Supplementary Figures

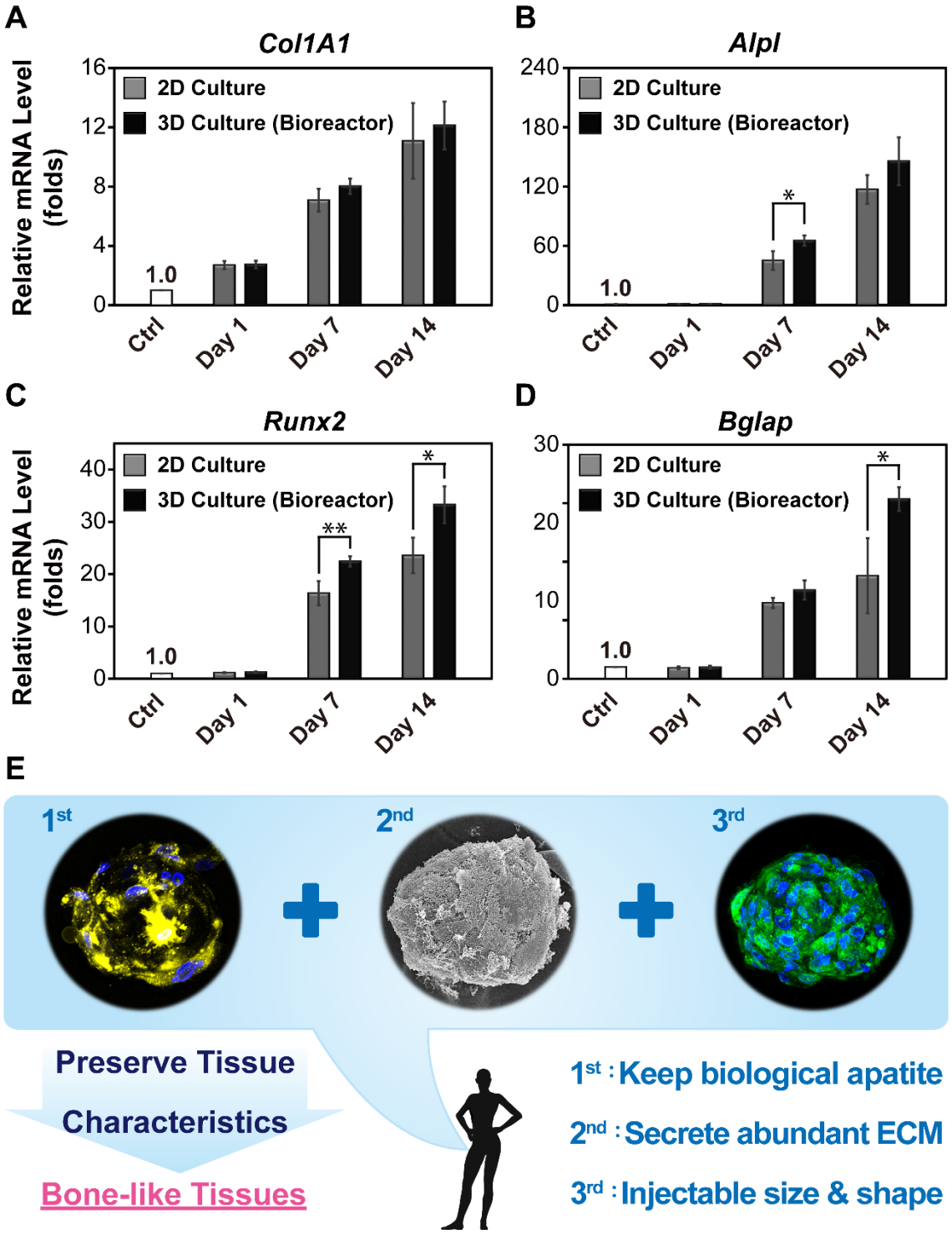

Figure S1. A comparison of Q-PCR analysis between 2D static and 3D dynamic cultivation with osteogenic induction at different time period. For 2D culture group, hOBs adhered on tissue culture plastic and supplied with osteogenic medium. For 3D culture (bioreactor) group, hOBs were seeded into Ca-Alginate scaffolds and kept in static state to stabilize cells in 3D environment for 24 hours; after 7 and 14 days perfusion, the tissues were collected for gene expression examination. The data was calculated following $^{\triangle\triangle}$Ct method, and each target gene was normalized to Ctrl group. The Q-PCR values were mean ± SD; *p < 0.05, **p < 0.01 (n=6). In both 2D and 3D groups, expression

of (A) *Col1A1*; (B) *Alpl*; (C) *Runx2*; and (D) *Bgalp* were increased as time goes by. *Alpl*, *Runx2* and *Bglap* genes showed greater increase in 3D culture group from this data; however, there was no significant difference between 2D and 3D group in *Col1A1* mRNA levels. (E) According to SEM and confocal microscopic data, these bone-like tissues preserved osteogenic tissue function with appropriate size/shape.

Supplementary Tables

Table S1 Primers for Q-PCR.

Gene Name	Accession No.	Primer Sequence	Reference
B2M (Internal Ctrl)	NM_004048	F- TGTCTGGGTTTCATCCATCCGACA R- TCACACGGCAGGCATACTCATCTT	43
Col1a1	NM_000088	F- GAGAGCATGACCGATGGATT R- ATGTAGGCCACGCTGTTCTT	44
Alpl	NM_001127501	F- AGCCCTTCACTGCCATCCTGT R- ATTCTCTCGTTCACCGCCCAC	45
Runx2	BC108919.1	F- TCCTATGACCAGTCTTACCCCT R- GGCTCTTCTTACTGAGAGTGGAA	46
Bglap	NM_000711	F- CACTCCTCGCCCTATTGGC R- GCCTGGGTCTCTTCACTACCT	47

Reference

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