Supplementary Materials

Figure S1. Results from qPCR analysis comparing the relative expression levels of the mRNAs that code for (a) collagen I, (b) collagen II, and (c) aggrecan by chondrocytes cultured for 7 days in non-supplemented 3D fibrin-alginate hydrogels ($n = 7$), vs. chondrocytes cultured in monolayer for either 6 days ($n = 3$) or 12 days ($n = 3$). In these graphs, the collagen and aggrecan RNA levels for both the hydrogel and monolayer cultures are expressed as a ratio of the corresponding RNA levels in freshly isolated chondrocytes, which were assigned an R value of 1. Bar heights represent the median value ± standard error as determined by REST statistical analysis.
**Figure S2.** Results from qPCR analysis comparing the ratio of collagen II RNA to collagen I RNA expression in freshly isolated chondrocytes ($n = 3$), chondrocytes cultured for 7 days in 3D fibrin-alginate hydrogels ($n = 7$), and chondrocytes cultured in monolayer for either 6 days ($n = 3$) or 12 days ($n = 3$). Bar heights represent the median value ± standard error as calculated by REST statistical analysis. A high collagen II/collagen I RNA expression ratio is characteristic of phenotypically differentiated chondrocytes, whereas dedifferentiated chondrocytes exhibit low collagen II/collagen I expression ratios. (In this logarithmic graph, $R = 1$ if collagen II and collagen I gene expression levels are equal. A value below 1 indicates that the collagen II RNA expression is lower than collagen I expression.).