

Mitochondrial respiratory chain function promotes extracellular matrix integrity in cartilage

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List of supplemental material included:

- Figure S1
- Figure S2

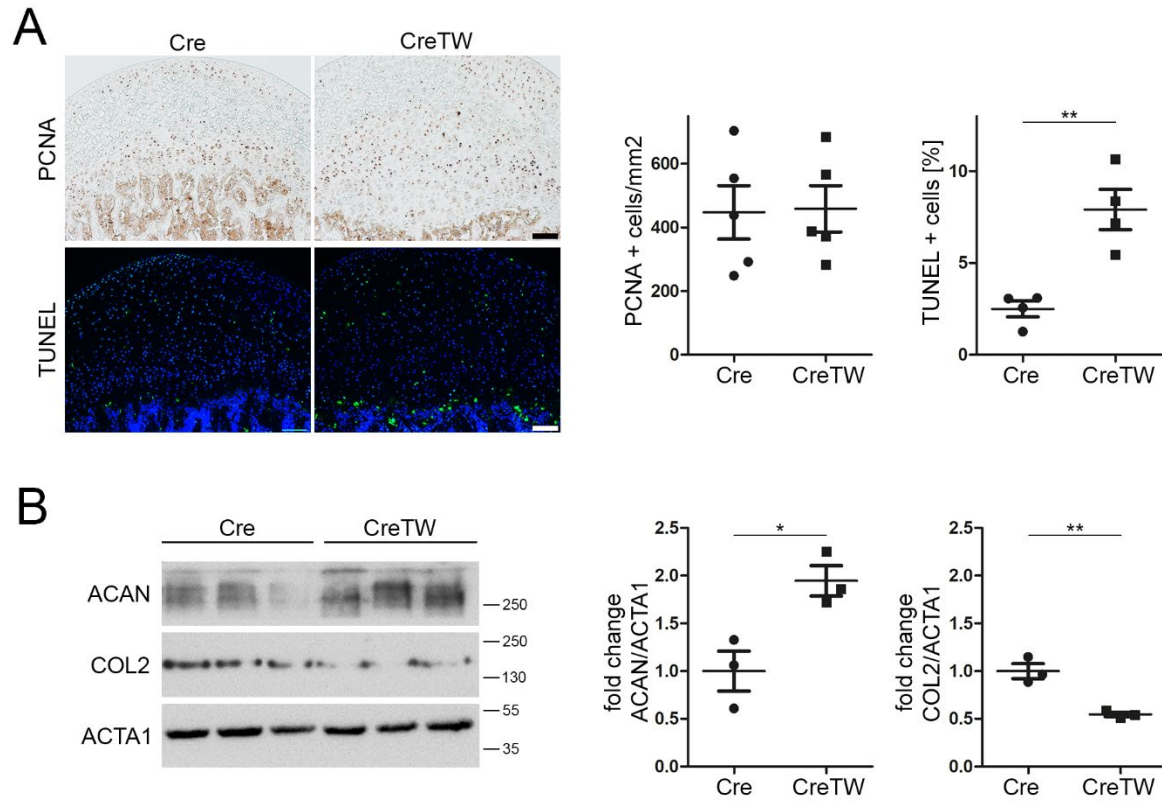
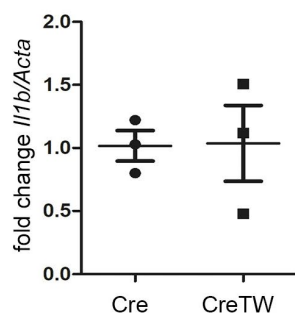
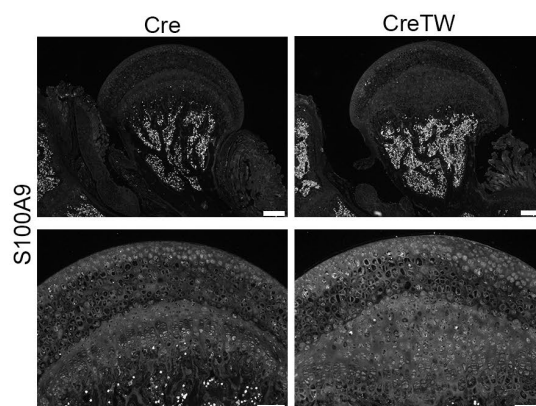


Figure S1 Proliferation, cell death and ECM production. (A) Number of PCNA⁺ and TUNEL⁺ chondrocytes were determined by immunostainings of paraffin sections from PFE cartilage of 1-month-old Cre and CreTW mice. (graphs) The ratio of PCNA- positive chondrocytes per mm² cartilage area and the percentage of dying TUNEL positive cells within the total cell population are given. Bars: 100µm. The brightness was adjusted for visualization. (B) Aggrecan (ACAN) and collagen II (COL2) protein levels in cartilage extracts from 1-month-old Cre and CreTW mice were determined by immunoblot. Actin (ACTA1) was used for normalization. (graphs) Fold changes in protein levels between Cre and CreTW are shown. (mean ± SD. *p<0.05, **p<0.01).

