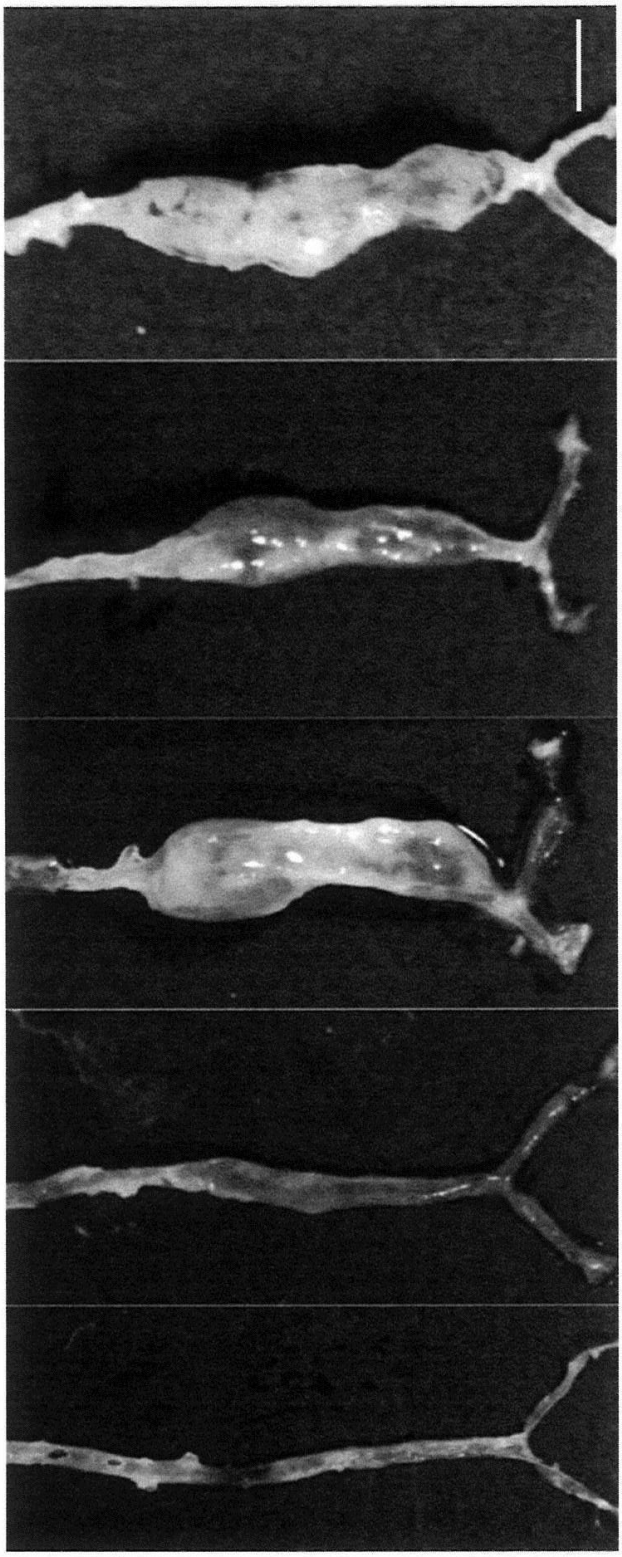


Fig.1

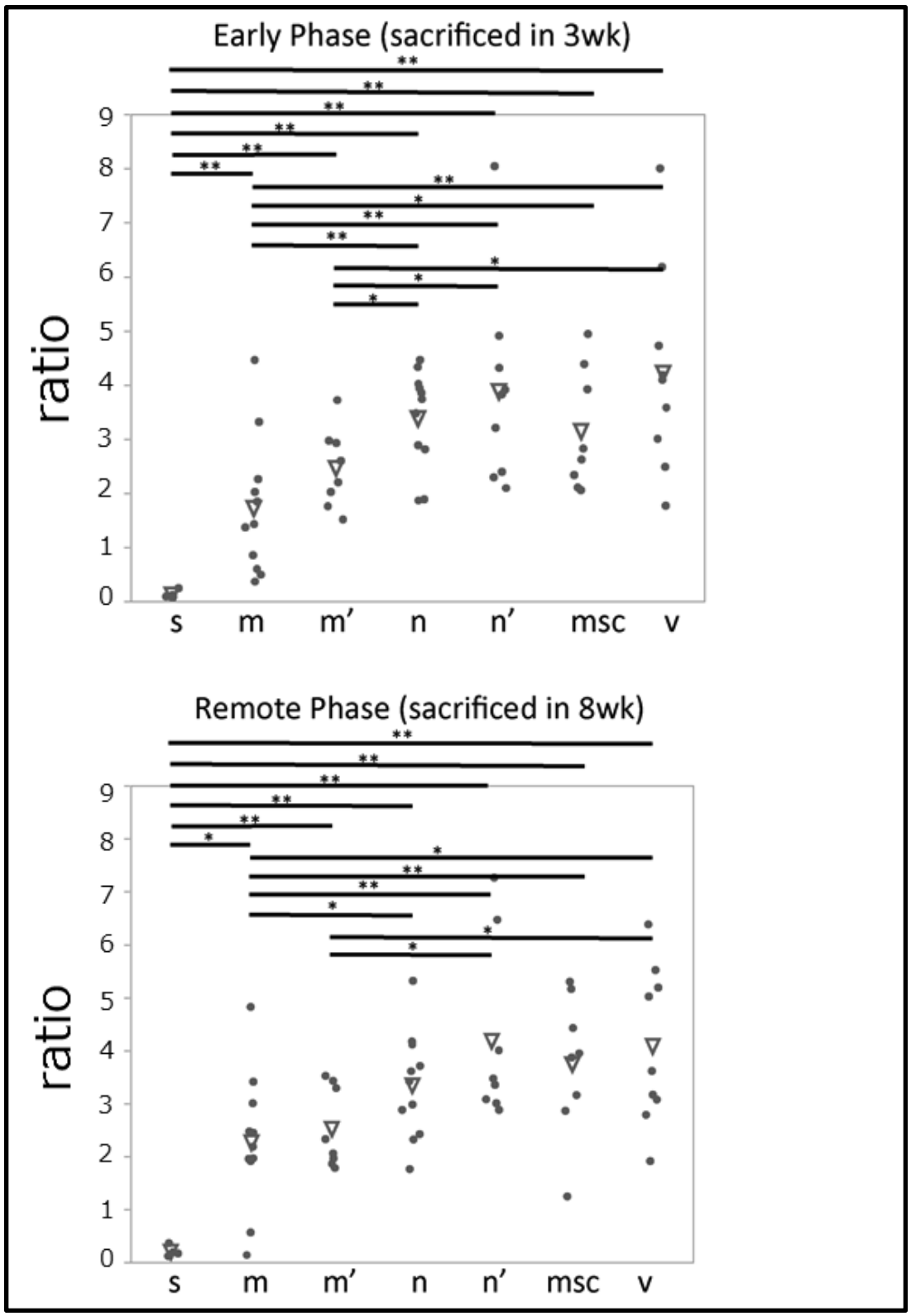

Early Phase (sacrificed in 3wk)
ratio
0
1
2
3
4
5
6
7
8
9
s
m
m'
n
n'
msc
v
Remote Phase (sacrificed in 8wk)
ratio
0
1
2
3
4
5
6
7
8
9
s
m
m'
n
n'
msc
v

