Figure S1. Cell viability of MSCs from passages 1 to 4, determined with crystal violet. No statistical significant difference was observed in cell viability of MSCs between passages.
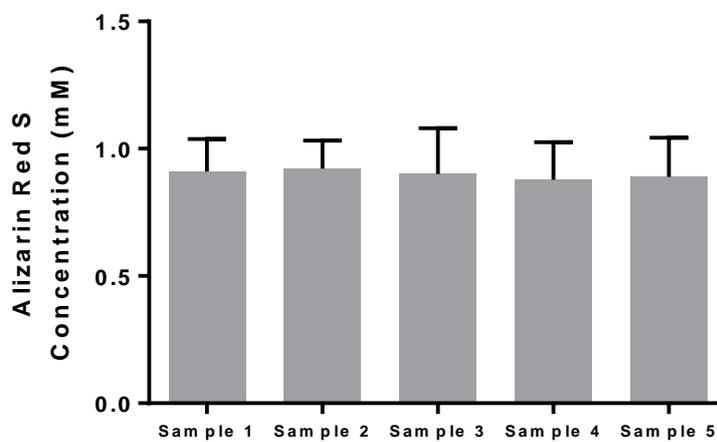

Figure S2. Estimation of "osteogenic" differentiation using Alizarin Red S quantification assay. No statistical significant difference was observed in MSCs differentiation between all passages.

Table S1. Histological grading system of chondrogenic pellet cultures obtained from MSCs of passages 1 to 4

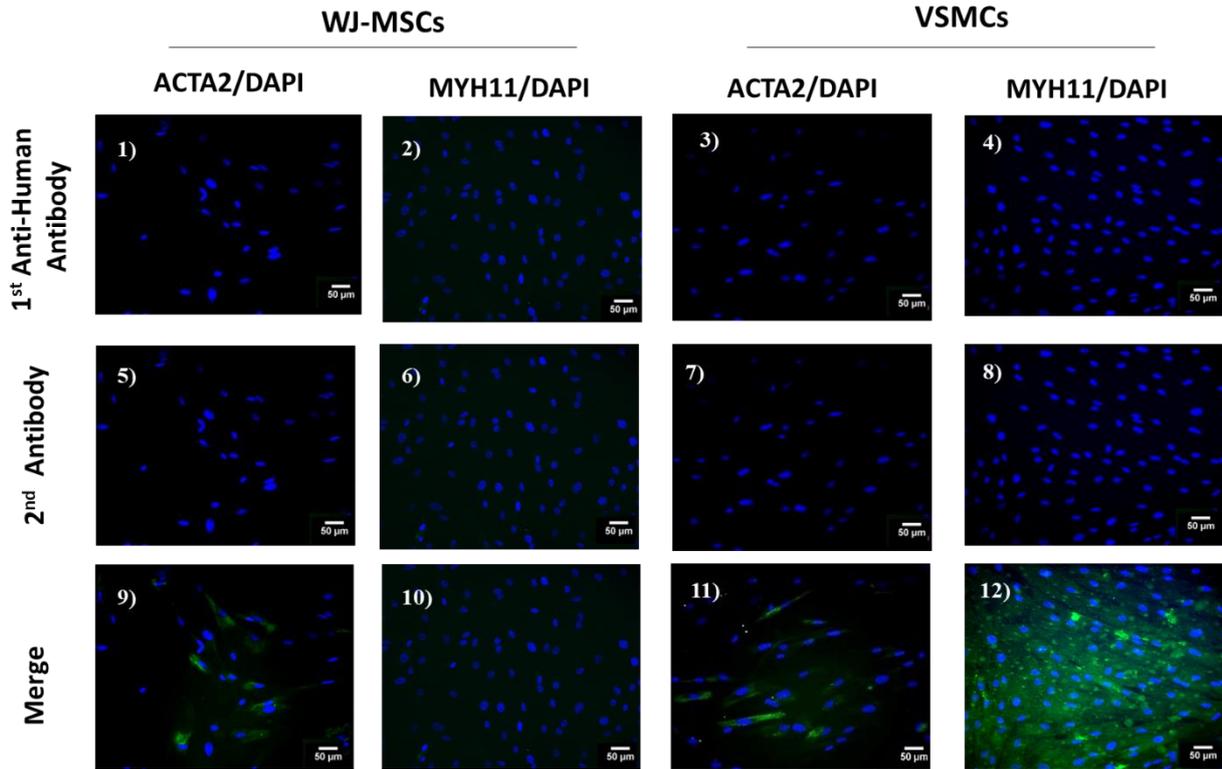| Samples	Stain Intensity	Cell Distance	Morphology	Total Score
Sample 1	3	3	2	8
Sample 2	2	2	2	6
Sample 3	3	2	2	7
Sample 4	2	3	3	8
Sample 5	2	3	2	7

