

1 **Pleiotropic roles of the matricellular protein Sparc in tendon maturation and ageing.**

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3 Renate Gehwolf ^{1,2}, Andrea Wagner ^{1,2}, Christine Lehner ^{1,2}, Amy D. Bradshaw ³, Cornelia
4 Scharler ⁴, Justyna A. Niestrawska ⁵, Gerhard A. Holzapfel ⁵, Hans-Christian Bauer ^{1,2},
5 Herbert Tempfer ^{1,2}, Andreas Traweger ^{* 1,2}

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8 **FIGURE LEGENDS: Supplementary figures**

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10 **Figure S1. Differential gene expression in mouse Achilles tendon tissue**

11 **(a)** Quantitative RT-PCR results demonstrating repression of Matrix metalloproteinases 2 and 9 and
12 the tendon cell associated marker Mohawk in healthy-aged mouse Achilles tendons. A change in
13 expression ≥ 2.0 was assumed as a significant change (n=5 Achilles tendon samples); graphs represent
14 means \pm SEM. **(b)** Repression of the above-mentioned genes is also seen in tendon progenitor/stem
15 cells of healthy-aged mouse Achilles tendons *in vitro* (passage nr. 3). qPCR data for healthy-aged
16 tendons were normalized to young tendons, a fold change ≥ 2.0 was assumed as a significant difference
17 in expression; shown are means \pm SEM.

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19 **Figure S2. Collagen type I to type II mRNA ratio**

20 Comparison of collagen type I to type III mRNA ratios for young, Sparc^{-/-}, and healthy-aged Achilles
21 tendons. Data represent means \pm SEM of 3 independent biological replicates; ***P < 0.001, One-way
22 ANOVA (Tukey's Multiple Comparison Test).

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24 **Figure S5. Cell area and cell migration**

25 **(a)** Cell area of Sparc^{-/-} TDSPCs on fibronectin coated surfaces is significantly reduced compared to
26 young and healthy-aged wild type cells. No significant differences between young and healthy-aged
27 tendon cells are seen. Cell area of a minimum of 160 cells was measured, ***P < 0.001, **P<0.01, n.s.
28 = not significant, (Kruskall-Wallis test with Dunn's Multiple Comparison test). **(b, c)** Wound healing
29 assays on collagen type I and fibronectin coated surfaces reveal moderate changes in cell migration

