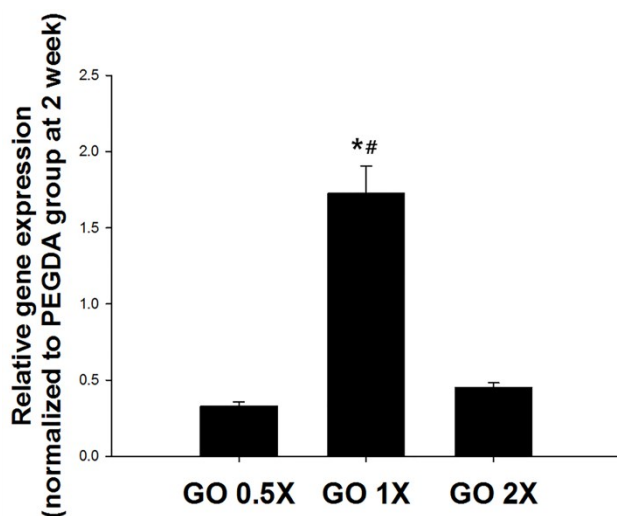


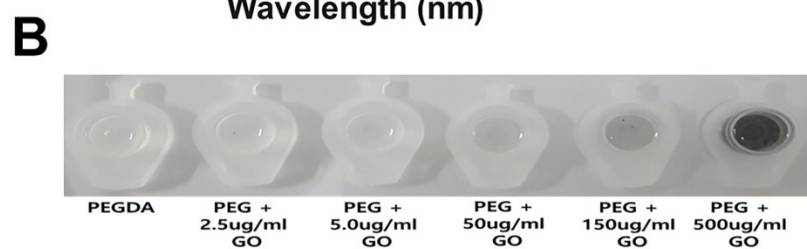
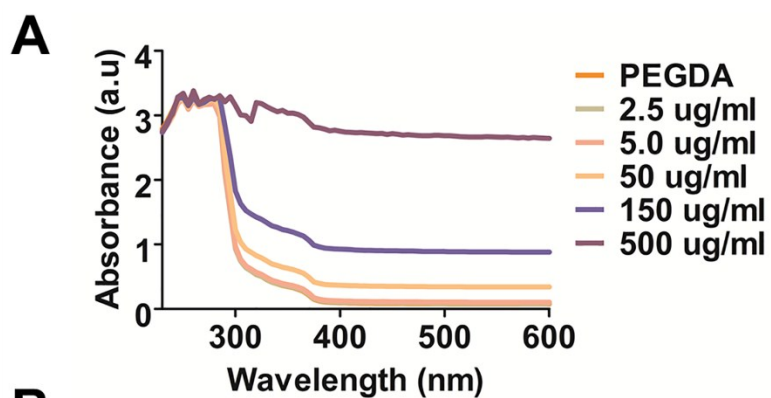
**Supplementary Figure 1.** Relative OP gene expression of hADSCs encapsulated with different concentration of GO at 2 weeks (n=3 per group, \*  $p < 0.05$  versus GO 0.5X, #  $p < 0.05$  versus GO 2X).

**Supplementary Figure 2.** (A) UV-Vis spectrometer according to GO concentration and (B) its image.

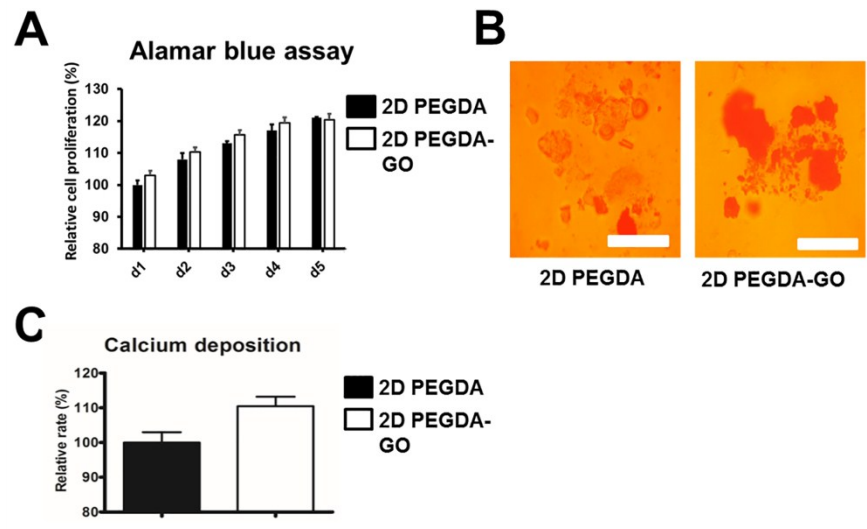
**Supplementary Figure 3.** hADSC culture on 2D PEGDA and PEGDA-GO. (A) Cell proliferation rate (B) ARS staining and (C) its quantitative analysis (Scale bar = 50  $\mu\text{m}$ ).



**Supplementary figure 1**



Supplementary figure 2



Supplementary figure 3