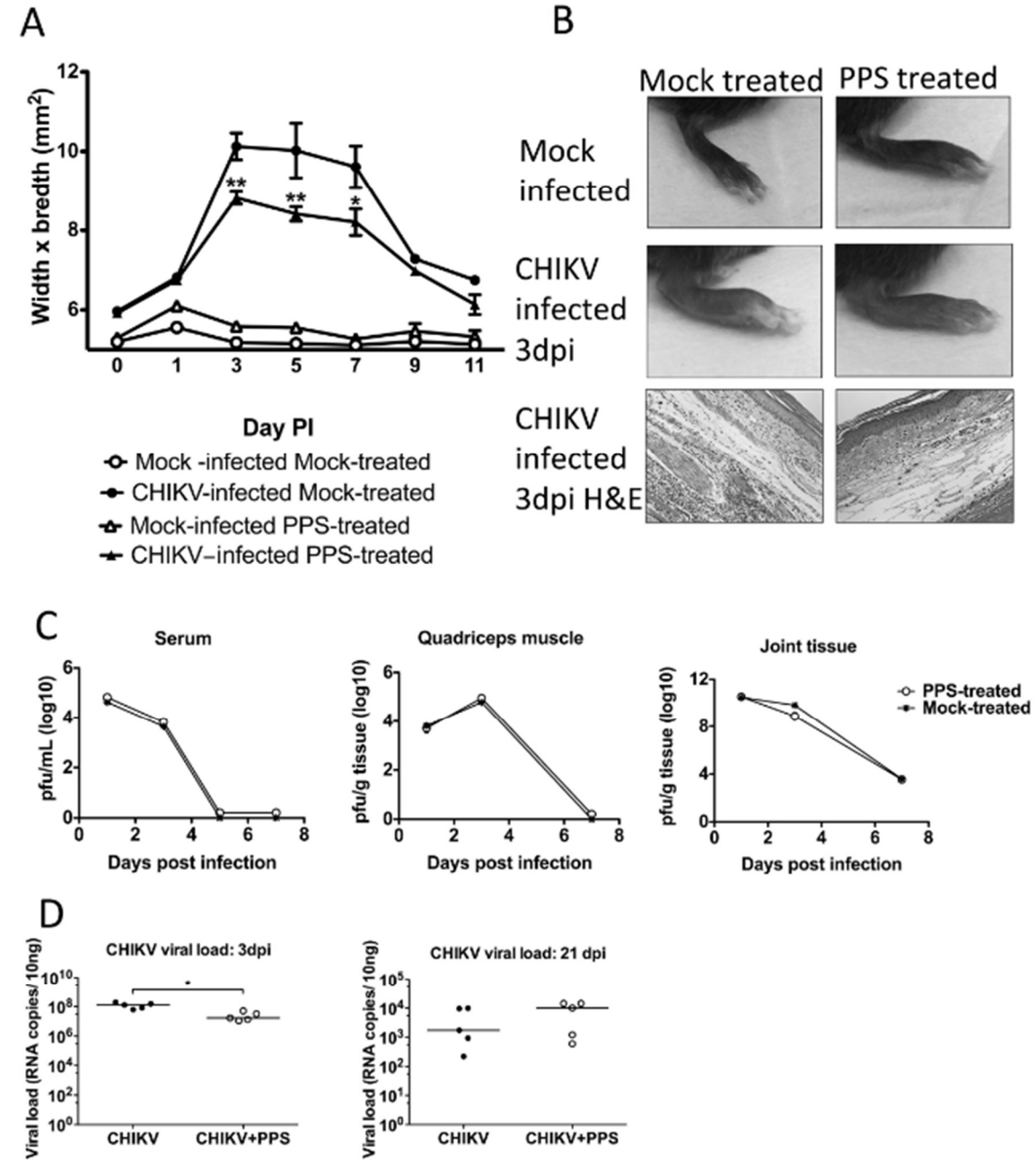
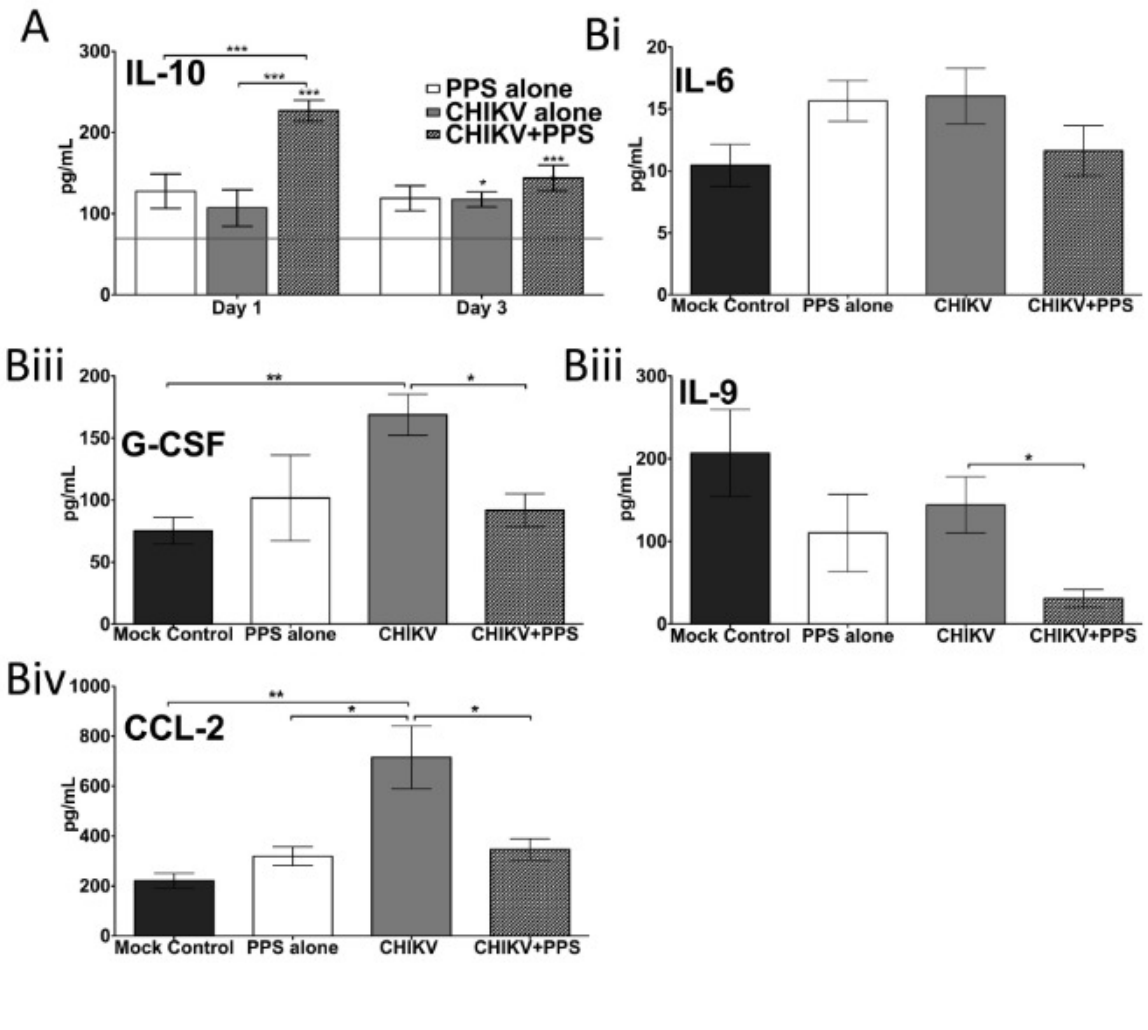

A
B
Width x bredth (mm²)
Day PI
Mock -infected Mock-treated
CHIKV-infected Mock-treated
Mock-infected PPS-treated
CHIKV–infected PPS-treated
Mock treated
PPS treated
Mock infected
CHIKV infected 3dpi
CHIKV infected 3dpi H&E
C
Serum
Quadriceps muscle
Joint tissue
pfu/mL (log10)
pfu/g tissue (log10)
Days post infection
PPS-treated
Mock-treated
D
CHIKV viral load: 3dpi
CHIKV viral load: 21 dpi
Viral load (RNA copies/ 10ng)
CHIKV
CHIKV+PPS

Figure 8


A
IL-10
PPS alone
CHIKV alone
CHIKV+PPS
pg/mL
Day 1
Day 3
Bi
IL-6
pg/mL
Mock Control
PPS alone
CHIKV
CHIKV+PPS
Biii
G-CSF
pg/mL
Mock Control
PPS alone
CHIKV
CHIKV+PPS
Biii
IL-9
pg/mL
Mock Control
PPS alone
CHIKV
CHIKV+PPS
Biv
CCL-2
pg/mL
Mock Control
PPS alone
CHIKV
CHIKV+PPS