

Support information

Short-Term Hypoxic Preconditioning Promotes Prevascularization in 3D Bioprinted Bone Constructs with Stromal Vascular Fraction Derived Cells

Mitchell A. Kuss,^{ab} Robert Harms,^{ae} Shaohua Wu,^{ab} Ying Wang,^{ab} Jason B. Untrauer,^c Mark A. Carlson^{ad} and Bin Duan^{*abe}

^aMary & Dick Holland Regenerative Medicine Program, University of Nebraska Medical Center, Omaha, NE, USA

^bDivision of Cardiology, Department of Internal Medicine, University of Nebraska Medical Center, Omaha, NE, USA

^cDivision of Oral & Maxillofacial Surgery, Department of Surgery, College of Medicine, University of Nebraska Medical Center, Omaha, NE, USA

^dDepartment of Surgery, University of Nebraska Medical Center and the VA Nebraska-Western Iowa Health Care System, Omaha, NE, USA

^eDepartment of Surgery, College of Medicine, University of Nebraska Medical Center, Omaha, NE, USA

*Corresponding author: E-mail address: bin.duan@unmc.edu; Phone: (402) 559-9637

Supplemental Table S1 Real-Time PCR Primers

Gene symbol	Genbank ID	Primer sequences (5'→3')	Product size (bp)
18S	NR_003286	F:GAGAAACGGCTACCACATCC R: CACCAGACTTGCCCTCCA	170
VEGFA	NM_001025366.2	F: CTGGAGCGTGTACGTTGGT R: TGCAACGCGAGTCTGTGTTT	155
PECAM1	NM_000442.4	F: CCACGCCTAGCCAAAATCAC R:CATGTGGCCCCTCAGAAGAC	136
VE-cadherin	NM_001795.4	F:ATGAGATCGTGGTGGAAGCG R: TGTGTACTTGGTCTGGGTGA	125
HIF1A	NM_001530.3	F: ATCACCCCTCTTCGTCGCTTC R: GAAAGGCAAGTCCAGAGGT	164
ALP	NM_000478	F: CCACAAGCCCGTGACAGA R: GGGCGGCAGACTTTGGTT	127
Runx2	NM_001024630	F: TACCTGAGCCAGATGACG R: AAGGCCAGAGGCAGAAGT	145
OCN	NM_199173	F: GGCAGCGAGGTAGTGAAGA R: CCTGAAAGCCGATGTGGT	148

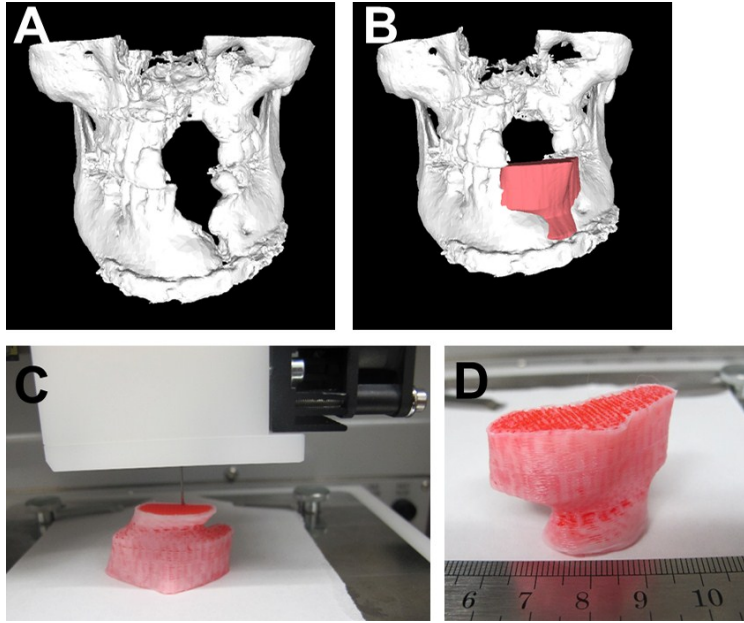


Figure S1. 3D hybrid printed human sized mandibular bone construct. (A) Reconstructed skull model from a patient with facial defect; (B) reconstruction of lower jaw bone; (C) 3D hybrid printing of the reconstructed lower jaw bone; (D) 3D printed bone construct with human size and anatomical architecture.