Fig. 2

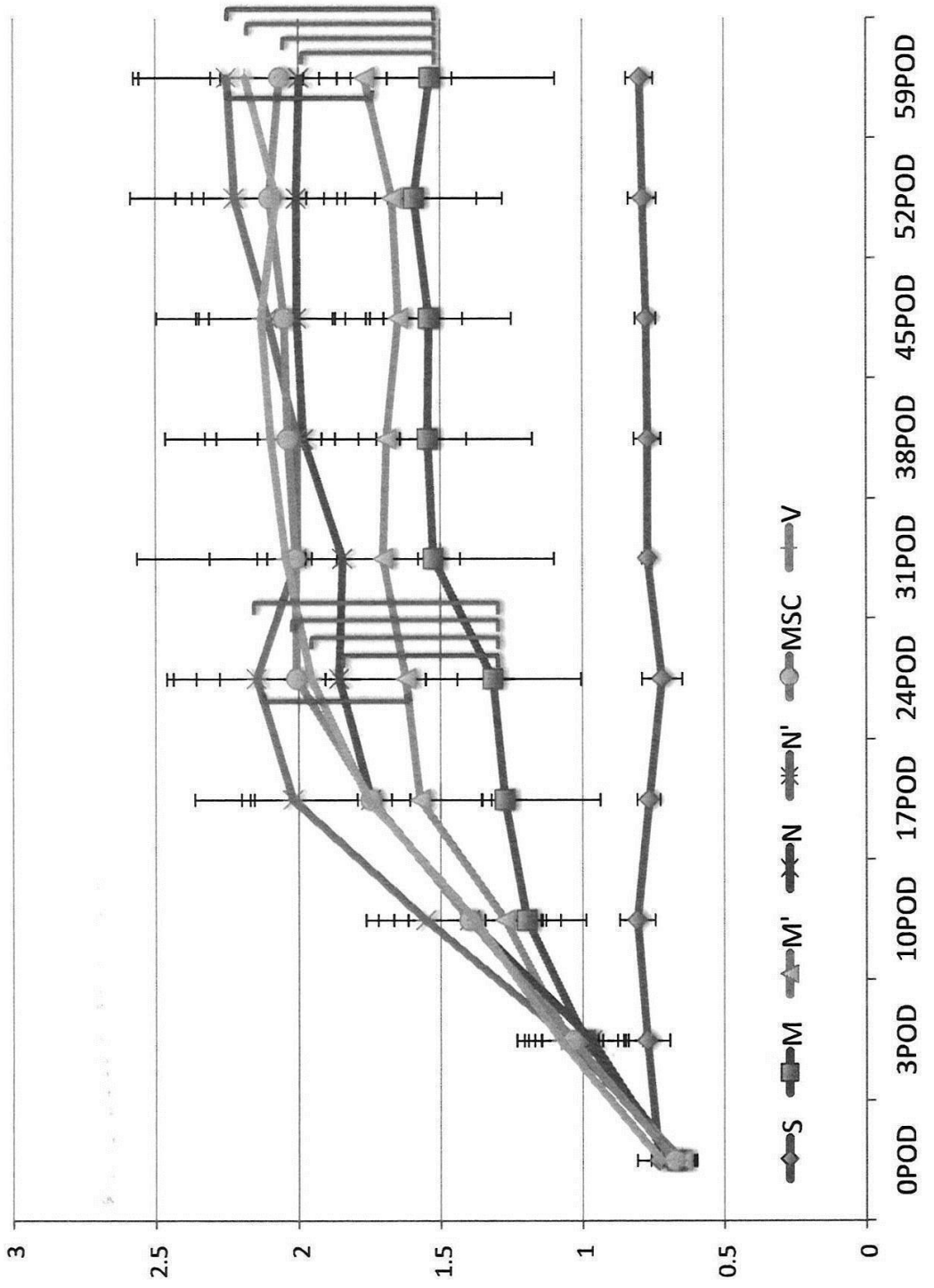

3
2.5
2
1.5
1
0.5
0
0POD
3POD
10POD
17POD
24POD
31POD
38POD
45POD
52POD
59POD
S
M
M'
N
N'
MSC
V

Fig.3

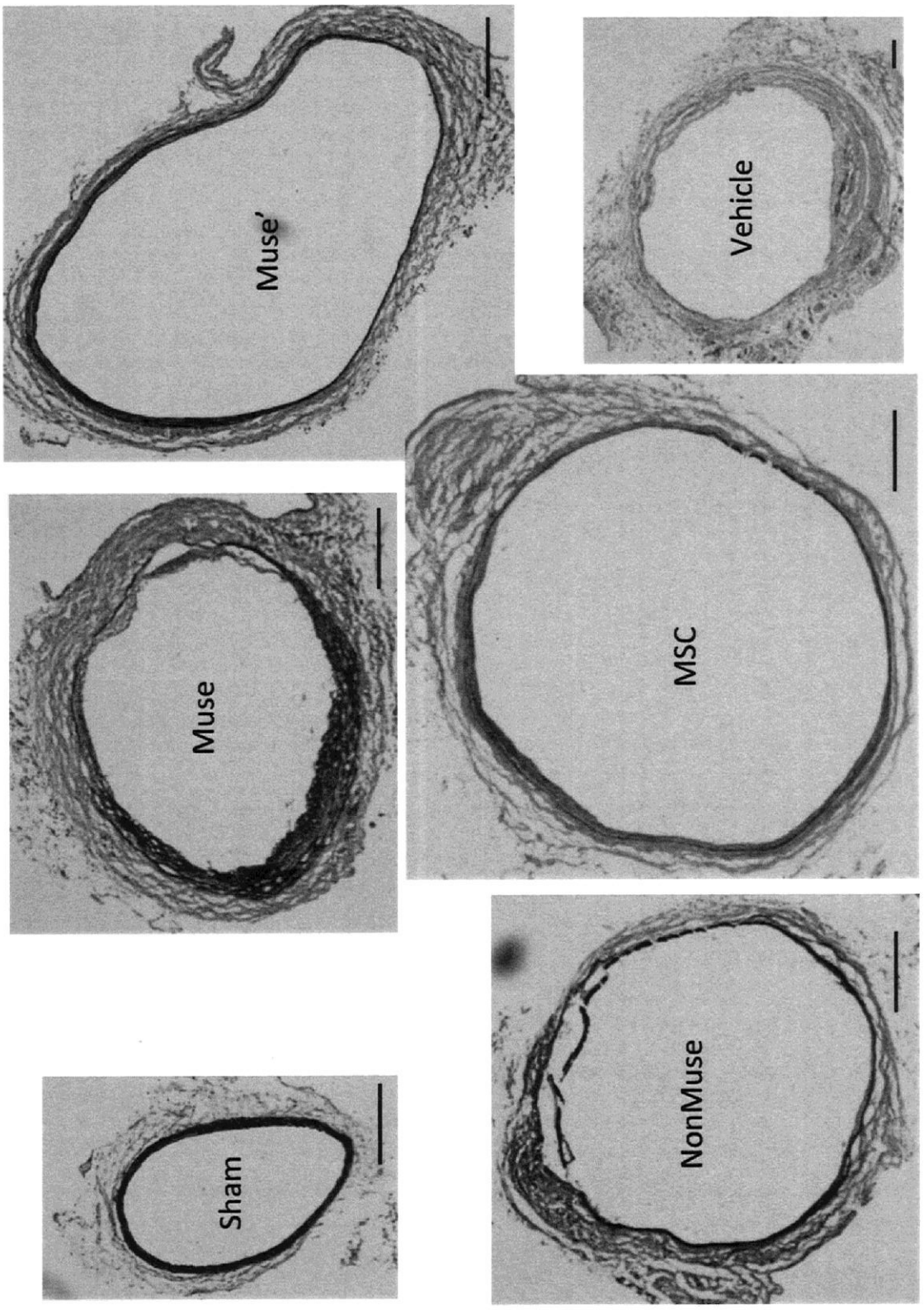


Fig.4

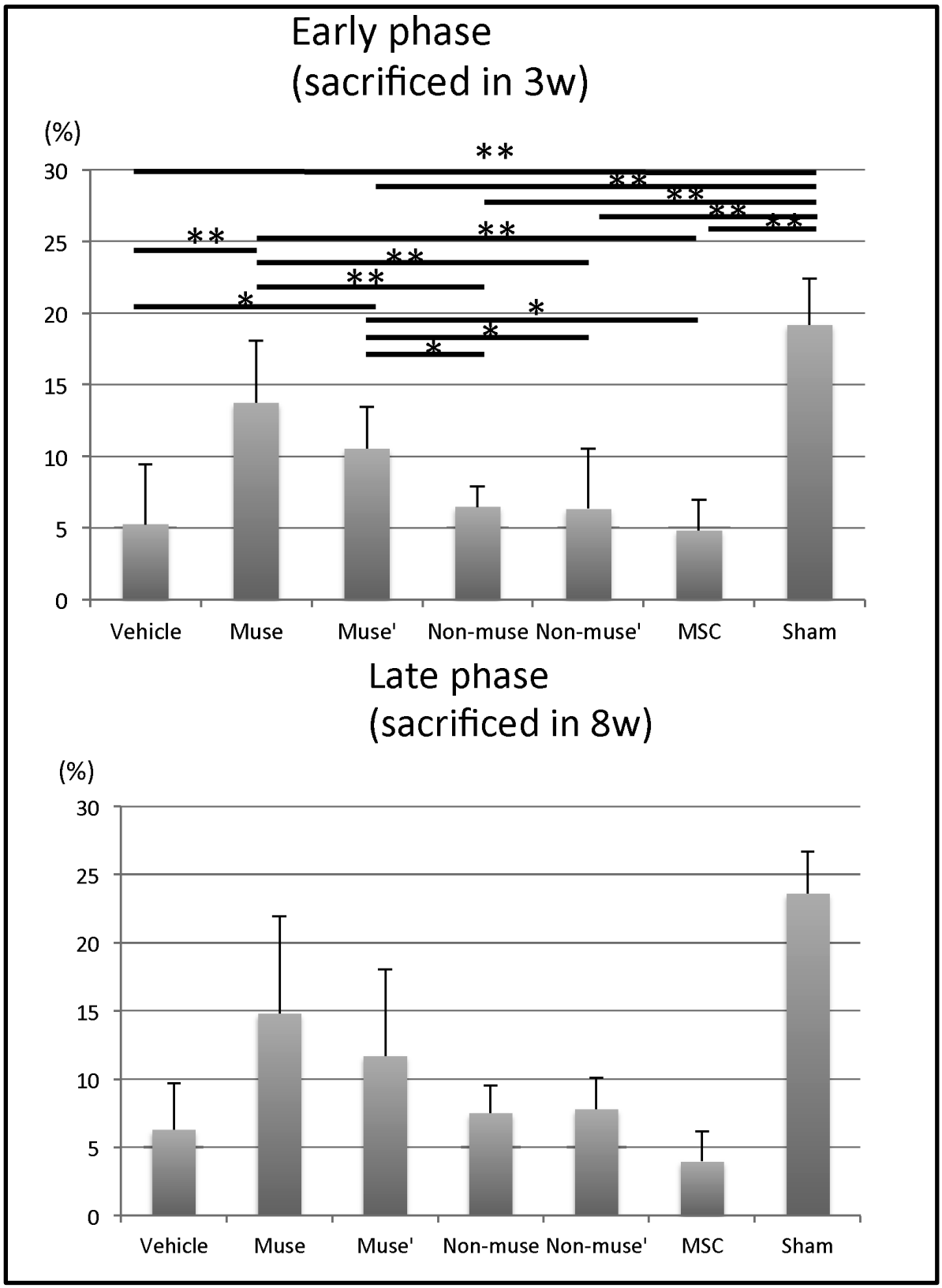

Early phase
(sacrificed in 3w)
(%)
30
25
20
15
10
5
0
**
**
**
**
**
**
**
**
*
*
*
*
Vehicle
Muse
Muse'
Non-muse
Non-muse'
MSC
Sham
Late phase
(sacrificed in 8w)
(%)
30
25
20
15
10
5
0
Vehicle
Muse
Muse'
Non-muse
Non-muse'
MSC
Sham

