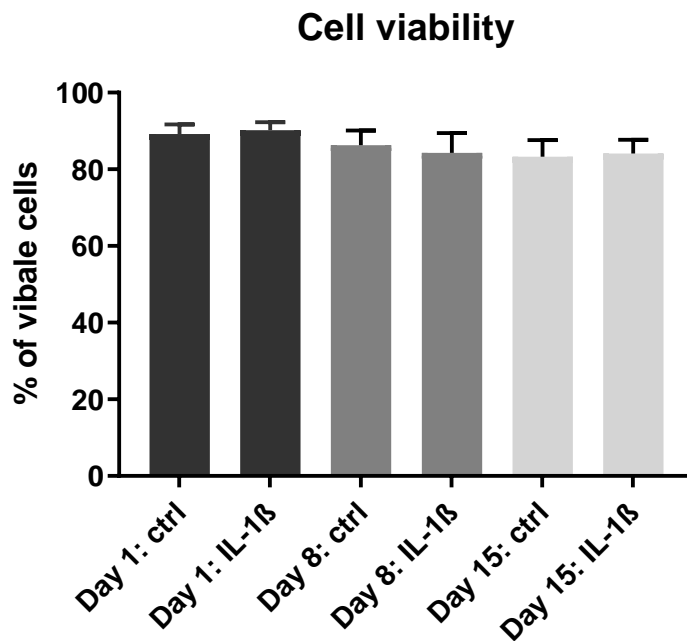
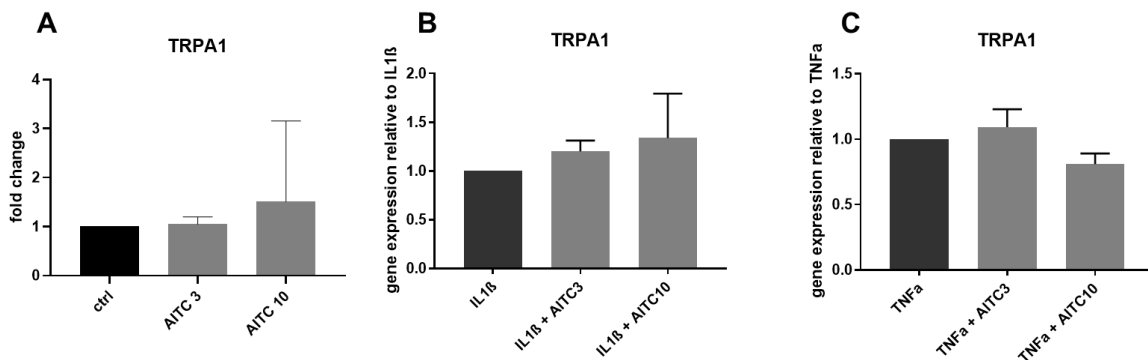


Supplementary figure S1: Gene expression of inflammation mediators, ECM remodeling enzymes and ECM genes in IVD cells treated with 5 and 10 ng/mL IL-1 β or TNF- α . Gene expression of inflammation mediators (A) IL-6, (B) IL-8, pain mediators (C) NGF, (D) COX-2 and ECM remodeling enzymes, (E) TIMP1 and (F) TIMP2, (G) ADAMTS4, (H) MMP1, (I) MMP3 and (J) ADAMTS5. Gene expression of extracellular matrix genes (K) Aggrecan, (L) Collagen I and (M) Collagen II. Graphs show

2^{-ddCt} (mean \pm SD, $n = 5$). Asterisks indicate statistical significance ($p < 0.05$, Kruskal-Wallis test). Fold change of IL-6, IL-8, COX-2, MMP-1 and MMP-3 is shown in log scale.



Supplementary figure S2. Cell viability of IVD cells cultured in 3D alginate beads for 15 days. Graph shows % of viable cells (mean \pm SD, $n = 5$). Asterisks indicate statistical significance ($p < 0.05$, Kruskal-Wallis test).



Supplementary figure S3. Gene expression of TRPA1 in IVD cells treated with IL-1 β and TNF- α with and (A) without with TRPA1 agonist allyl isothiocyanate (AITC, 3 and 10 μ M) \pm (B) 10 ng/mL IL-1 β or (C) TNF- α . Graphs show gene expression as fold change and calculated relative to IL-1 β or TNF- α treatment (mean \pm SD, $n = 3$). Asterisks indicate statistical significance ($p < 0.05$, Kruskal-Wallis test)