Supplementary Table 1. The minimum/maximum diameters and maximum percentage change of MSA after NA or ACh injection.

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|  | LS (n=8) | NS (n=8) | HS (n=6) |
| NA injection |
| Baseline inner diameter (μm) | 187.84±37.13 | 171.51±18.77 | 202.12±50.38 |
| Minimum inner diameter (After NA injection) (μm) | 161.89±33.52 | 138.19±19.01 | 99.68±30.67 \* |
| Maximum percentage change of inner diameter (%) | 13.79±6.24 | 19.41±6.25 | 50.48±11.34 \*\* |
| Baseline outer diameter (μm) | 280.82±35.04 | 270.09±22.87 | 339.19±61.97 \* |
| Minimum outer diameter (After NA injection) (μm) | 244.96±39.53 | 222.13±23.54 | 233.77±45.42 |
| Maximum percentage change of outer diameter (%) | 12.94±6.35 | 17.82±3.35 | 31.16±3.45 \*\* |
| MSA wall thickness (Basal) (μm) | 46.49±9.62 | 49.29±9.10 | 68.53±14.77 \* |
| MSA wall thickness (After NA injection) (μm) | 41.53±9.06 | 41.97±13.59 | 67.04±8.86 \* |
| ACh injection |
| Baseline inner diameter (μm) | 179.49±31.60 | 181.18±39.52 | 196.66±34.26 |
| Maximum inner diameter (After ACh injection) (μm) | 358.90±77.95 \* | 262.95±59.03 | 231.32±46.94 |
| Maximum percentage change of inner diameter (%) | 100.19±22.41 \*\* | 45.11±4.61 | 17.27±5.41 \*\* |
| Baseline outer diameter (μm) | 270.31±31.08 | 267.75±29.13 | 316.10±31.49 \* |
| Maximum outer diameter (After ACh injection) (μm) | 457.27±77.08 \*\* | 355.14±53.16 | 348.63±46.15 |
| Maximum percentage change of outer diameter (%) | 69.02±17.23 \*\* | 32.38±6.48 | 10.09±4.22 \*\* |
| MSA wall thickness (Basal) (μm) | 45.41±7.59 | 43.18±6.54 | 59.72±15.92 \* |
| MSA wall thickness (After ACh injection) (μm) | 49.18±6.70 | 46.09±7.48 | 58.66±21.06 |

Notes: The MSAs were record by a high-speed camera attached to the microscope with using GigaView Suite software. Baseline inner/outer diameters of MSA before NA or ACh injection were measured. To clarify vasoconstrictive properties of the MSAs, the maximum percentage change in vasoconstriction was calculated as [(Dbn – Dn)/Dbn]×100%. Dbn was the baseline inner/outer diameter of the artery before NA administration, and Dn was the most vasoconstricted inner/outer diameter after NA injection. To clarify the vasodilated effect on the MSAs, the maximum percentage change in vasodilatation of the MSA was calculated as [(Da-Dba)/Dba]×100%. Dba was the baseline inner/outer diameter before ACh administration, and Da was the maximum vasodilated inner/outer diameter after ACh was given. The MSA wall thickness = (outer diameter – inner diameter)/2, including adventitia, media and intima. MSA diameters were determined from images evaluated by Image-Pro Plus 6.0 software. \*: Compared with NS group, P<0.05; \*\*: Compared with NS group, P<0.01.