Fig. 5

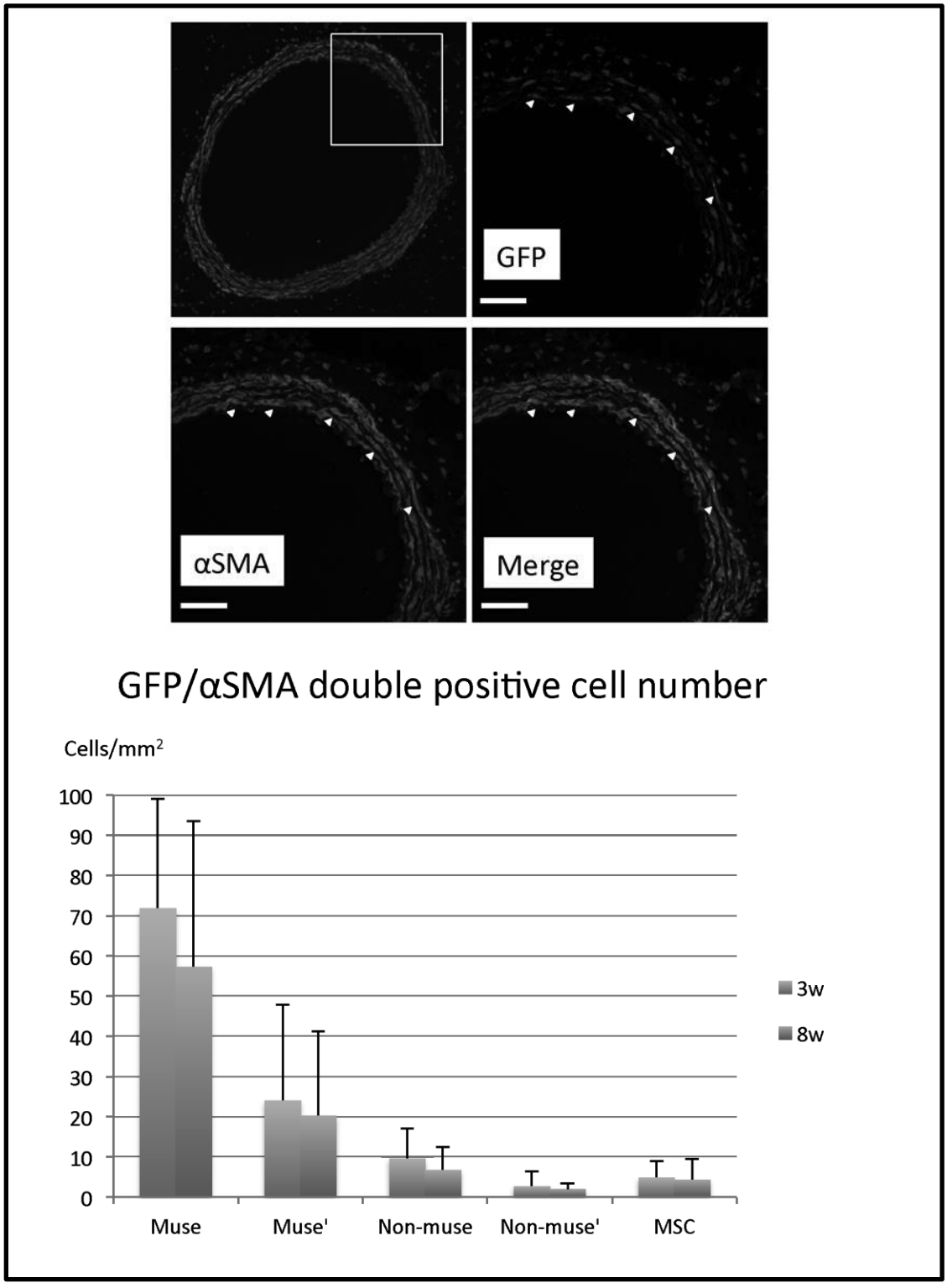

GFP
αSMA
Merge
GFP/αSMA double positive cell number
Cells/mm2
100
90
80
70
60
50
40
30
20
10
0
Muse
Muse'
Non-muse
Non-muse'
MSC
3w
8w

Fig. 6

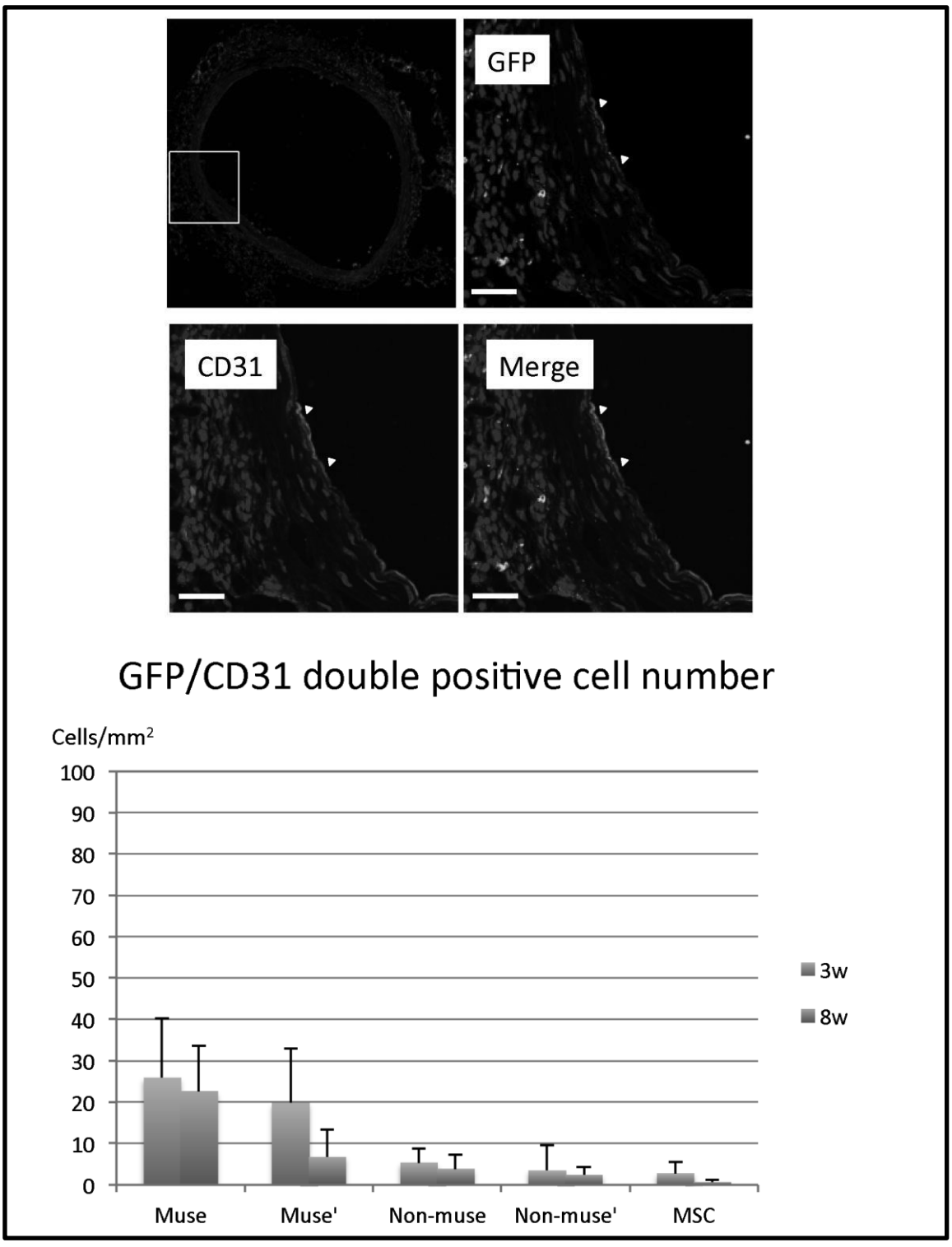

GFP
CD31
Merge
GFP/CD31 double positive cell number
Cells/mm2
100
90
80
70
60
50
40
30
20
10
0
Muse
Muse'
Non-muse
Non-muse'
MSC
3w
8w