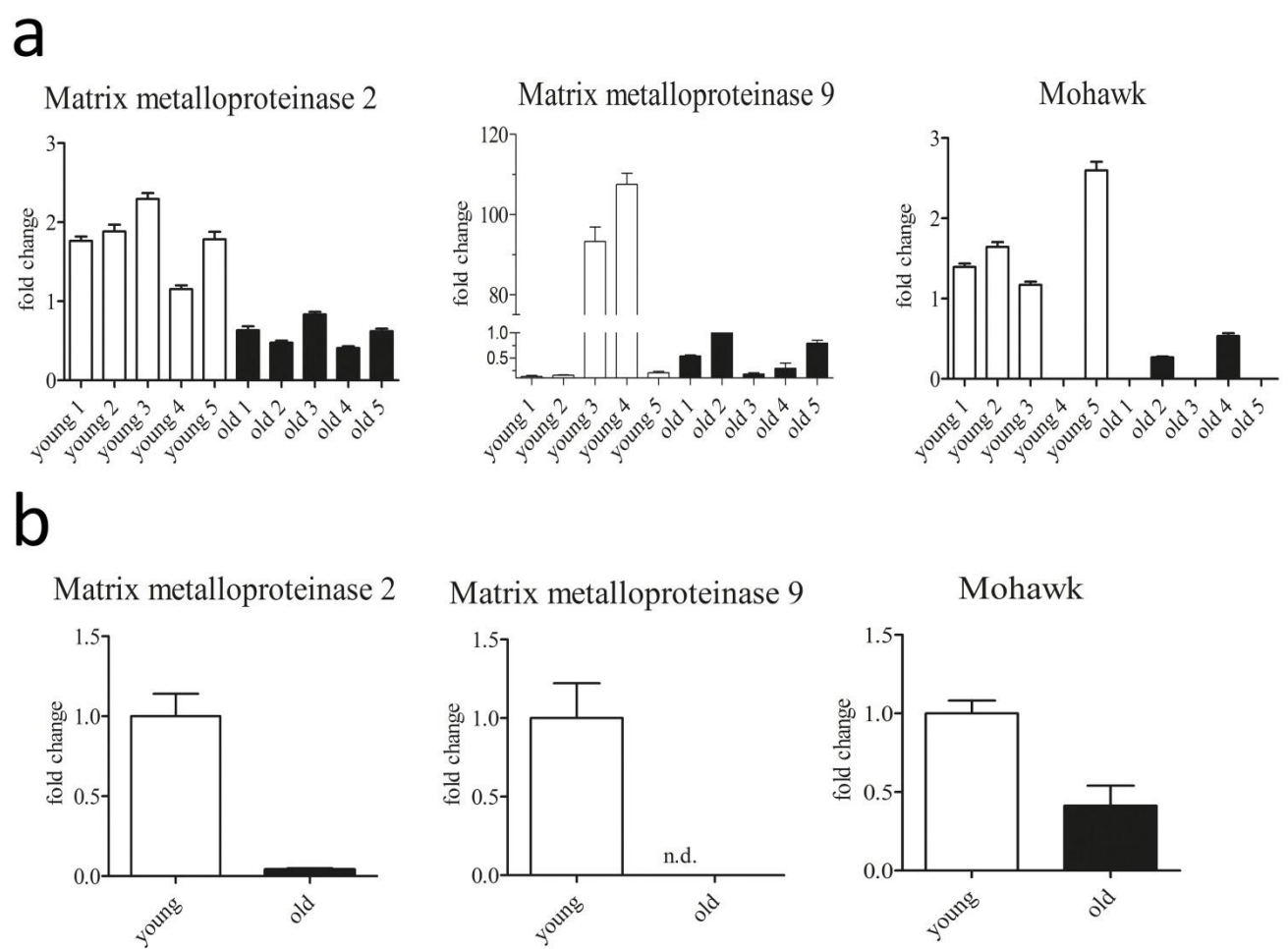
30 speed *in vitro* for Sparc^{-/-} and healthy-aged cells migrate moderately faster *in vitro*. Dot blots show
31 results from 3 independent experiments and red bar indicates mean. Representative images for scratch-
32 wound assays 0h and 10h after creating the wound are shown. ***P < 0.001, **P < 0.01, One-way
33 ANOVA (Tukey's Multiple Comparison Test).

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2 **Supplementary Figures**

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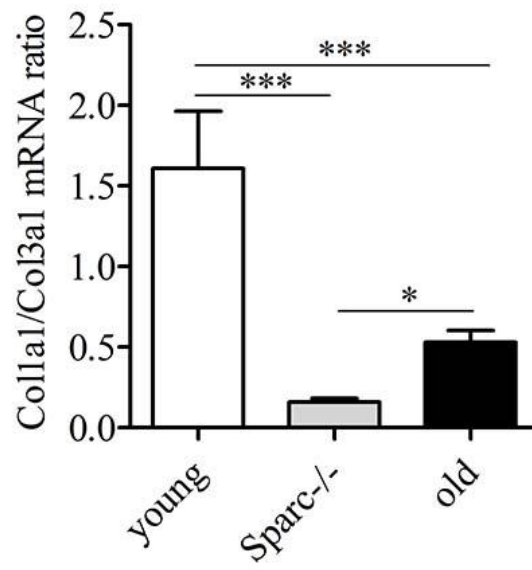


