

Supplementary materials

Growth and accelerated differentiation of mesenchymal stem cells on graphene oxide/poly-L-lysine composite films

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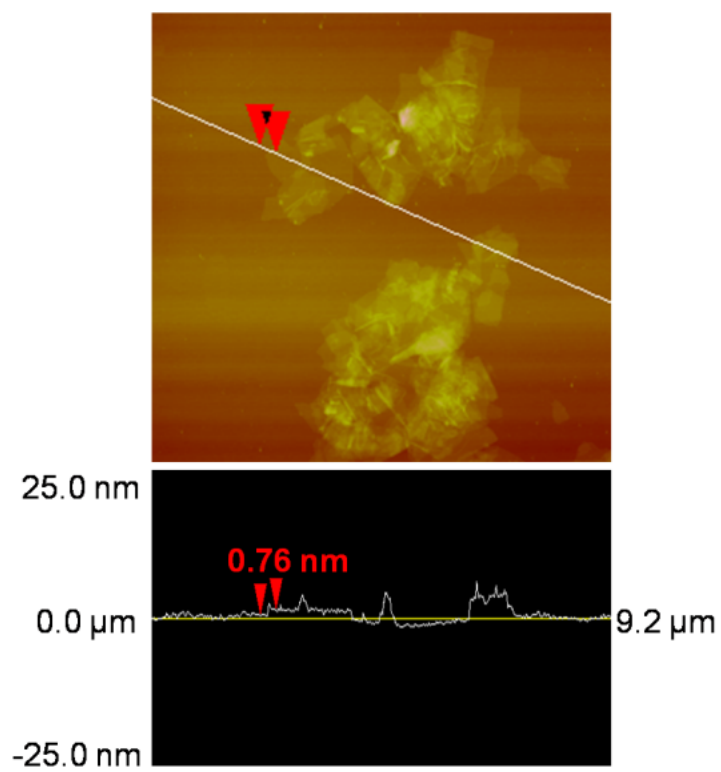


Fig. S1 The thickness of GO sheets determined by AFM technique of 0.76 nm.

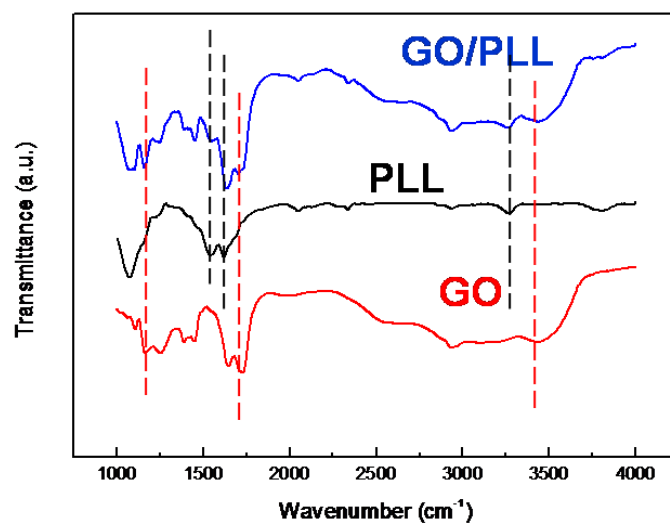


Fig. S2 FTIR spectra of GO, PLL and (GO/PLL)₄ film.

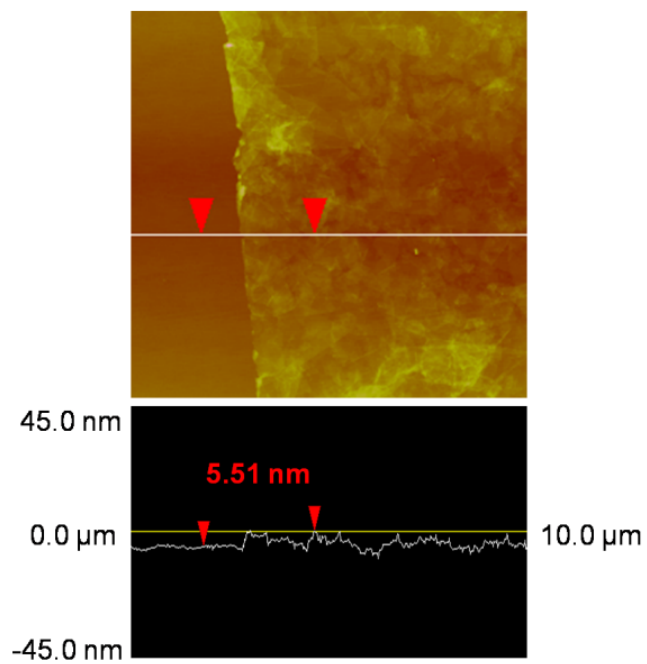


Fig. S3 The thickness of the $(GO/PLL)_4$ film determined by AFM technique of 5.51 nm.