Fig. 7

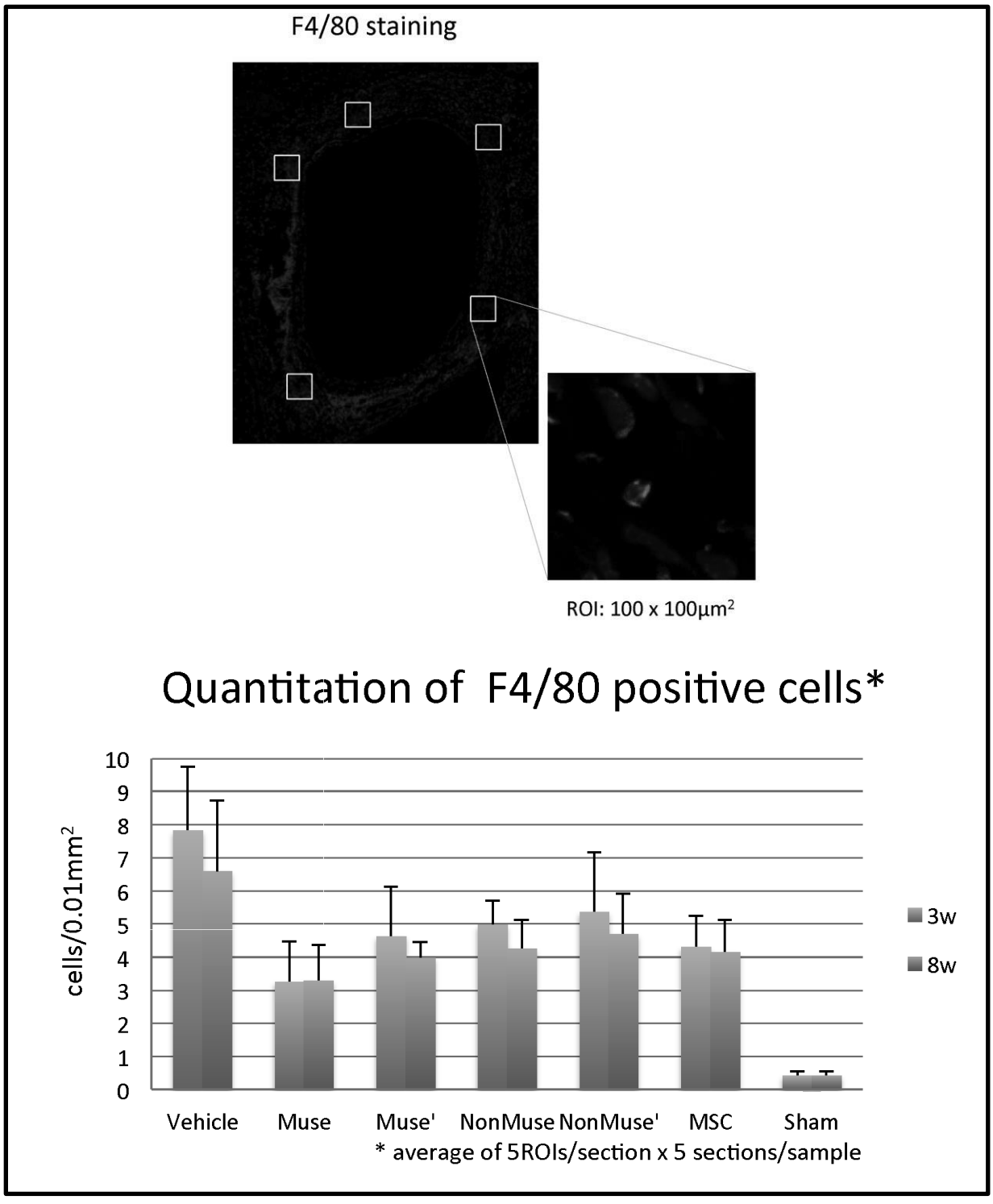

F4/80 staining
ROI: 100 x 100μm²
Quantitation of F4/80 positive cells*
cells/0.01mm²
10
9
8
7
6
5
4
3
2
1
0
Vehicle
Muse
Muse'
NonMuse
NonMuse'
MSC
Sham
3w
8w
* average of 5ROIs/section x 5 sections/sample

Fig. 8

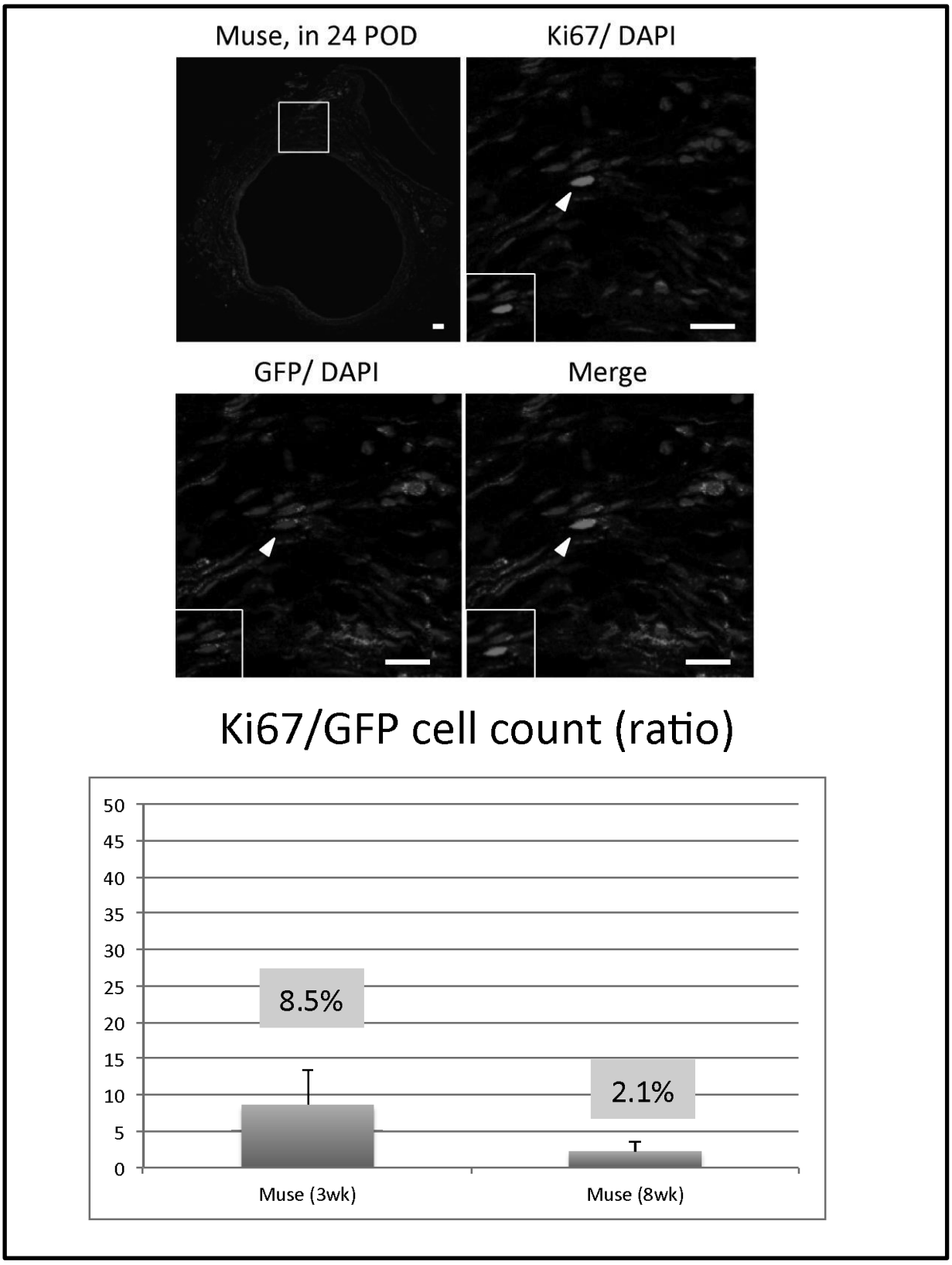

Muse, in 24 POD
Ki67/ DAPI
GFP/ DAPI
Merge
Ki67/GFP cell count (ratio)
50
45
40
35
30
25
20
15
10
5
0
8.5%
2.1%
Muse (3wk)
Muse (8wk)