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6 **Suppl Figure 1**

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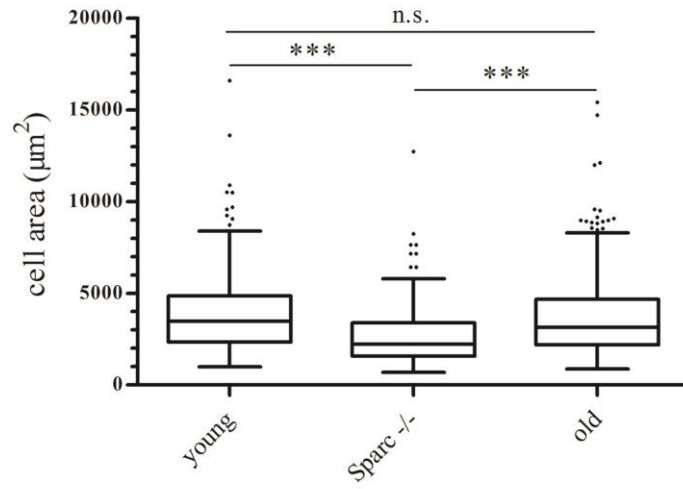
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9 **Suppl Figure 2**

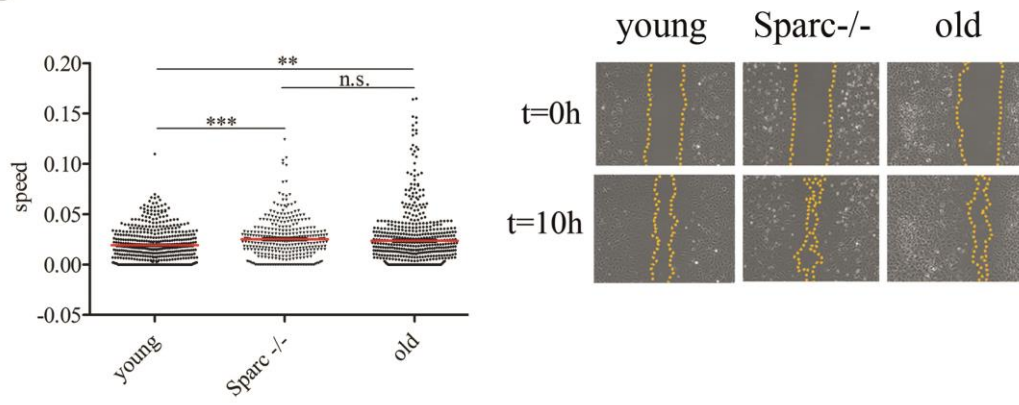
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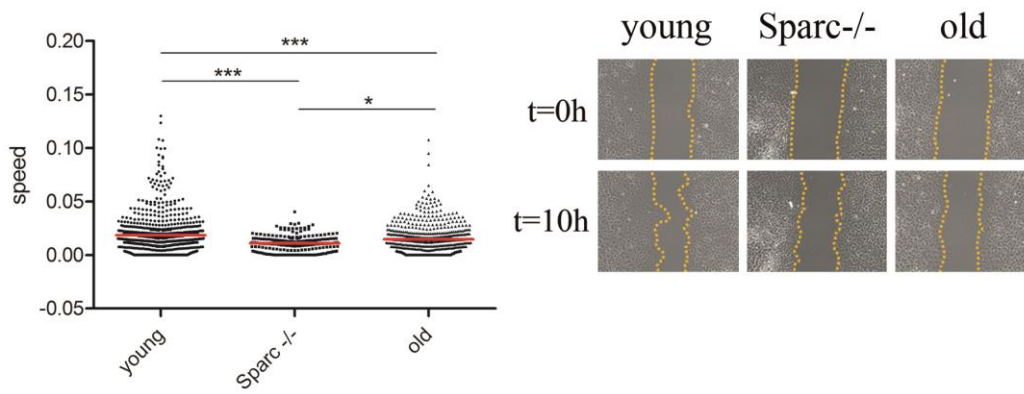
a



b



c



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14 **Suppl Figure 5**