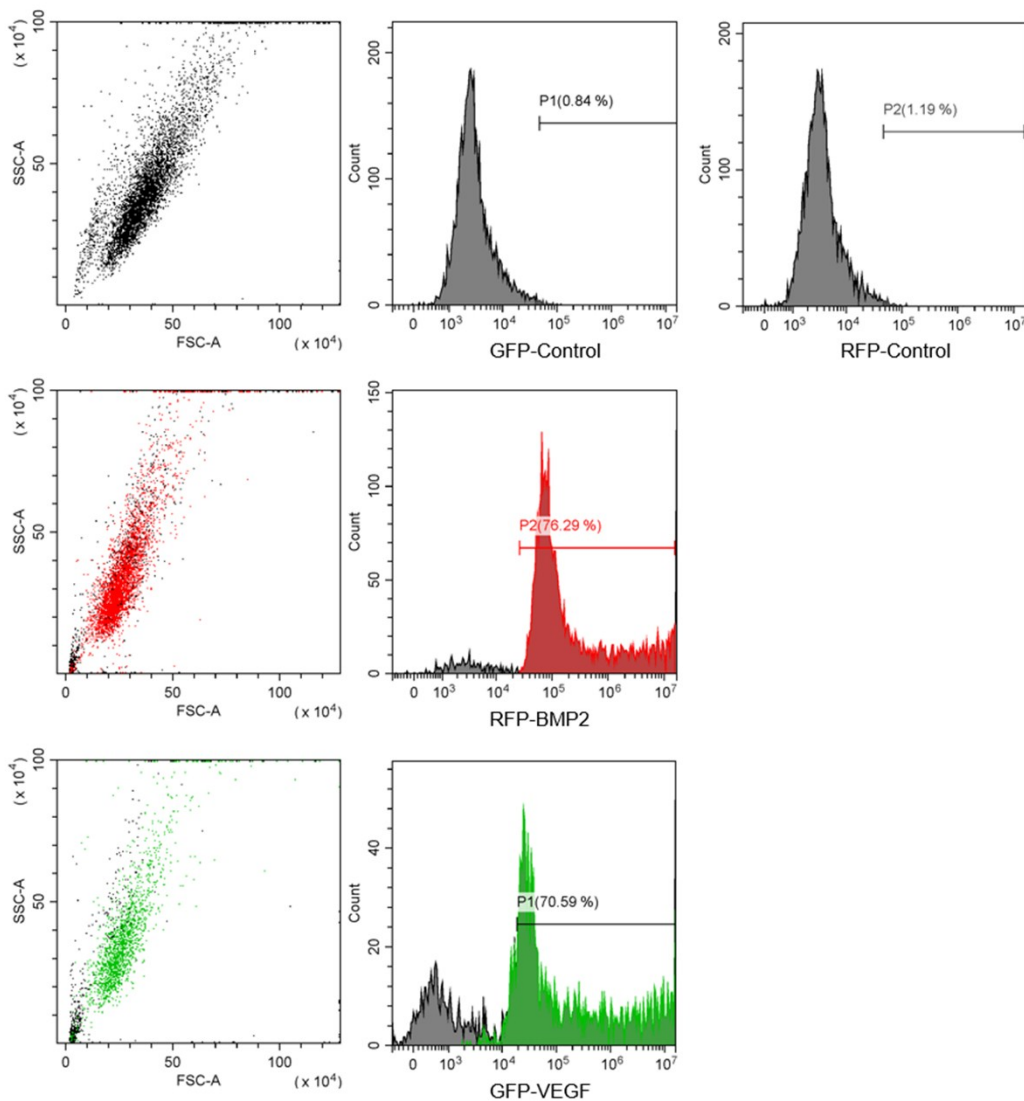


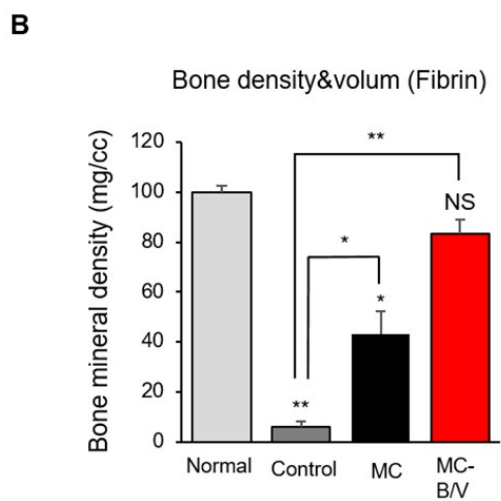
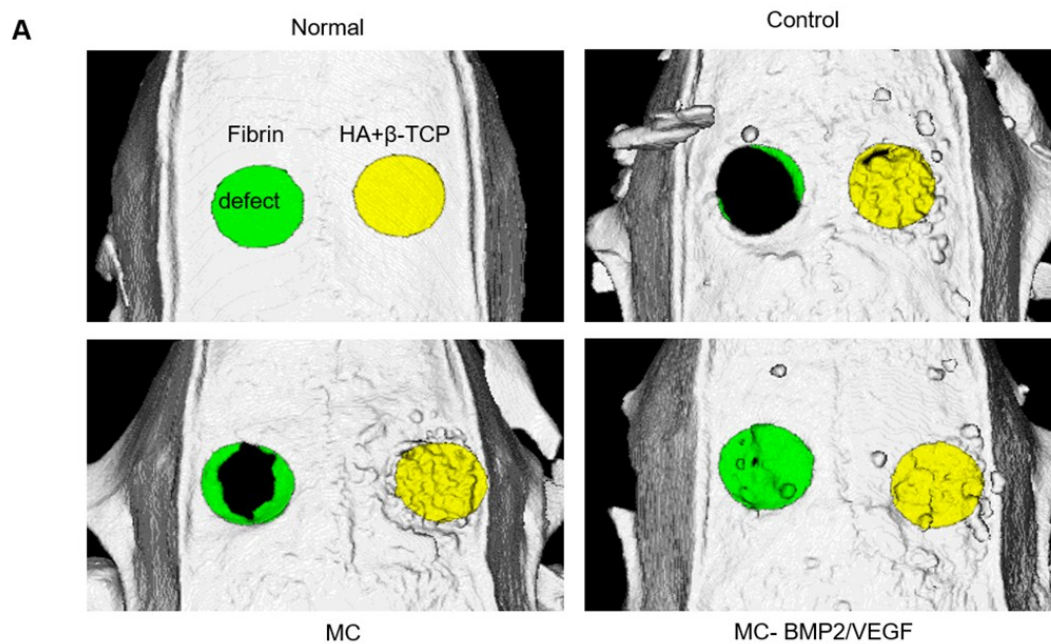
[여기에 입력]

