
Supporting Information

Article: Release of TGF- β_3 from surface-modified PCL fiber mats triggers a dose-dependent chondrogenic differentiation of human mesenchymal stromal cells

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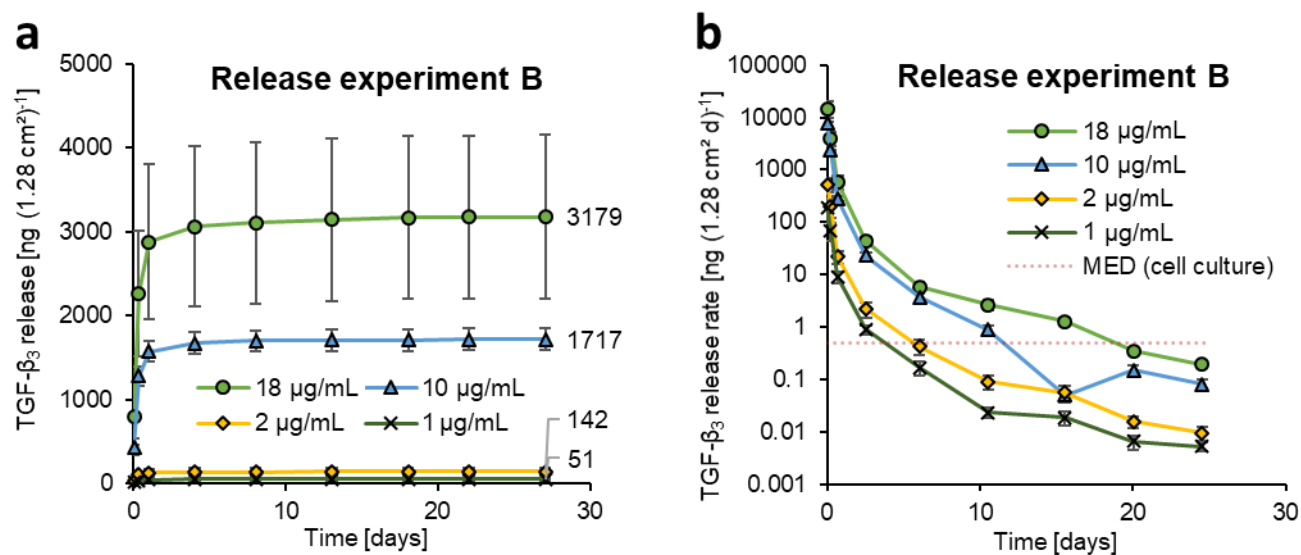


Figure S 1 Cumulative release (a) and release rate (b) of TGF- β_3 from fiber mats (1.28 cm²) loaded with various protein concentrations in a repetitive experiment (“release experiment B”).

