

## Supporting Information

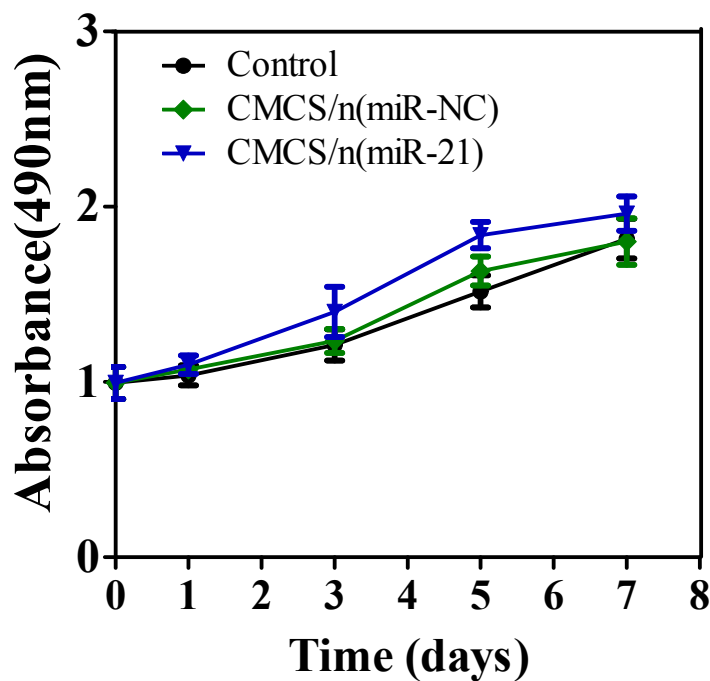


Figure S1. MTT analysis of cell proliferation at 0, 1, 3, 5 and 7 days.

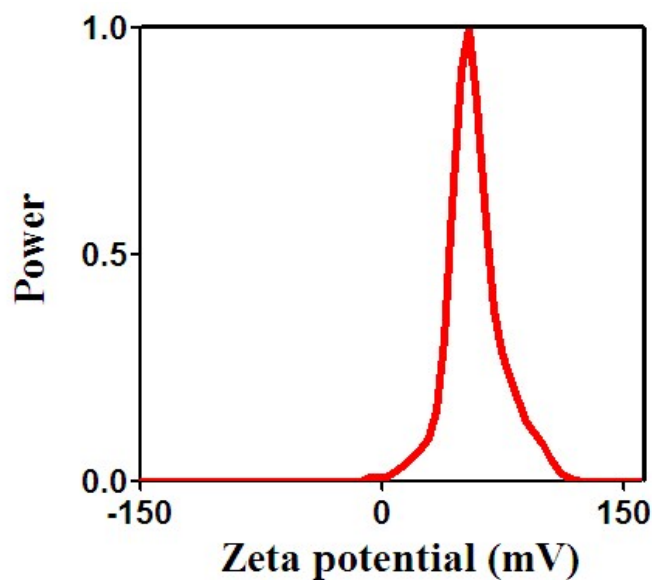
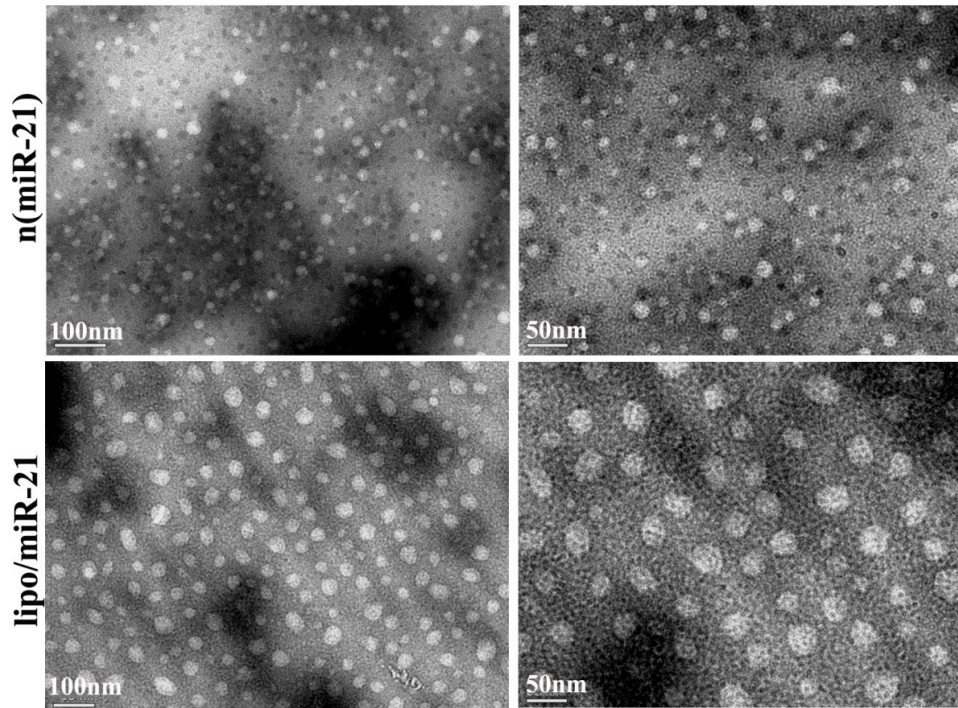
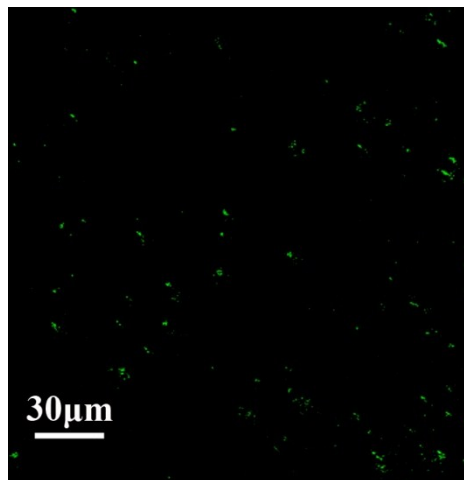


