



**Figure S1.** Morphological evaluation of CB-B-P, CB-B<sup>VEGF</sup>-P and C-B-P constructs after 12 weeks' *in vivo* incubation. **(A)**, **(C)** and **(E)** presented representative appearances of specimens from each group. **(B)**, **(D)** and **(F)** showed Micro-CT scanning for these samples. Quantitative measurement of samples presented different volume **(G)**, weight **(H)** and thickness **(I)**, and ossified tissue percentage based on CT analysis **(J)**, n=4, \* denotes  $p < 0.05$ .

**Table S1 Gene primer sequence for Real time RT-PCR**

<b>Genes</b>	<b>Primers</b>
SOX-9	Forward 5' -AATCTCCTGGACCCCTTCAT-3'
	Reverse 5'-GTCCTCCTCGCTCTCCTTCT-3'
RUNX-2	Forward 5 '-CGGAATGCCTCTGCTGTTAT-3'
	Reverse 5'-TTCCCGAGGTCCATCTACTG-3'
Collagen-X	Forward 5 '-GGGATGCCTCTTGTCAAGTGC-3'
	Reverse 5'-ATCTTGGGTCATAGTGCTGCTG-3'
VEGF	Forward 5 '- ATCGAGACCTTGGTGGAC-3'
	Reverse 5'- CCTGGTGAGGTTTGATCC-3'
GAPDH	Forward 5 '-TGGTATCGTGGAAAGGACTCATGAC-3'
	Reverse 5'-ATGCCAGTGACGTTCCCGTTCAGC-3'