## Supplemental Information

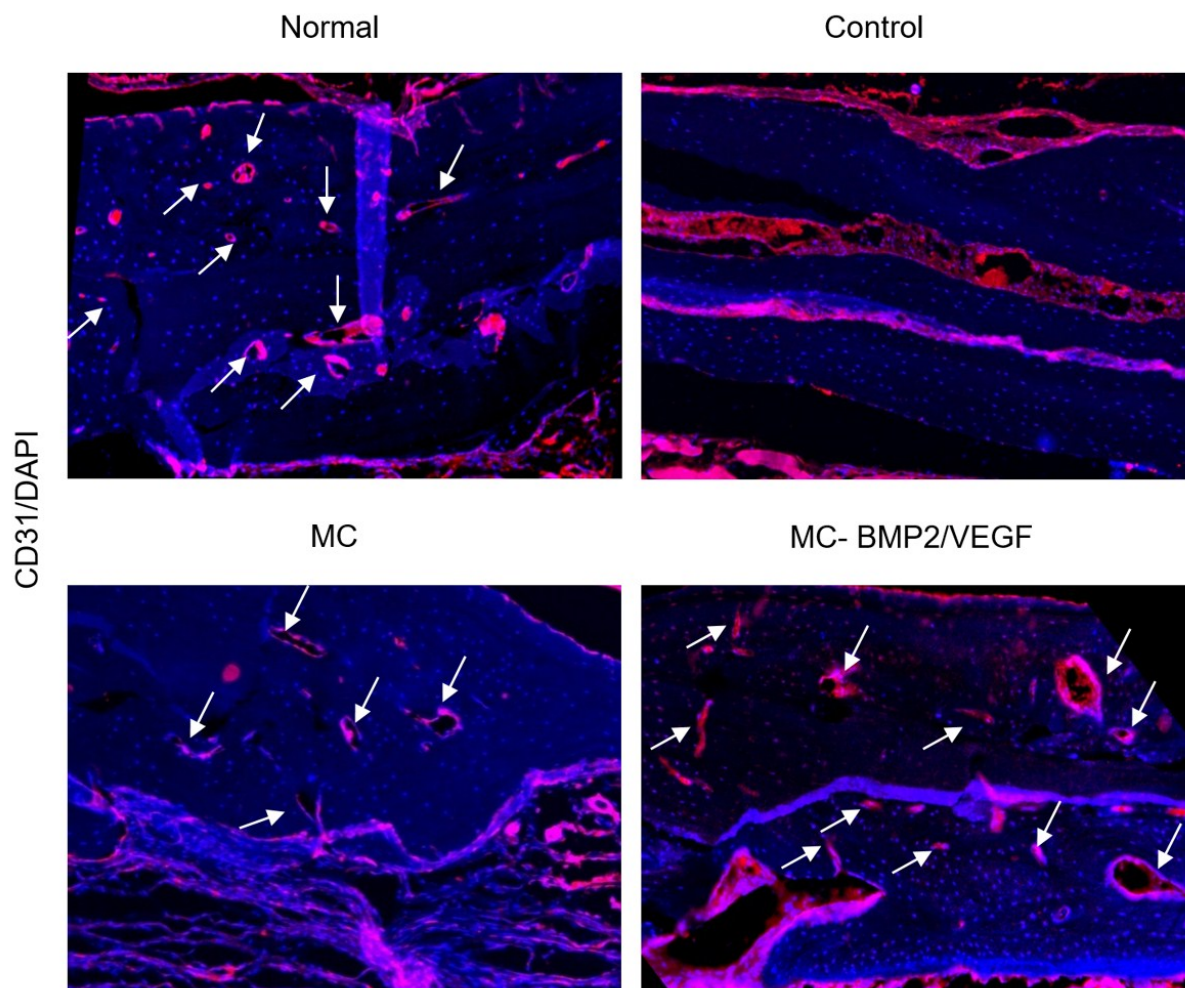
### Supplementary Figure



**Fig. S1** Flow cytometry analysis of BMP2- or VEGF-transfected hASCs. Transfection rate was measured for BMP2 by co-tagged RFP and VEGF by co-tagged GFP. FACS was performed with CytoFLEX equipment (Beckman Coulter, Brea, CA).



**Fig. S2** (A) Bone mineral density and (B) Graph from critical-size defect animal model by coimplantation of ASCs with introduced MC-BMP2 and MC-VEGF. Normal, non-surgery without cell implantation; control, surgery only without cell implantation; MC, minicircle plasmid vector-transfected ASCs implantation; MC-BMP2/VEGF (M-B/V), BMP2/ VEGF-transfected ASCs implantation.



**Fig. S3** CD31 staining, an indicator of neovascularization from critical-size defect animal model by coimplantation of ASCs with introduced MC-BMP2 and MC-VEGF at 40X magnification. Normal, non-surgery without cell implantation; control, surgery only without cell implantation; MC, minicircle plasmid vector-transfected ASCs implantation; MC-BMP2/VEGF, BMP2/ VEGF-transfected ASCs implantation.

## Supplementary Table

Table S1 The primers used in RT-qPCR.

Primer	Sequence (5'→3')
<i>Bone Morphogenetic Protein 2</i> forward	AACAATGGCATGATTAGTGG
