

Experimental

Quantitative real-time PCR assay

The MC3T3-E1 cells were cultured on samples surfaces for 3 and 7 days, respectively. At specific time interval, the total RNA of MC3T3-E1 cells was extracted using the TRIZOL reagent (Invitrogen, USA), and the complementary DNA (cDNA) was reverse-transcribed from 1 µg of total RNA using the PrimeScript 1st Strand cDNA Synthesis kit (TaKaRa, Japan) according to the manufacturer's protocols. Expression was quantified by a Bio-Rad sequence detection system (MiyiQ2, USA) on markers of alkaline phosphatase (ALP), type I collagen (Col I) and runt-related transcription factor 2 (Runx2) using a real-time PCR kit (SYBR Premix EX Taq, TaKaRa). The housekeeping gene β -actin was used to normalize results. The primers for the selected genes were shown in Table S1. All experiments were performed in triplicate.

Table S1 Primers used for real-time PCR

Gene	Forward Primer Sequence (5'-3')	Reverse Primer Sequence (5'-3')
β -actin	TTCAACACCCCAGCCATGT	GTGGTACGACCAGAGGCATACA
ALP	CCAACTCTTTTGTGCCAGAGA	GGCTACATTGGTGTTGAGCTTTT
Col I	GAAGGCAACAGTCGATTCACC	GACTGTCTTGCCCCAAGTTCC
Runx2	CCCAGCCACCTTTACCTACA	TATGGAGTGCTGCTGGTCTG

Result

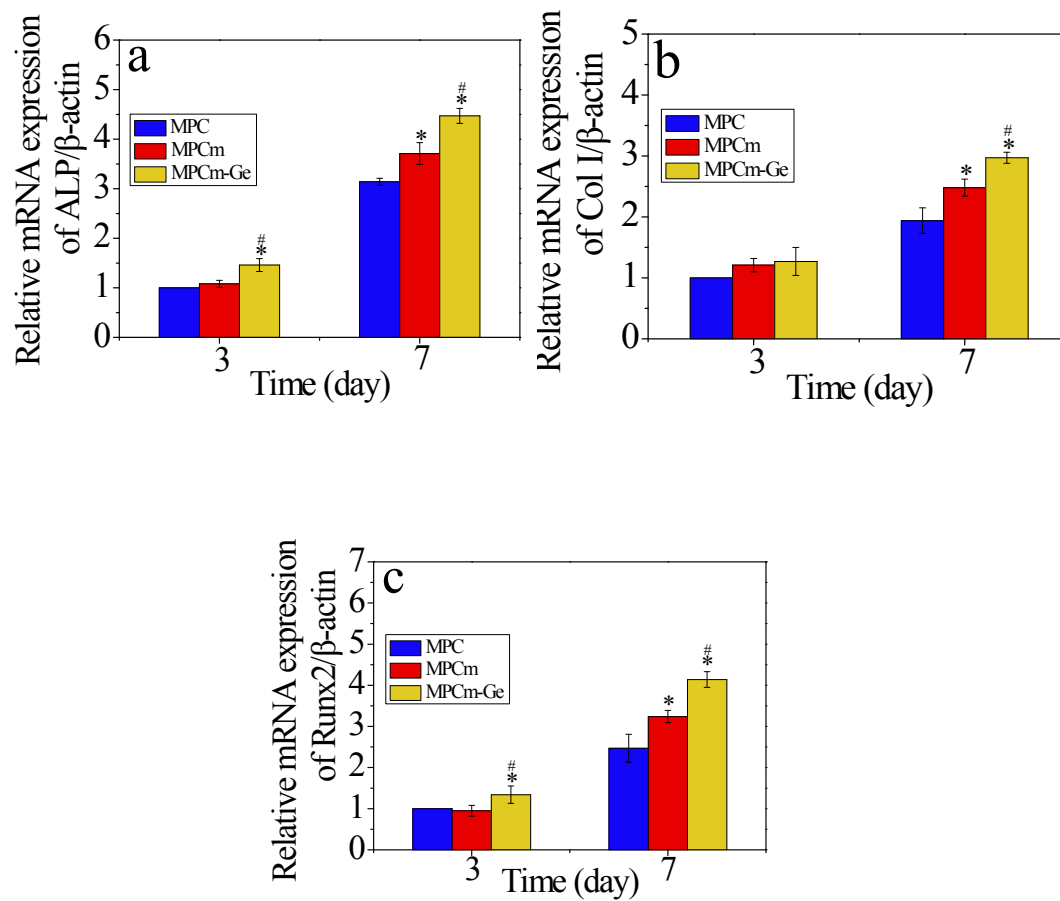


Fig. S1 Gene expressions of ALP (a), Col I (b) and Runx2 (c) of MC3T3-E1 cells cultured on samples surfaces for 3 and 7 days (* represents $p < 0.05$, vs MPC; # represents $p < 0.05$, MPCm-Ge vs MPCm).