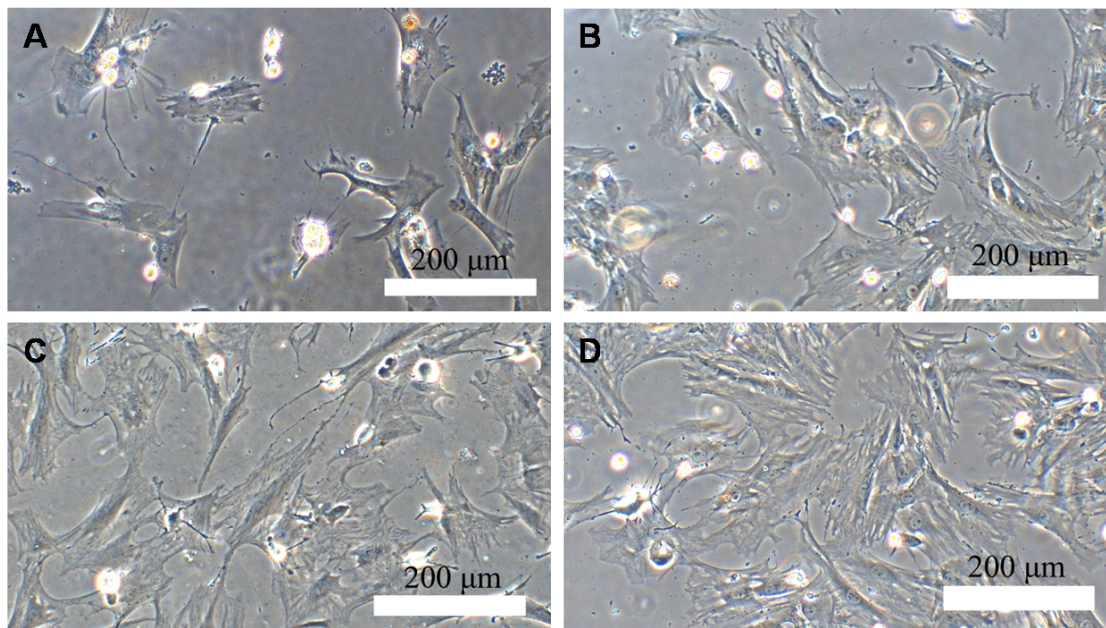


Fig. S4 Phase contrast images of MSCs cultured for 3 days on A) glass coverslips; B) GO-coverslips; C) PLL-coverslips; D) TCPS in normal cell culture media.