Figure S3. Immunofluorescence of WJ-MSCs and VSMCs against ACTA2 and MYH11 in combination with DAPI. 1st Anti-human antibody ACTA2 and MYH11 in WJ-MSCs for (1,2) and VSMCs (3,4). 2nd IgG conjugated antibody in WJ-MSCs (5,6) and VSMCs (7,8). Indirect immunofluorescence against ACTA2 and MYH11 in combination with DAPI in WJ-MSCs (9,10) and VSMCs (11,12). Original magnification 20x, scale bars 50 μm.
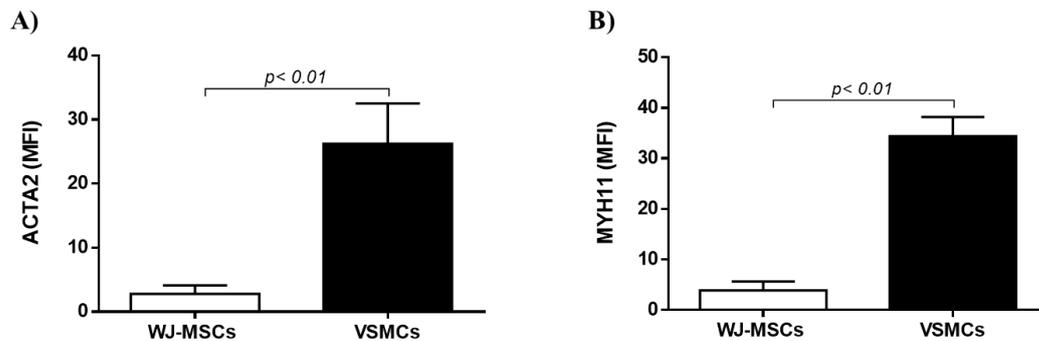
Figure S4. Determination of ACTA2 and MYH11 MFI of WJ-MSCS and VSMCs. A) MFI of ACTA2 in WJ-MSCs and VSMCs. Statistically significant difference was observed in ACTA2 expression between WJ-MSCs and VSMCs ($p<0.01$). B) MFI of MYH11 of WJ-MSCs and VSMCs. Statistically significant differences were observed in MYH11 between WJ-MSCs and VSMCs ($p<0.01$).
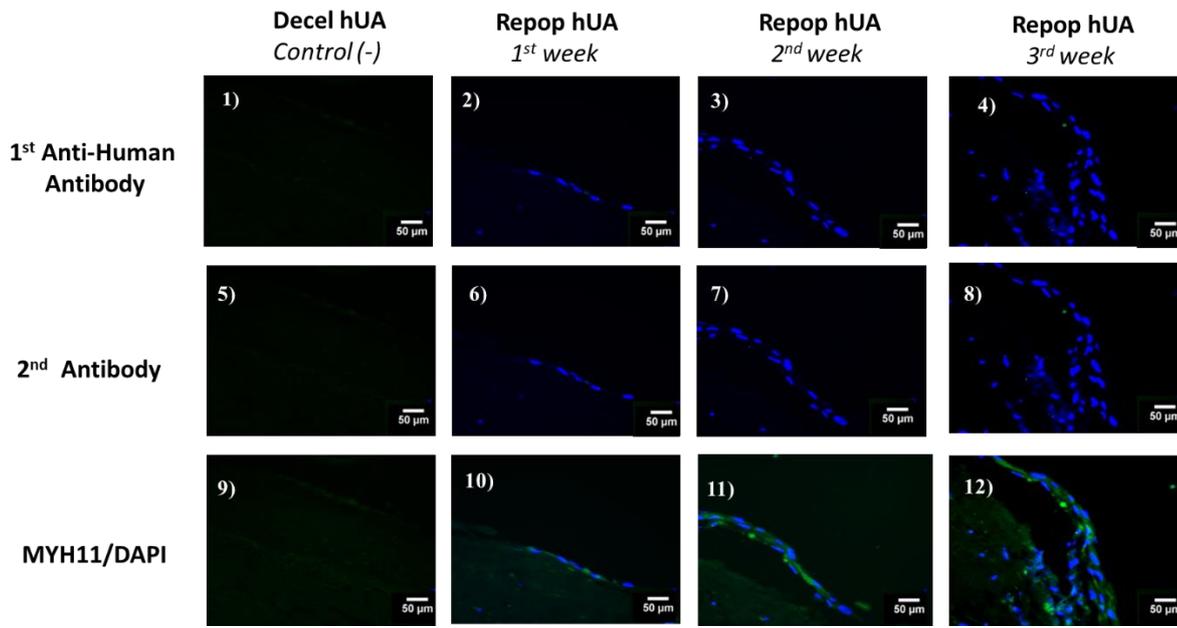

Figure S5. Indirect immunofuoresence against MYH11/DAPI in repopulated hUAs. 1st anti-human antibody against MYH11 in decel hUA (1), repopulated hUA 1st week (2), repopulated hUA 2nd week (3) and repopulated hUA 3rd week (4). 2nd Antibody in decel hUA (5), repopulated hUA 1st week (6), repopulated hUA 2nd week (7) and repopulated hUA 3rd week (8). Indirect immunofluorescence against MYH11 in combination with DAPI in decel hUA (9), repopulated hUA 1st week (10), repopulated hUA 2nd week (11) and repopulated hUA 3rd week (12). Original magnification 20x, scale bars 50 μm.