Electronic Supplementary Material (ESI) for Biomaterials Science.

Supplementary Information

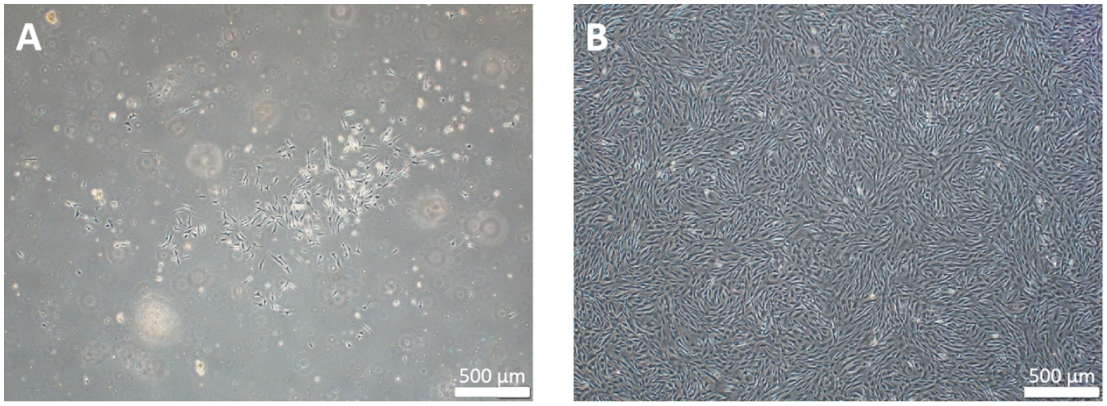

Fig. S1 BMSCs extraction and culture. (A) Primary culture of rabbit BMSCs. (B) Subculture of rabbit BMSCs in P_3.The rabbit BMSCs primary cells grew in colony mode. After 3 days of culture, Most of the cells were adherent to the bottom of the flask in small size and various morphology with a few impurities. With rapid proliferation and subculture, rabbit BMSCs in P_3 enlarged to a spindle shape, and grew in a whirlpool shape when at high confluence.

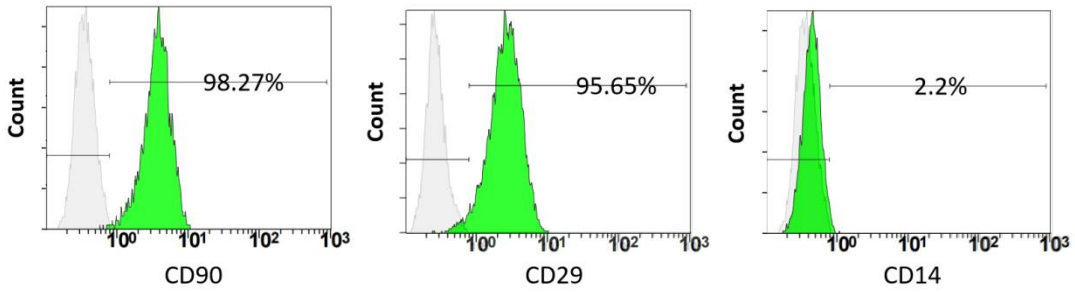

Fig. S2 Identification of BMSCs surface markers by flow cytometry. The expression of rabbit BMSCs surface markers was assessed using the flow cytometry, and the results showed that the expression of CD90 (98.27%), CD29 (95.65%) were positive (> 70%), and CD14 (2.2%) was negative (<5%), which were consistent with the characteristics of MSCs.

