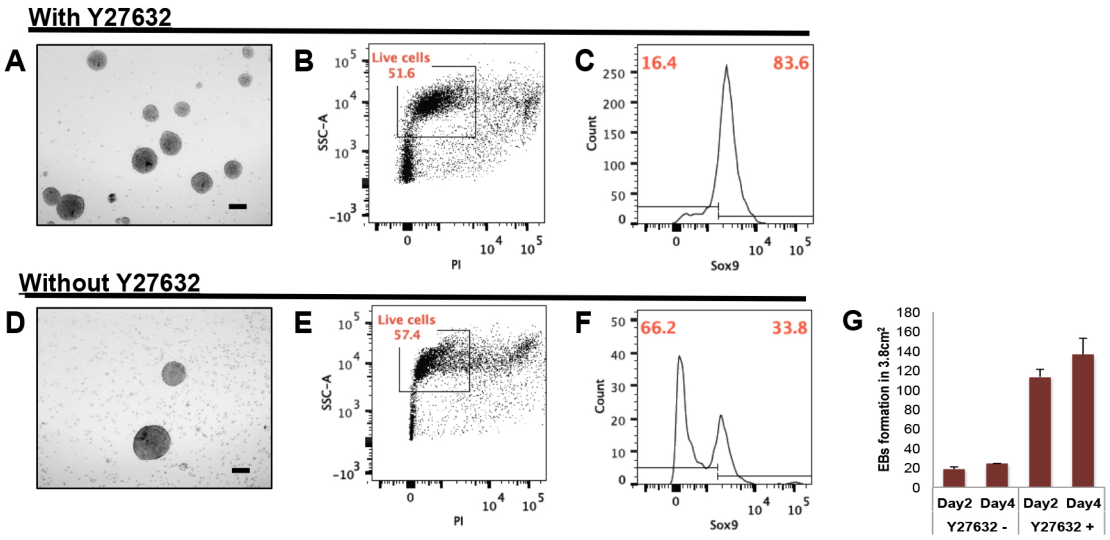
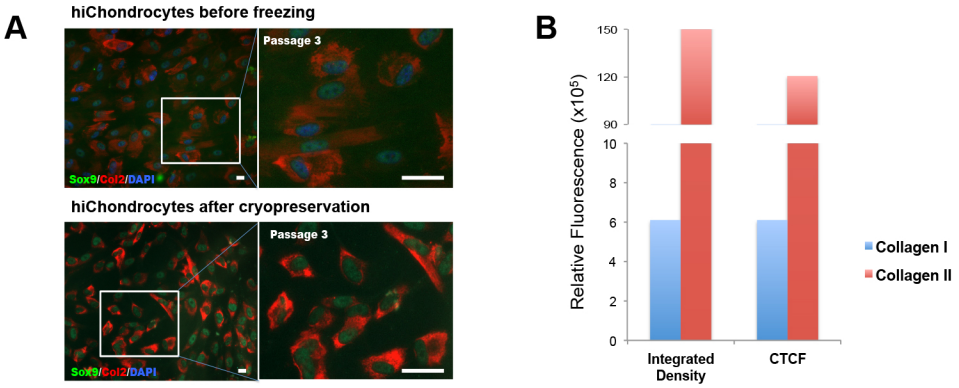
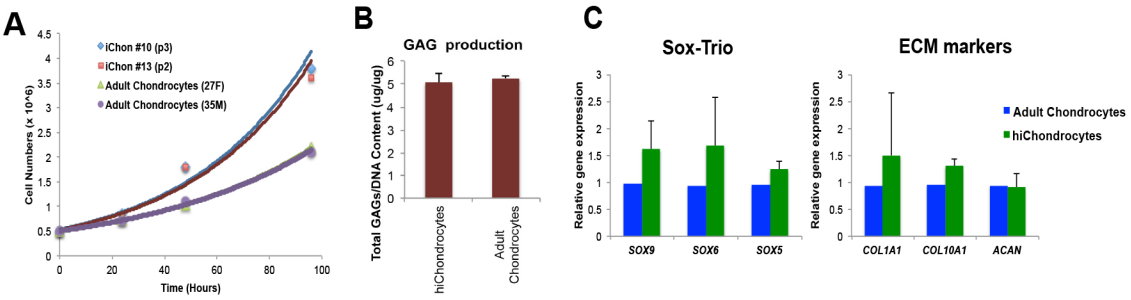


Supplemental Figure S3. Addition of ROCK inhibitor (Y27632) increased Sox9 positive cells during early chondrogenic differentiation. (A, D, G) Addition of ROCK inhibitor enhanced embryoid body (EB) formation at days 2 and 4 of differentiation (Bar scale,100µm), (B, C, E, F) Addition of ROCK inhibitor for 4 days of chondrogenic differentiation markedly increased Sox9 expression (C and F) in differentiating cells (B and E).



Supplemental Figure S4. (A) Representative immunofluorescence staining of chondrocyte markers, Sox9 and Collagen II (Col2a1) (Scale bar, 100µm) upon passaging and after cryopreservation, (B) Measuring fluorescence intensity (CTCF, corrected total cell fluorescence) for staining of Collagen I and Collagen II (Fig 2A) using Image J.



Supplemental Figure S5. (A) Cell growth of hiChondrocytes (#10 and #13) in comparison to adult chondrocytes (27-year old Female and 35-year old male) at 0, 4, 48 and 96 hours and the doubling times calculated, (B) GAG content in the CS-PEG hydrogels normalized to DNA content, (C) Quantitative gene expression of chondrogenic (Sox9, Sox6 and Sox5) and ECM markers (Col2a1, Col10a1 and Aggrecan) in CS-PEG hydrogels seeded with hiChondrocytes or adult chondrocytes (n=3, mean ± s.d, Data represent gene expression relative to adult chondrocytes).