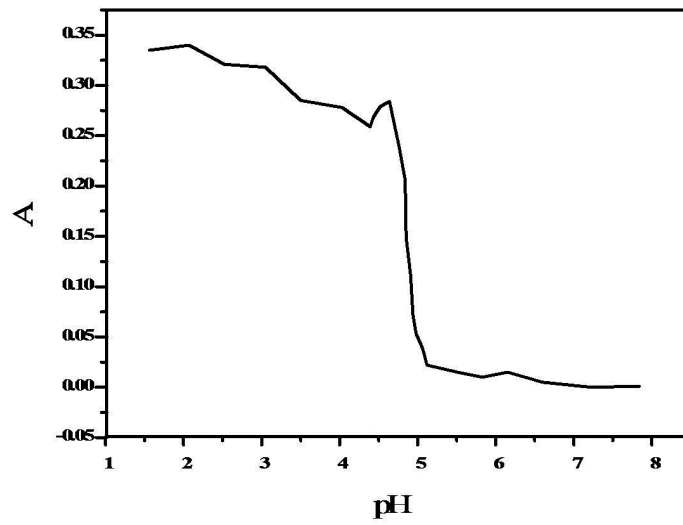
Figure S2. Zeta potential (mV) of lipo/miR-21 by DLS in phosphate buffer (pH=7.4).



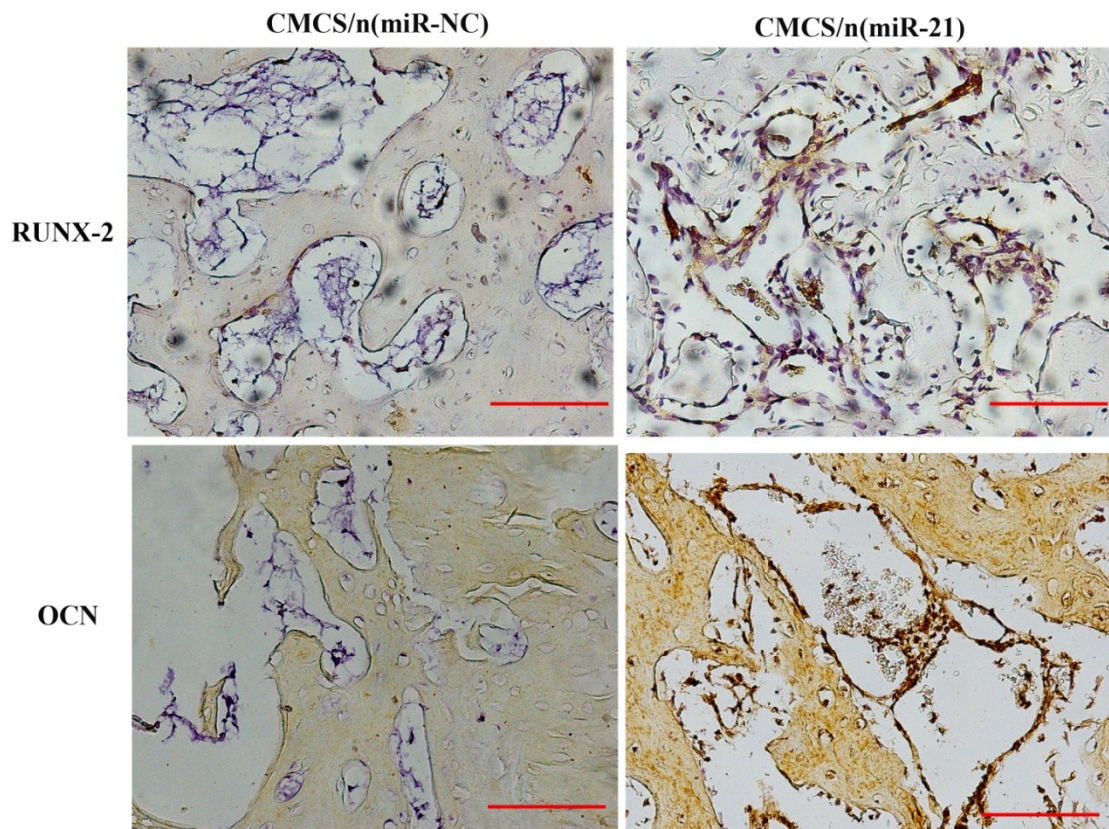
**Figure S3.** The TEM images of the n (miR-21) and lipo/miR-21.



**Figure S4.** Confocal image of the miR-21 nanocapsules dispersed in the CMCS matrix. The miR-21 was labeled with FAM in advance. Scale bar indicates 30 µm.



**Figure S5.** Analysis of isoelectric point of the CMCS with the change of pH (A is representative of absorbance under visible light).



**Figure S6.** Immunohistochemical staining to show the expression levels of osteogenic makers (RUNX-2 and OCN) *in vivo* after two weeks implantation.

**Table S1.** The micro-CT data

	BV/TV (%)					Mean (%)	SD (%)
CMCS/n(miR-NC)- 2W	17.8	18.6	17.2	16.8	20.1	18.1	1.31
CMCS/n(miR-21)-2W	30.2	29.9	28.3	29.4	28.7	29.3	0.80
CMCS/n(miR-NC)-4W	32.9	30.8	33.4	31.5	32.2	32.2	1.05
CMCS/n(miR-21)-4W	42.4	49.9	45.4	39.5	48.2	45.1	4.22