Fig. 9

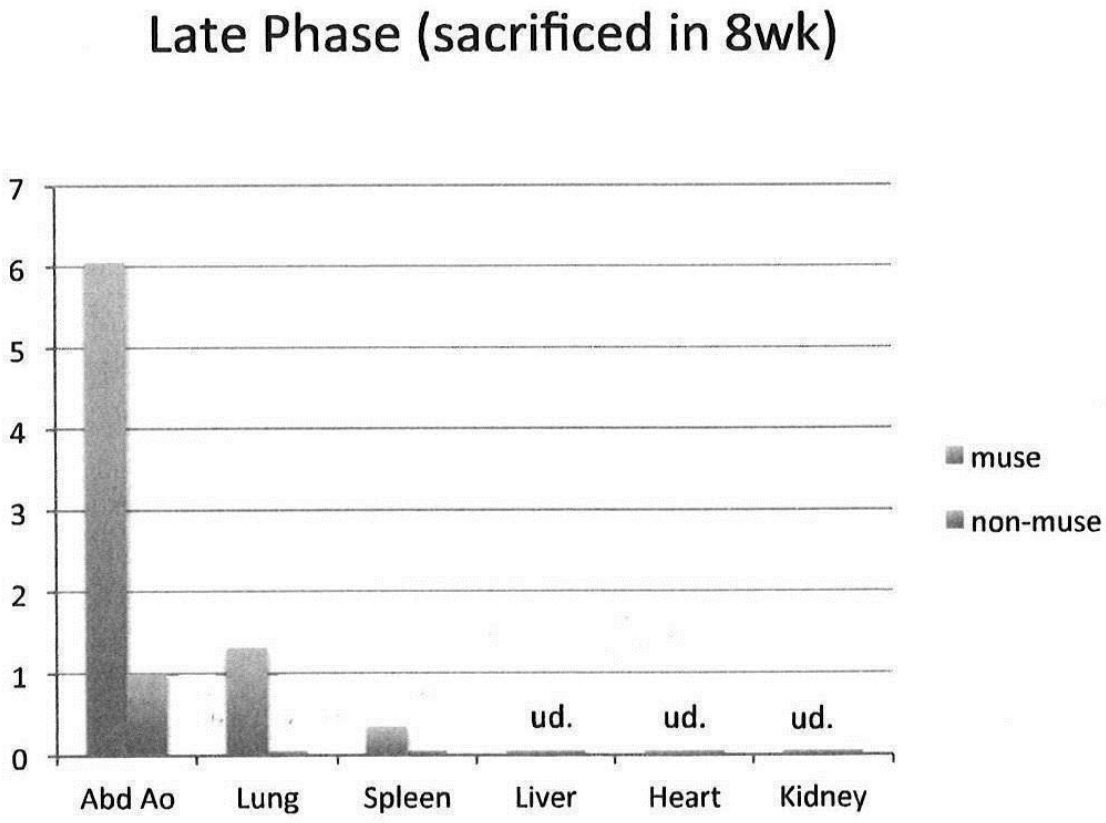

Late Phase (sacrificed in 8wk)
7
6
5
4
3
2
1
0
ud.
ud.
ud.
Abd Ao
Lung
Spleen
Liver
Heart
Kidney
muse
non-muse

Fig. 10

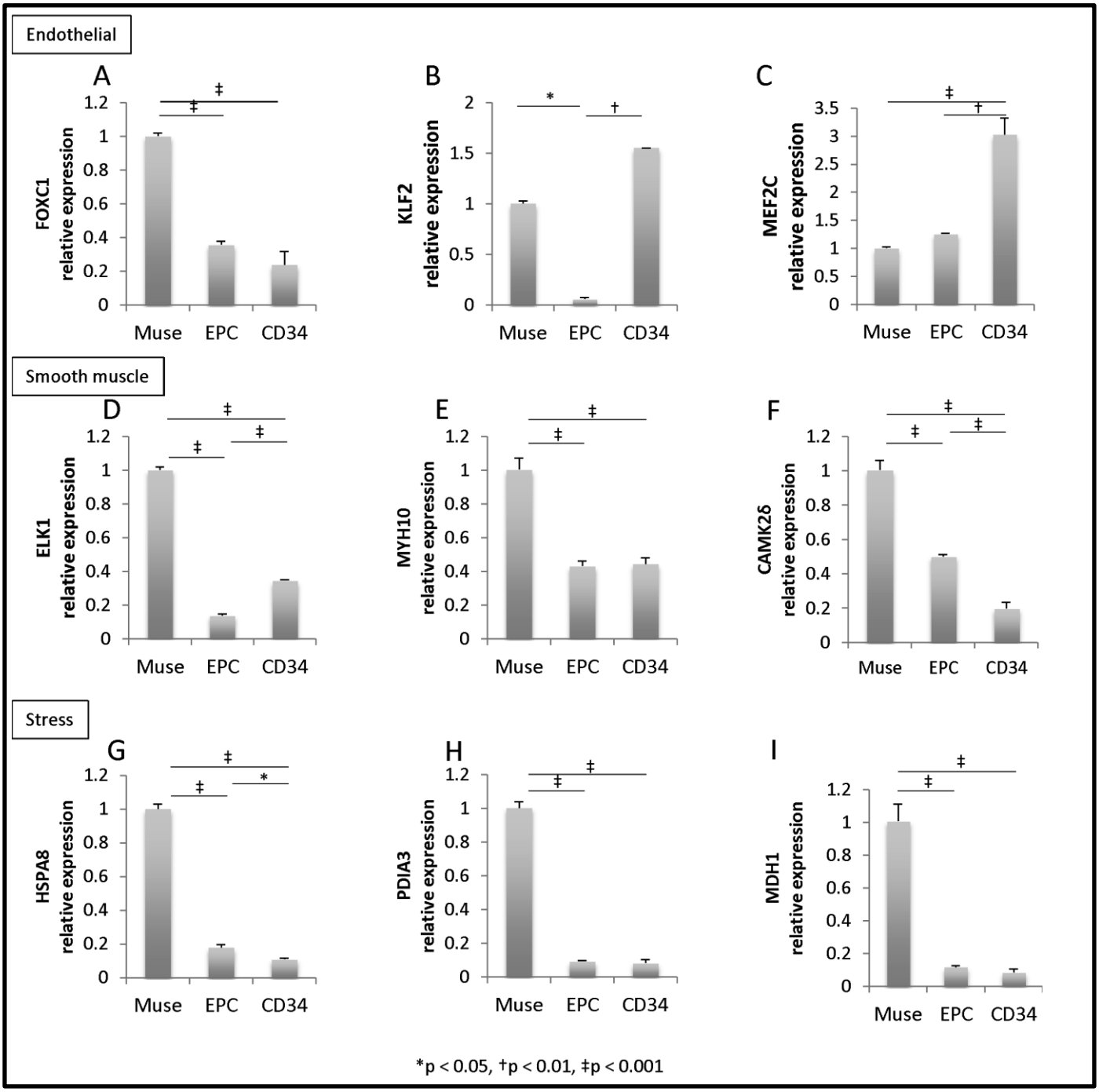

Endothelial
A
FOXC1 relative expression
B
KLF2 relative expression
C
MEF2C relative expression
Smooth muscle
D
ELK1 relative expression
E
MYH10 relative expression
F
CAMK2δ relative expression
Stress
G
HSPA8 relative expression
H
PDIA3 relative expression
I
MDH1 relative expression
Muse
EPC
CD34
*p < 0.05, †p < 0.01, ‡p < 0.001