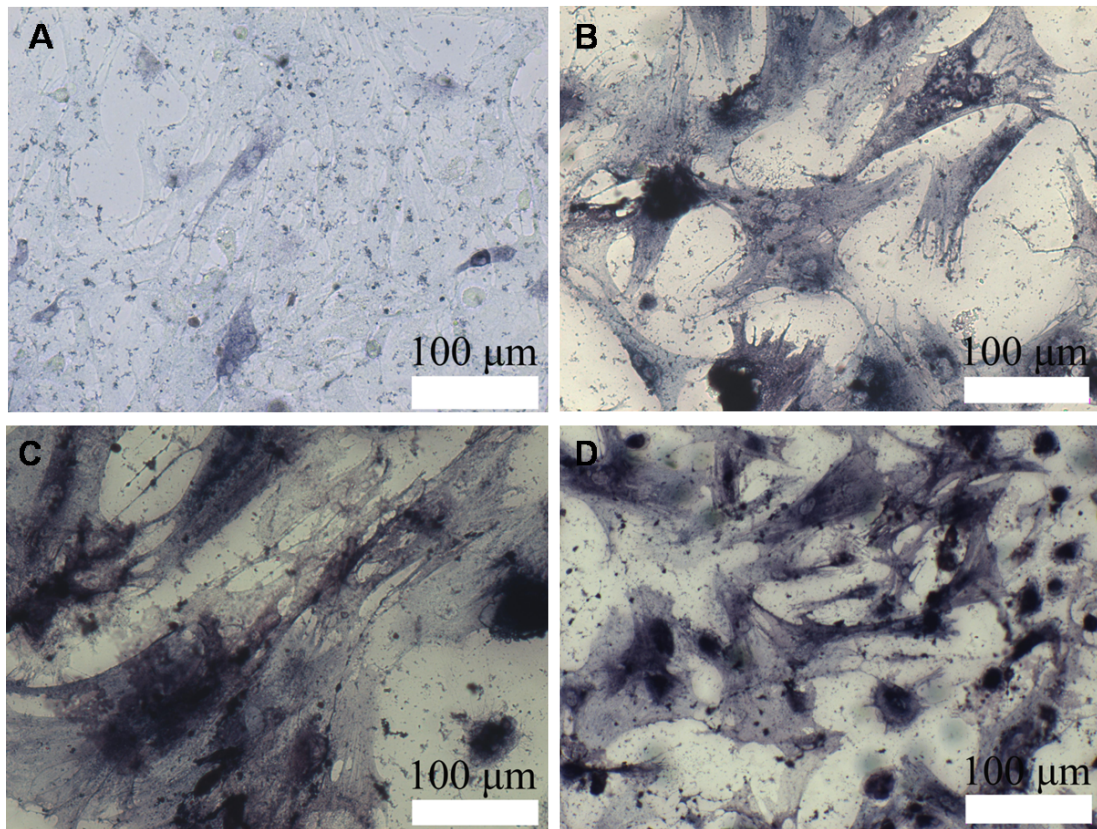


Fig. S5 ALP staining results of MSCs on A) glass coverslips; B) GO-coverslips; C) PLL-coverslips; D) TCPS on the 7th day of differentiation.

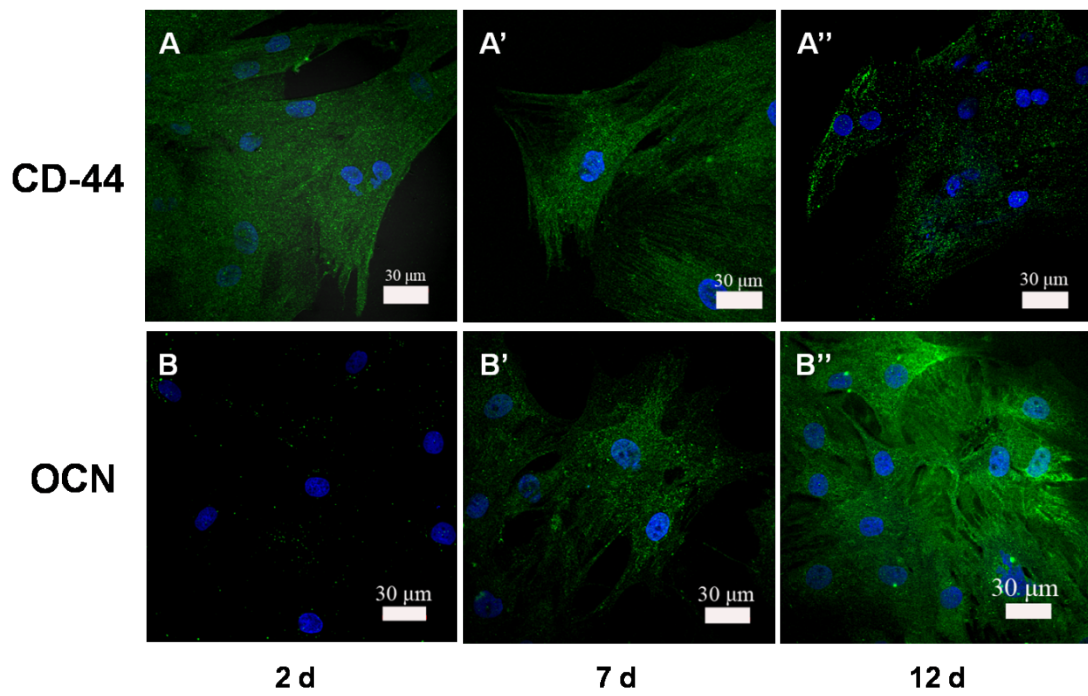


Fig. S6 Immunostaining of cells growing on the TCPS were performed from 2 days to 12 days. Cells are stained with DAPI (blue) and CD-44 or osteocalcin (OCN) as indicated (green). (A, A', A'') CD-44, marker for stem cells. (B, B', B'') OCN, marker for osteoblasts.