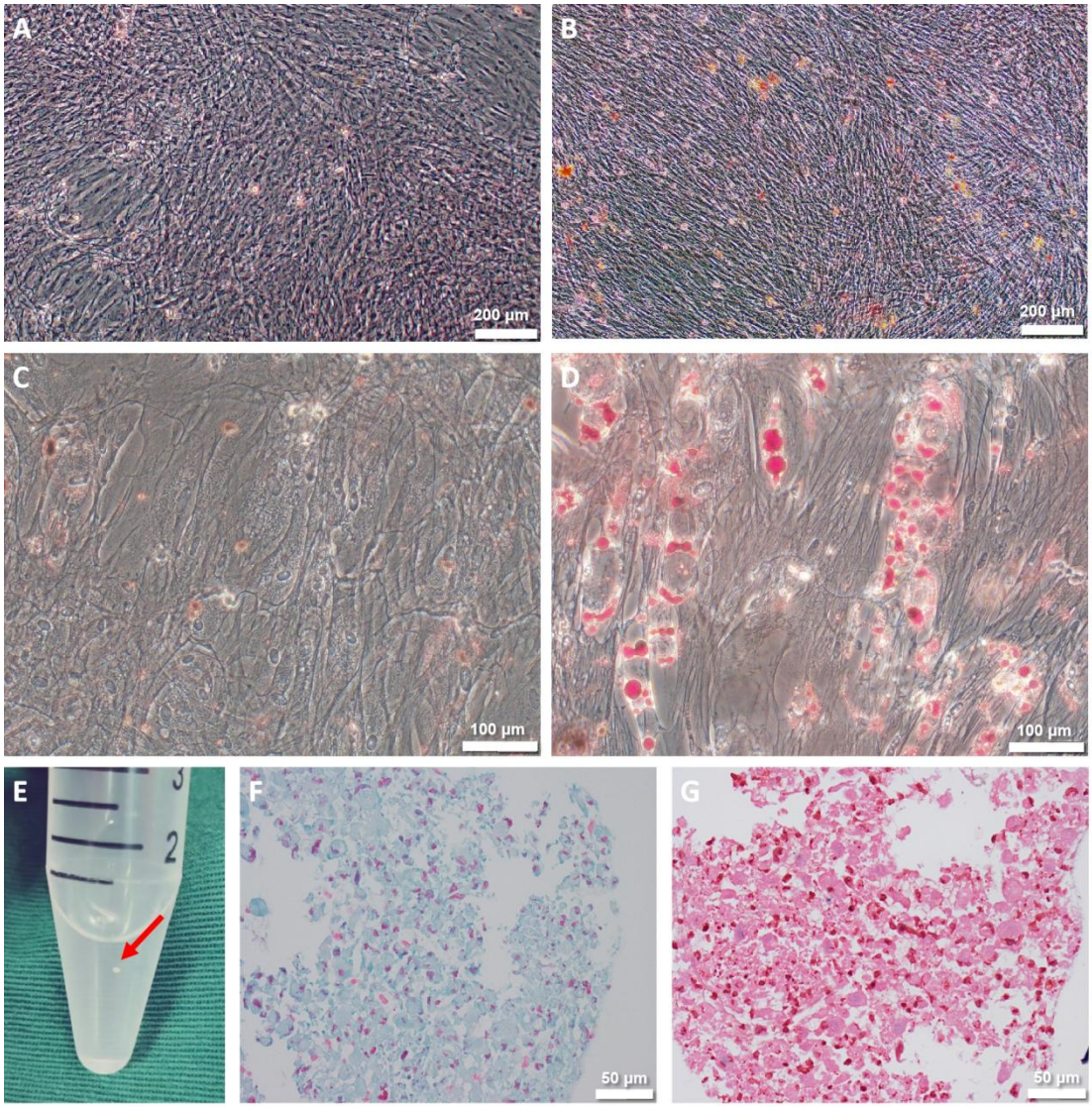

Fig. S3. Identification of the ability for multipotential differentiation in rabbit BMSCs. Osteogenesis induction of rabbit BMSCs at day 21: (A) Blank control group; (B) Osteogenic induction group. Lipogenesis induction of rabbit BMSCs at day 28: (C) Blank control group; (D) Lipid induction group. Chondrogenesis induction of rabbit BMSCs at day 28: (E) Cartilaginous globules (red arrow); (F) Alcian blue staining; (G) Safranin-fixed green staining. In the alizarin red staining experiment after 21 days of osteogenic culture, mineralization nodules with obvious red staining were observed in the osteogenic induction group compared with the blank control group. In the oil red O staining experiment after 28 days of lipid induction culture, the round lipid droplets in experimental group were stained orange. In the alcian blue / saffron solid green staining experiments, after 28 days of chondroblast induction, blue or red cartilage tissues could be observed under the microscope.

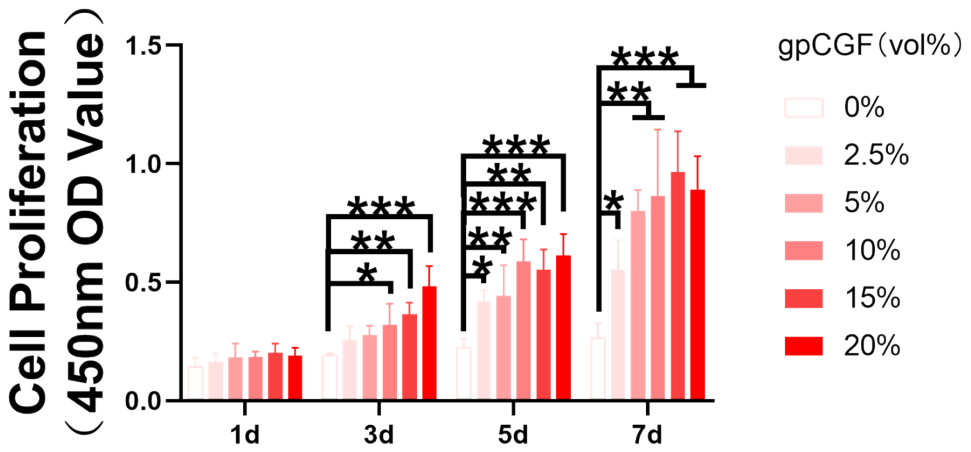

Fig. S4. Proliferation of rabbit BMSCs cultured with different concentrations of gpCGF-conditioned medium culture. The results suggested that compared to the blank control group, the culture containing different concentrations (2.5%, 5%, 10% 15% 20%) all promoted the proliferation of the cells, and 10% is the minimum concentration for optimal promotion.

Table S1. Primers for RT-PCR analysis of osteogenic differentiated genes

Primer	Sequences
Runx2-for	CCCCTCTTACCTGAGCCAGA
Runx2-rev	TGCTGGGCTCTGAATCTGAAA
COL1A1-for	CACTCTGACTGGAAGAGCGG
COL1A1-rev	GAACTGGAAGCCATCGGTCA
ALP-for	TCCCACTTTGTCTGGAACCG
ALP-rev	TCCTGTTCAGCTCGTACTGC
OPN-for	CACCATGAGAATCGCCGTGA
OPN-rev	ATCAGCGTGTTTAACCGGGA
Osx-for	AGAGGACCGAACCAGGACAA
Osx-rev	AGTGAGCTTCCTCCTCAAGC
OCN-for	GGCCAGGCAGAGGCAAAG
OCN-rev	CTCCAGGGGATCCGGGTAA
GADPH-for	TCGGAGTGAACGGATTTGGC
GADPH-rev	TTCCCGTTCTCAGCCTTGAC