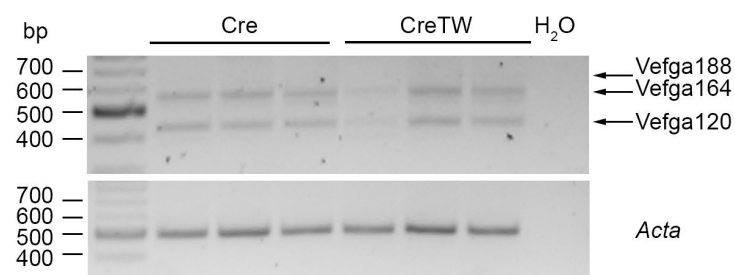
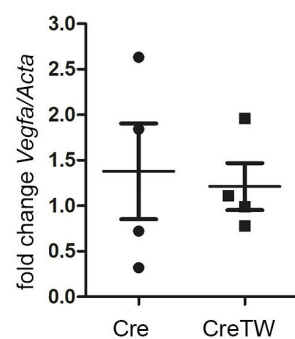
A



B



C



D

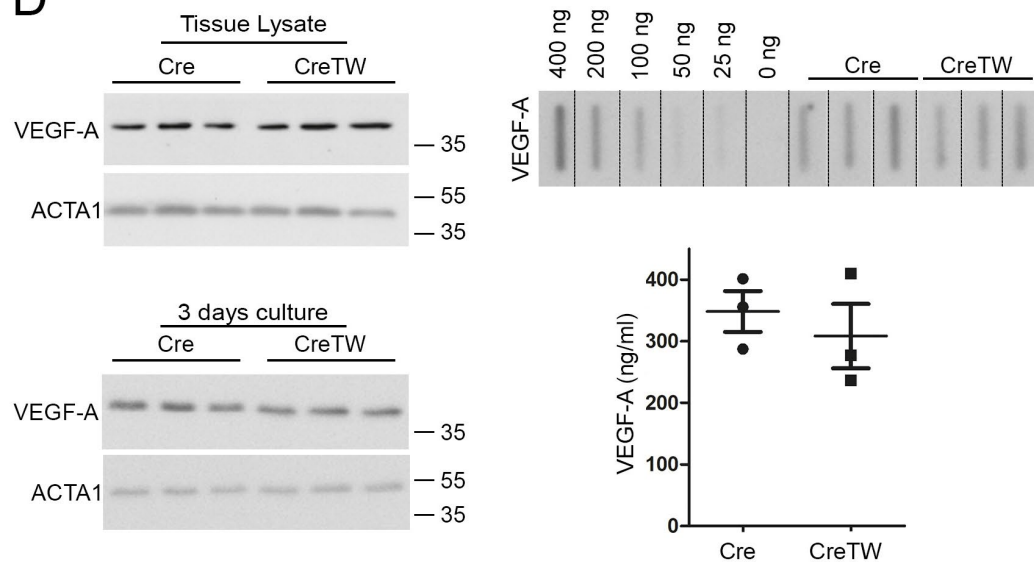


Figure S2 Inflammation and angiogenesis. (A) Quantitative real time PCR analysis of interleukin 1 beta (*Il1b*) expression in PFE cartilage from 1-month-old Cre and CreTW. Fold changes are shown. Values were normalized to actin (*Acta*) (n=3). (B) S100A9 distribution in paraffin sections of 1-month-old Cre and CreTW mice was determined by immunofluorescence microscopy. Bars: 200µm (overview), 100µm (close up) (n=3). (C) Quantitative real time PCR analysis was used to define *Vegfa* relative expression levels of VEGFA (graph; n=3). Characterization of *Vegfa* isoform (*Vegfa188*, *Vegfa164*, *Vegfa120*) expression by semiquantitative PCR (n=3). (D) Immunoblot analysis of PFE tissue lysates, chondrocyte cell culture lysates and slot blot analysis of the supernatant of cultured chondrocytes was used to determine VEGFA protein levels. Quantification of the VEGFA concentration in supernatant is given (graph; n=3).