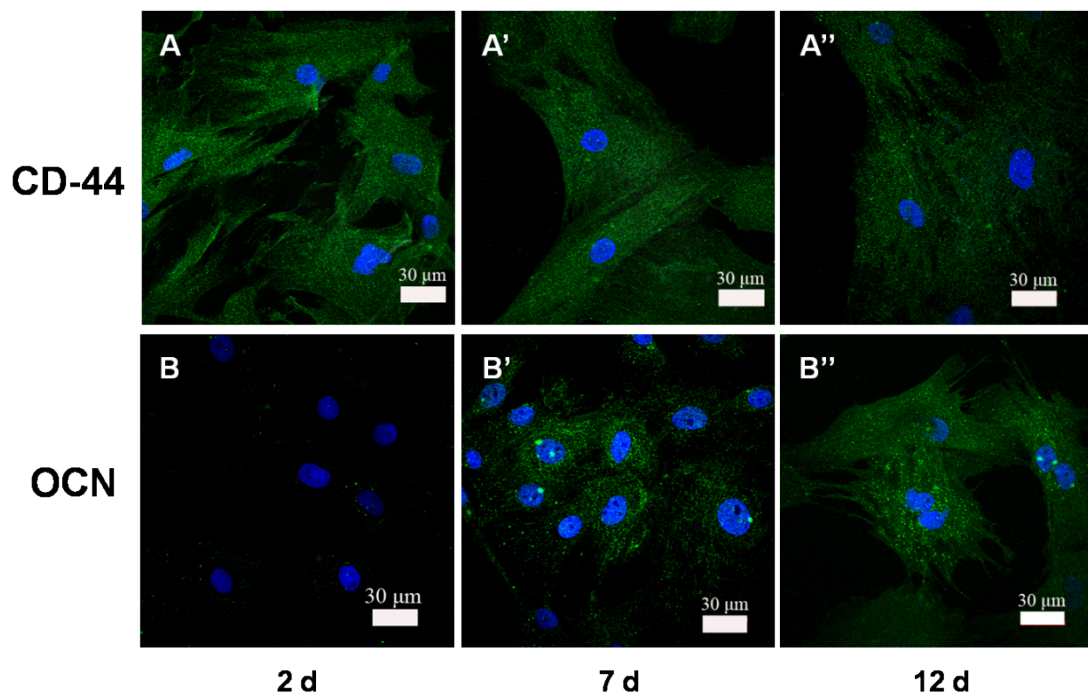


Fig. S7 Immunostaining of cells growing on the blank coverslips were performed from 2 days to 12 days. Cells are stained with DAPI (blue) and CD-44 or osteocalcin (OCN) as indicated (green). (A, A', A'') CD-44, marker for stem cells. (B, B', B'') OCN, marker for osteoblasts.

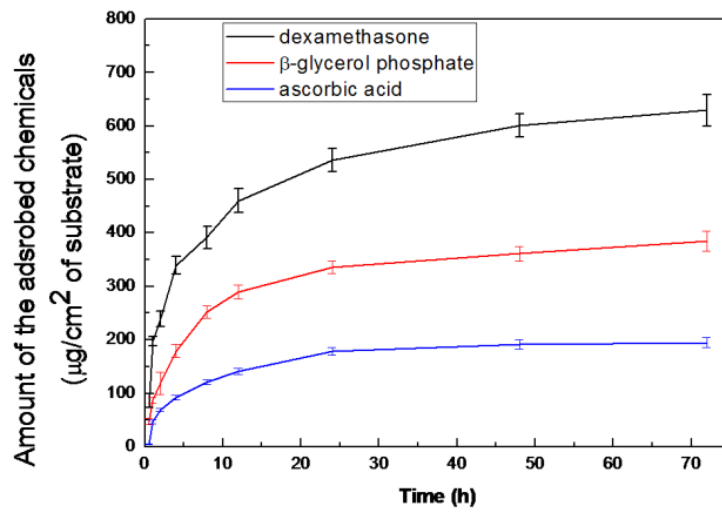


Fig. S8 Adsorption kinetics of dexamethasone, β -glycerol phosphate, and ascorbic acid on the (GO/PLL)₄ films. The three systems were all in concentration of 10 mM in PBS.