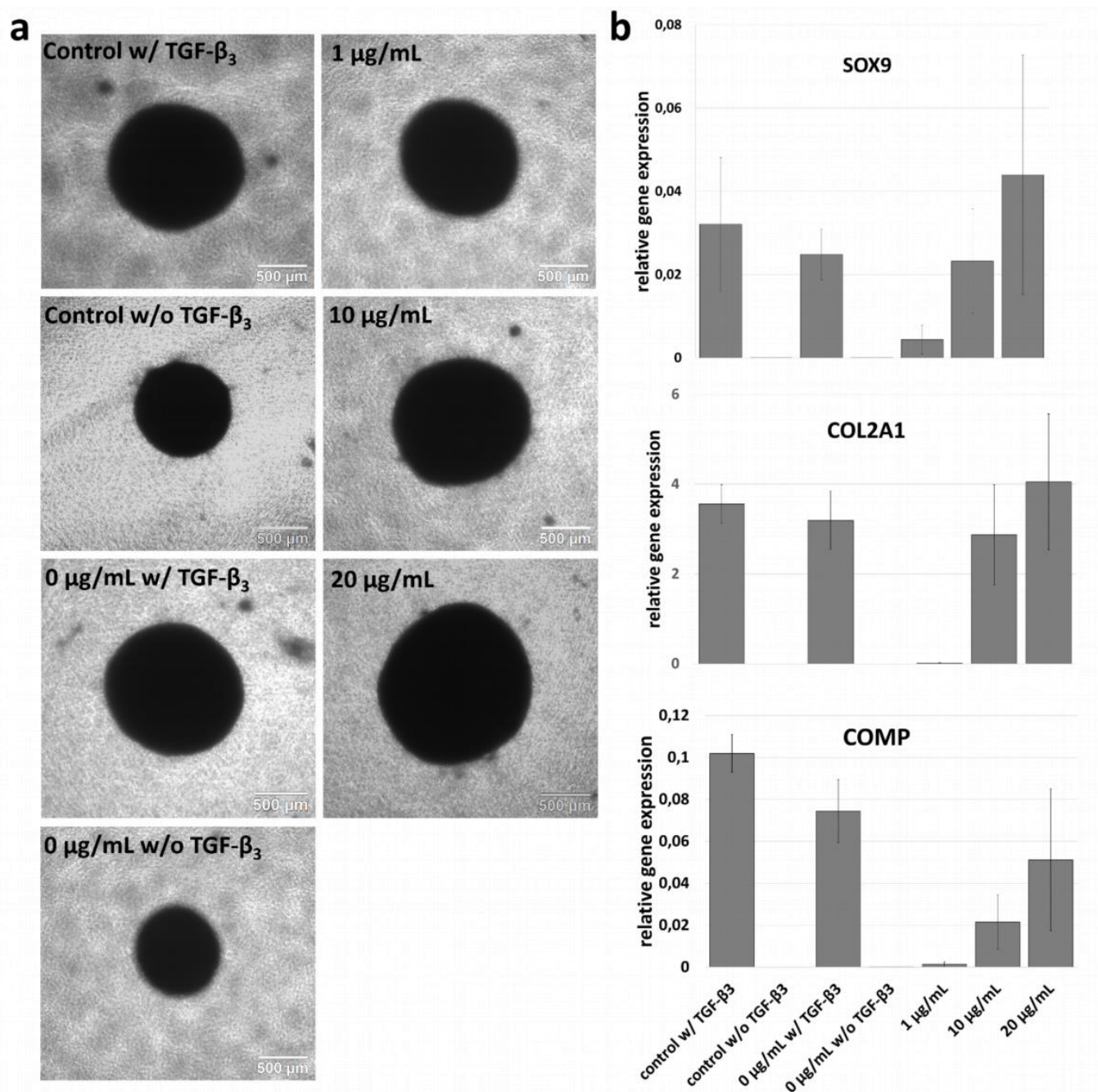


Figure S 2 Chondrogenic differentiation of MSCs from donor B increases with increasing loading concentration. (a) shows chondrogenic cell pellets. In the presence of TGF-β₃ (0 μg/mL w/ TGF-β₃ (a fiber mat without TGF-β₃ loading but external addition of TGF-β₃), 1 μg/mL, 10 μg/mL, 20 μg/mL) the morphology of the pellet is round, compact and the size increases with increasing loading concentration. In contrast, without TGF-β₃ the pellet shows considerably less compact growth and size. Scale bar: 500 μm. (b) demonstrates the gene expression analysis of the chondrogenic marker genes *SOX9*, *COL2A1* and *COMP* (relative gene expression). All three chondrogenic marker genes show an increase upon treatment with TGF-β₃ and almost no expression without TGF-β₃ treatment.

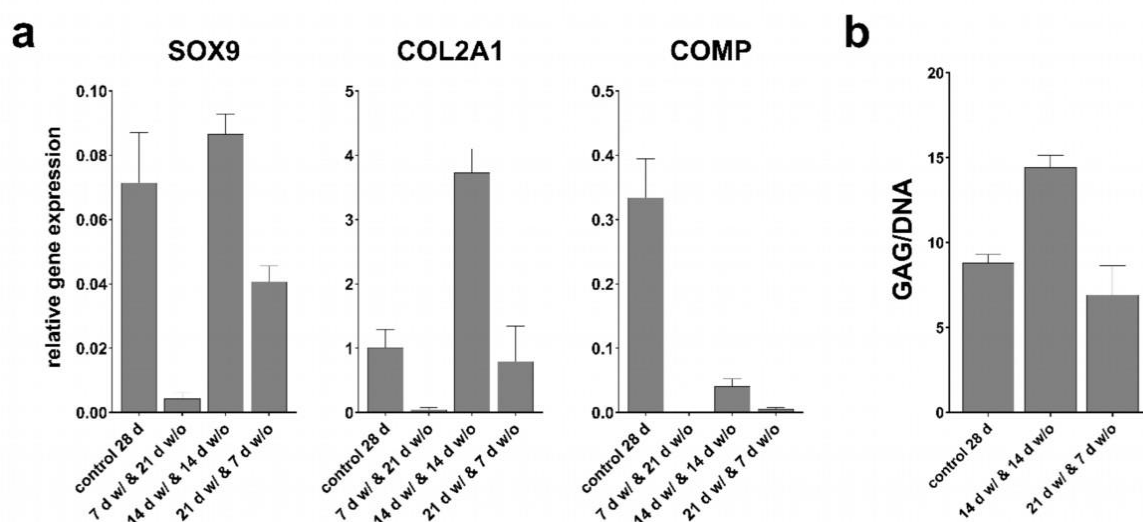


Figure S 3 Chondrogenic differentiation after addition of TGF- β_3 (5 ng/mL) over specific periods. (a) Relative gene expression analysis is shown for *SOX9*, *COL2A1* and *COMP* after the addition of TGF- β_3 over 28 days (control 28 d), 7 days and further incubation of 21 days without TGF- β_3 (7 d w/ & 21 d w/o), 14 days and further incubation of 14 days (14 d w/ & 14 d w/o) and 21 days and 7 days without TGF- β_3 (21 d w/ & 7 d w/o). All three chondrogenic marker genes show an increase with the increasing incubation time of TGF- β_3 , with showing the lowest expression for 7 d w/ & 21 d w/o. (b) GAG/DNA ratio showing highest ratio for 14 days of TGF- β_3 incubation and further 14 days without TGF- β_3 incubation (14 d w/ & 14 d w/o).