Supplementary Information

Biochemical changes of the endothelium in the murine model of NO-deficient hypertension

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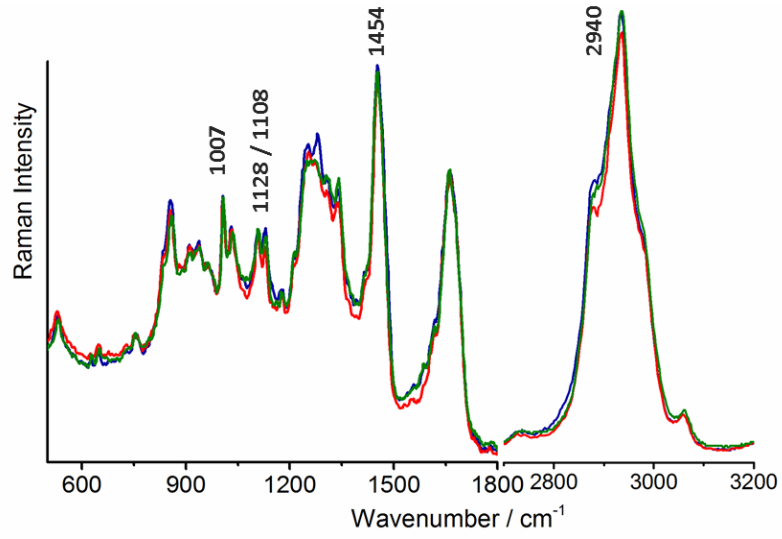


Fig. S1. The average spectra of endothelium of control (blue: 360 spectra, 7 animals), NO-deficient hypertensive (red: 360 spectra, 7 animals) and hypertensive treated with $NaNO_3$ (green: 250 spectra, 3 animals) mice. Spectra were normalized to the phenylalanine band. The Raman intensity scale for the fingerprint region (500-1800 cm^{-1}) is two times higher than for the C-H region (2700-3200 cm^{-1}).

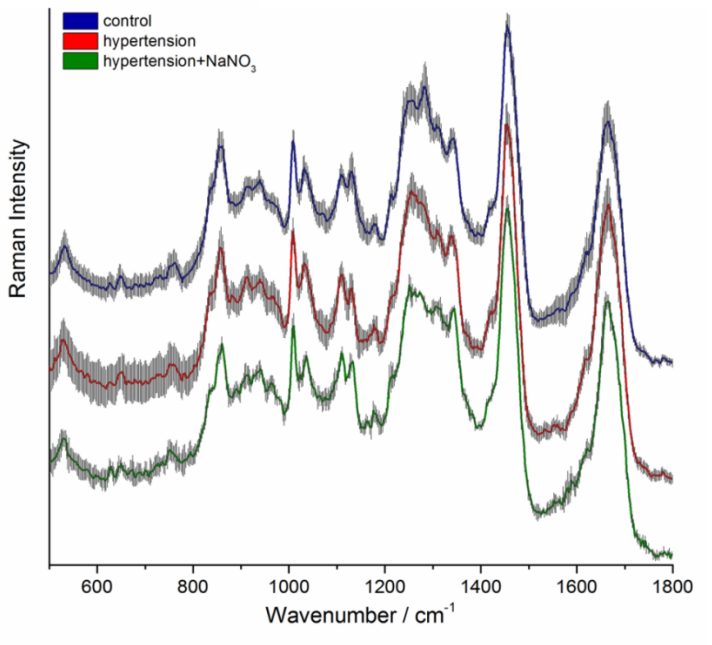
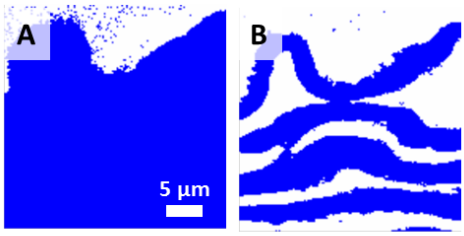


Fig. S2. The average spectra of endothelium of control (blue: 360 spectra, 7 animals), NO-deficient hypertensive (red: 360 spectra, 7 animals) and hypertensive treated with $NaNO_3$ (green: 250 spectra, 3 animals) mice with the standard deviation on each data point of the average spectra (according to Mavarani L., Petersen D., El-Mashtoly S.F., Mosig A., Tannapfel A., Kötting C., Gerwert K., *Analyst*, 2013, 14, 4035, doi: 10.1039/c3an00370a).



C

Mice type	Control	Hypertension	Nitrate-treatment
Number of mice	7	7	3
Number of maps	12	12	5
Average, %	35.4	54.0	49.5
SD, %	1.41	2.15	5.44

Fig. S3. The Cluster Analysis was applied to differentiate the classes correlated with all the tissue area (A) and corresponding to the elastin fibres (B). An ImageJ processing program [Rasband, W. S.; U. S. National Institutes of Health: Bethesda, Maryland, USA, http://imagej.nih.gov/ij/, 1997-2012.] was used to calculate the areas denoted by blue color. A percentage of the area coved by elastin fibres was achieved by dividing the area of elastin fibres by the area of tissue. The average and standard deviation values were calculated based on the number of mice and maps listed in the table (C).