<i>Bone Morphogenetic Protein 2</i> reverse	TTGGAGGAGAAACAAGGTG
<i>Vascular endothelial growth factor</i> forward	TCTTCAAGCCATCCTGTGTG
<i>Vascular endothelial growth factor</i> reverse	GCGAGTCTGTGTTTGAG
<i>Osteocalcin</i> forward	GGGGCTACCTGTATCAATGG
<i>Osteocalcin</i> reverse	TCAGCCAACTCGTCACAGTC
<i>Bone sialoprotein</i> forward	AGAACCCTTCCCCACCTTT
<i>Bone sialoprotein</i> reverse	AGGTTCCCGTTCTCACTT
<i>Runt-related transcription factor 2</i> forward	CGGTCTCCTCCAGGATGGT
<i>Runt-related transcription factor 2</i> reverse	GCTTCCGTCAGCGTCAACA
<i>Collagen I</i> forward	AACCCGAGGTATGCTTGATCT
<i>Collagen I</i> reverse	CCAGTTCTTCATTGCATTGC

Table S2 Primary antibodies used in western blotting.

Target	Antibody	Company	Catalogue No.
BMP2	Rabbit-BMP2 Antibody	Abcam	Ab14933
VEGF	Rabbit-VEGF Receptor 1 Antibody [Y103]	Abcam	Ab32152
ANKRD1	Rabbit-ANKRD1 antibody	Abcam	Ab64963
Runx2	Mouse-Runx2 antibody	Abcam	Ab76956
COL1	Mouse-Collagen1 antibody	Abcam	Ab90395
TEAD1	Rabbit-TEAD1 antibody	Cell Signaling	#12292S
p-YAP	Rabbit-phospho-YAP antibody	Cell Signaling	#13008
YAP	Rabbit-YAP/TAZ antibody	Cell Signaling	#8418s
p-TAZ	Rabbit-phospho-TAZ antibody	Cell Signaling	#59971
TAZ	Rabbit-YAP/TAZ antibody	Cell Signaling	#8418S
GAPDH	Rabbit-GAPDH antibody	BETHYL	A300-641A-M