Anti-oxidant and immune-modulatory properties of sulfated alginate derivatives on human chondrocytes and macrophages

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Supplementary Information

Supplementary Figure S1 Scheme of the chemical reaction to add sulfate groups on alginate
Supplementary Figure S2 RT-PCR results of the inflammatory genes IL-6, CXCL8, and PTGS2, after 24h stimulation of human chondrocytes, from donors M45 (▲), M22 (■), and F48 (●), with IL-1β in presence of alginates. Alg (DS 0), S-Alg-Low (DS 0.48), and S-Alg-High (DS 0.98) were supplemented at the concentration of 0.5% [w/v] to the medium at the time points 4h prior (T-4h), 4h post (T+4h) of IL-1β stimulation as well as simultaneous (T0) to stimulation. At the concentration of 0%, cells were only treated with IL-1β. Shown are results obtained from 3 different human donors. Statistics: Two way ANOVA, p<0.05, *; p<0.01, **; p<0.001, ***; p<0.0001, ****.
Supplementary Figure S3 RT-PCR results for macrophage polarization at 72h. TNFA, CXCL10, and CCR7 are markers for M1-like macrophages whereas IL-10, CCL22, and CD206 are markers for M2-like cells. THP1-derived macrophages were polarized towards M1 or M2. Non-polarized (M0) and M1-like cells (M1) were treated with 0.5% [w/v] Alg, S-Alg-Low (SD 0.48), and S-Alg-High (SD 0.98). For each transcript, the data points were normalized to M0 condition, except for CCR7 for which data points were normalized to M1 condition. Shown are three experimental replicates. Statistics: One-way ANOVA, p<0.05, *; p<0.01, **; p<0.001, ***; p<0.0001, ****.