

## Supplementary Figure Captions

Figure 1. (a) Quantitative live/dead staining of encapsulated MSC in either RGD-coupled alginate or non-RGD coupled alginate microspheres after 14 days of culturing in regular culture media. (b) Toluidine blue staining revealed that proteoglycan deposition in PDLSCs encapsulated in RGD-coupled alginate was significantly greater than that of PDLSCs encapsulated in non-RGD coupled alginate microspheres. (c) Quantitative analysis of positive staining in section b. \* $P < 0.05$ . Results for PDLSCs are only presented in sections b and c. The same trend was observed for GMSCs and hBMMSCs.

Figure 2. Expression levels of Collagen type II and Sox-9 genes for each encapsulated MSCs after 2-weeks of chondro-differentiation *in vitro* in presence of TGF- $\beta$ 1 ligand, human recombinant BMP-4, and FGF2.