Fig. 11

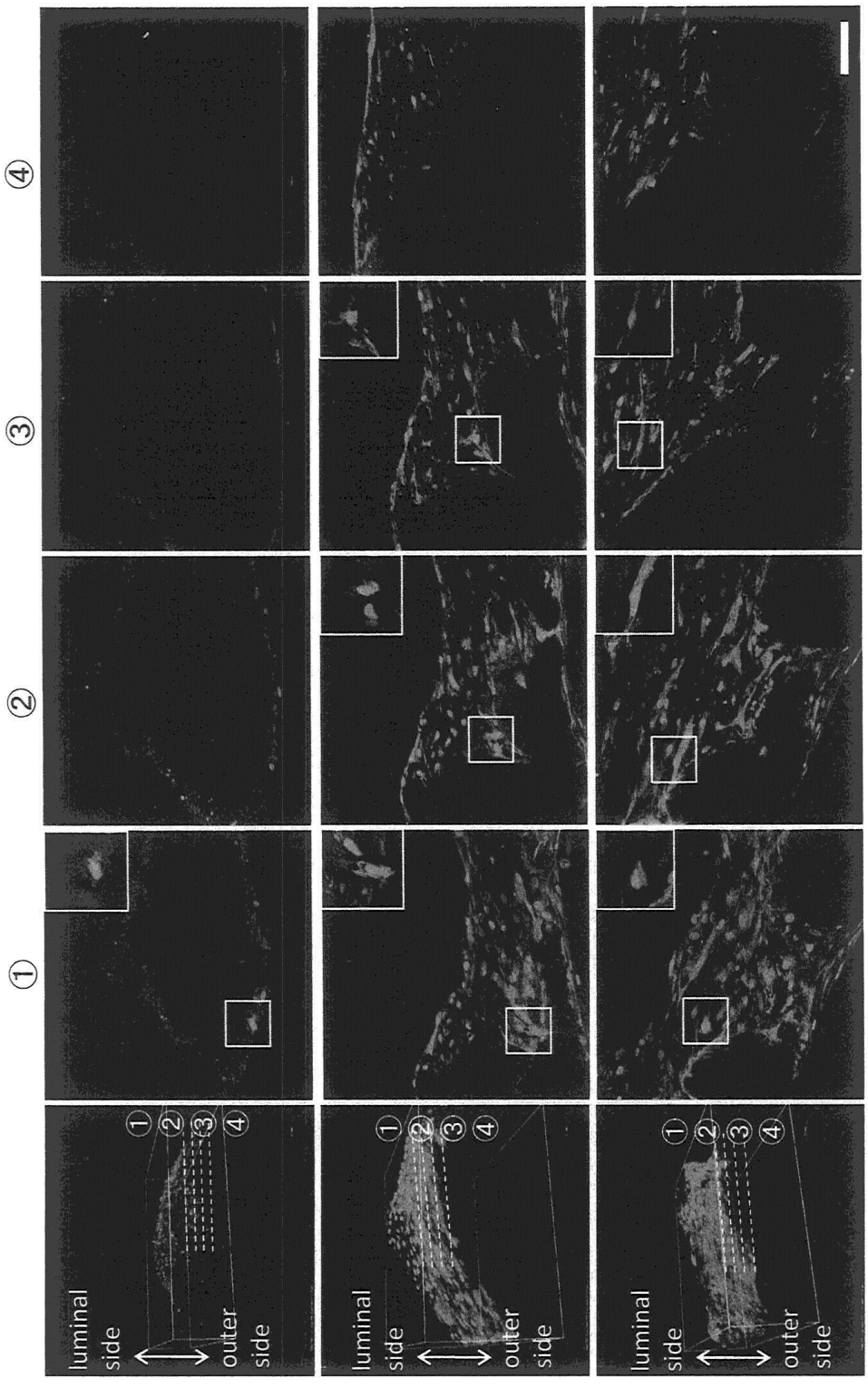


Fig.12A

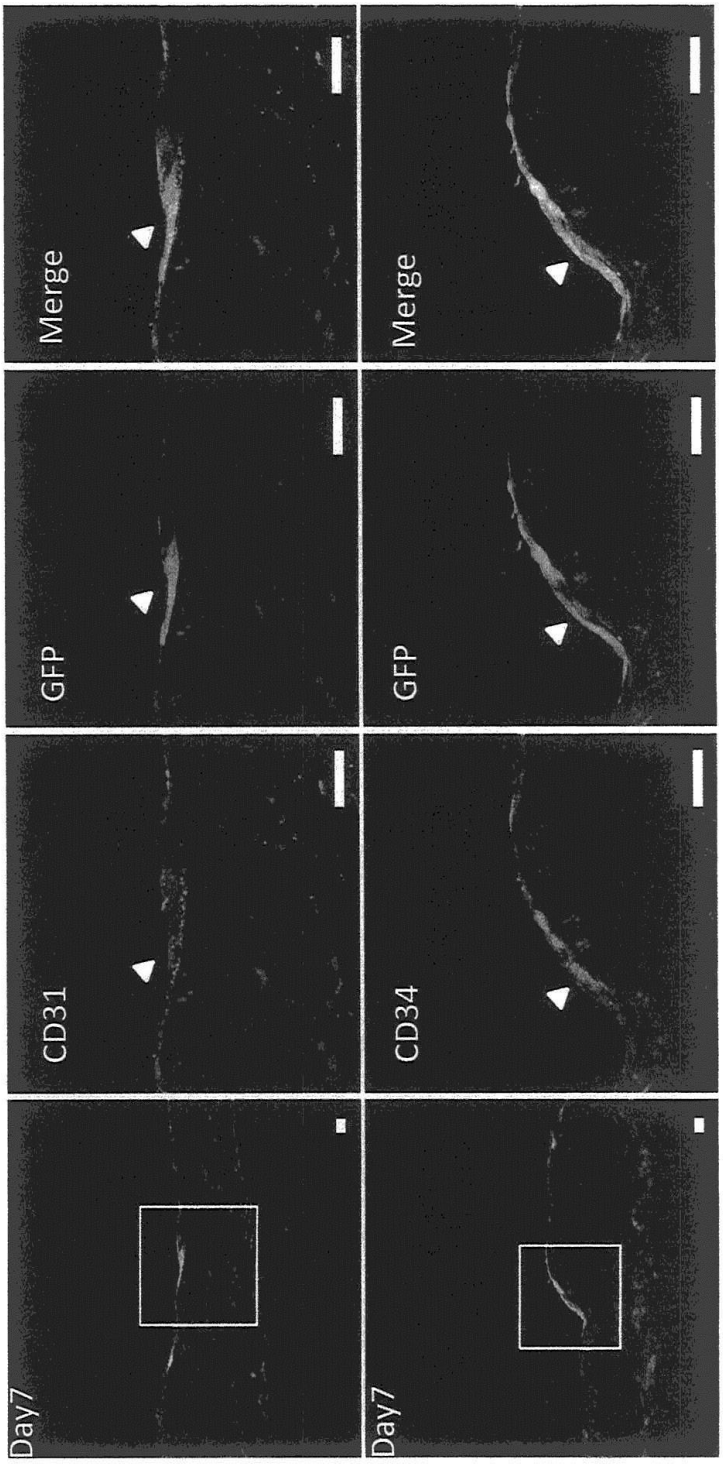


Fig.12B

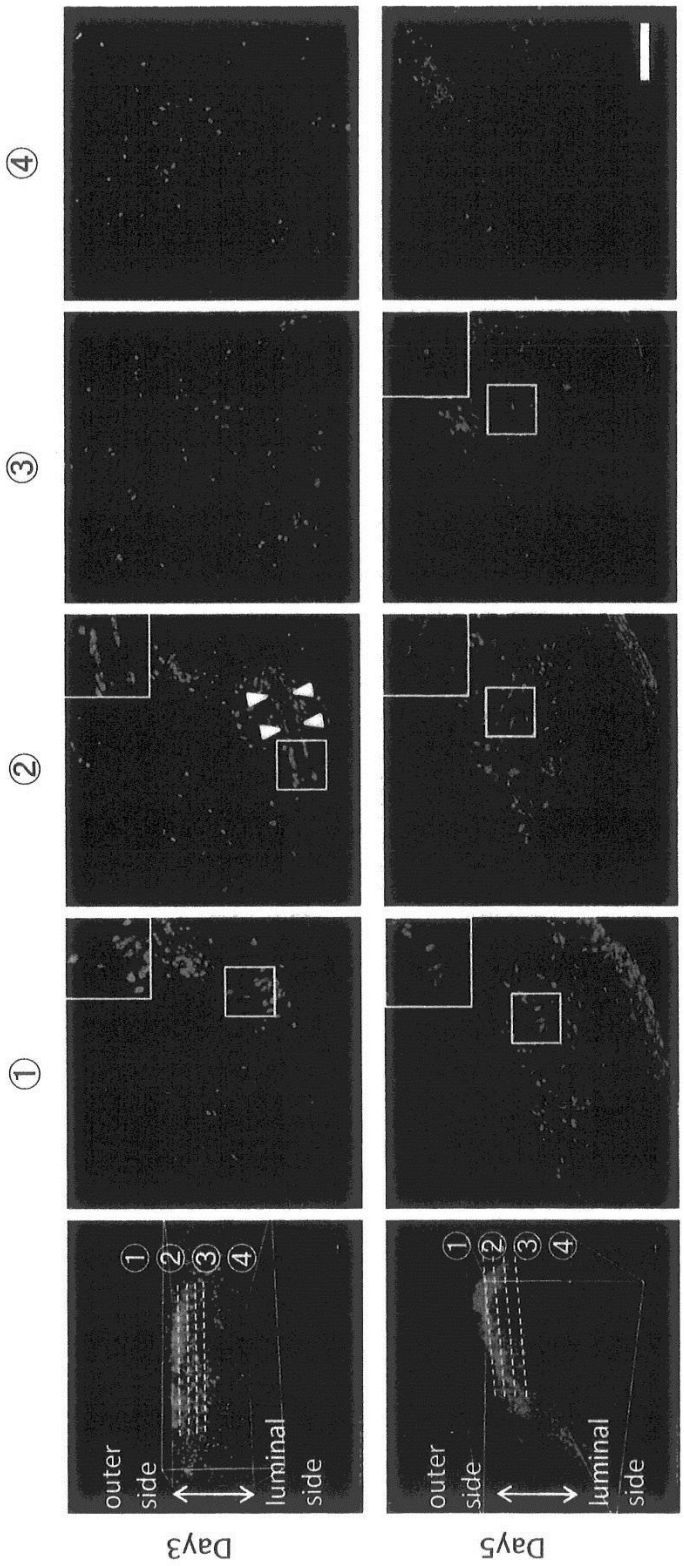


Fig.13A

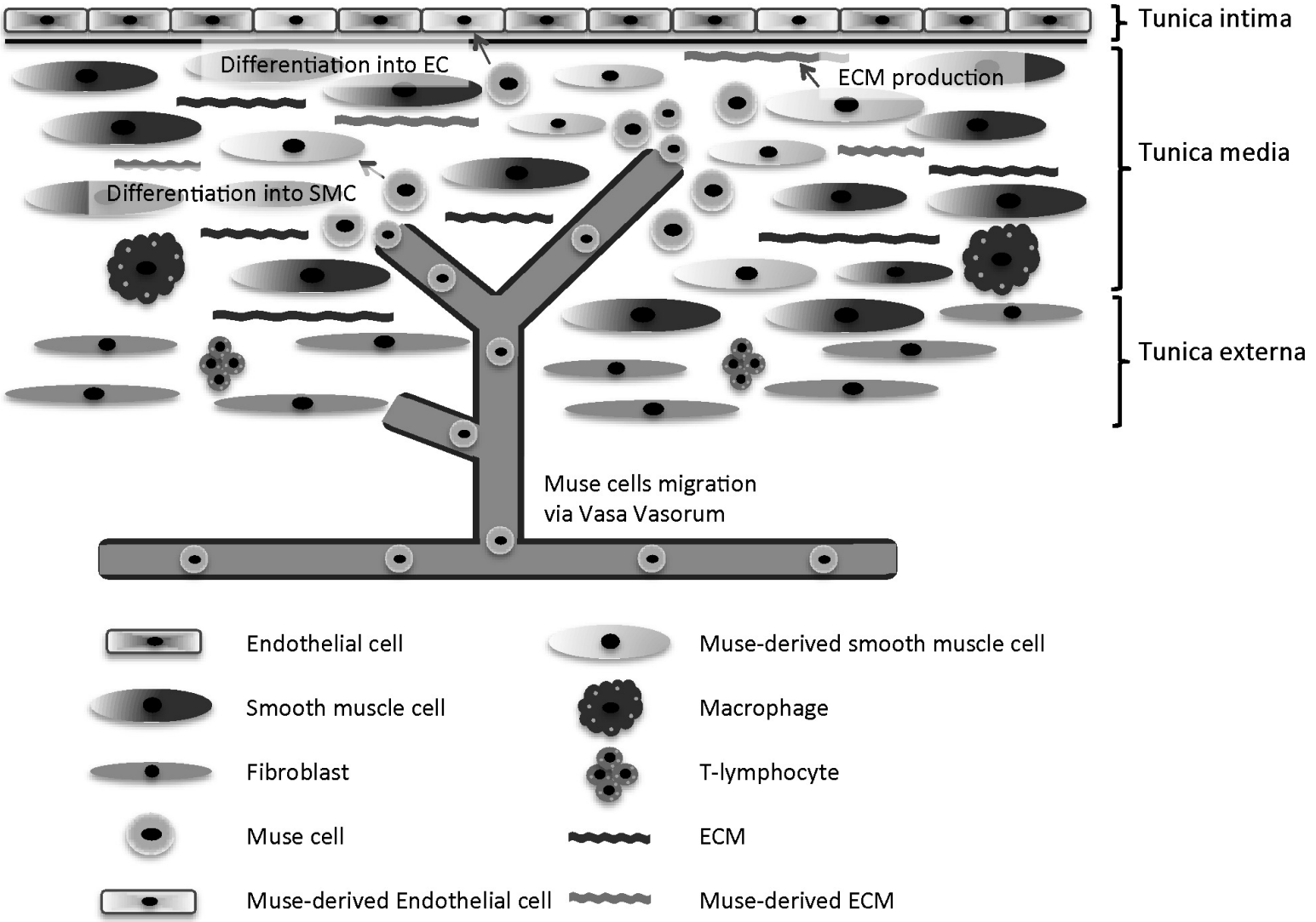

Tunica intima
Tunica media
Tunica externa
Differentiation into EC
ECM production
Differentiation into SMC
Muse cells migration
via Vasa Vasorum
Endothelial cell
Smooth muscle cell
Fibroblast
Muse cell
Muse-derived Endothelial cell
Muse-derived smooth muscle cell
Macrophage
T-lymphocyte
ECM
Muse-derived ECM

Fig.13B