



**Supplementary Figure S1.** (a) Relative gene expression of the osteogenic markers: ALP, osteocalcin, collagen I, angiogenesis relevant molecules: SDF-1, VEGF, ANGPT-1 and cell-matrix adhesion molecule integrin evaluated by semi-quantitative RT-PCR for MSC mono-cultures on F-GO/F-rGO on day 7 and 14. 2-way ANOVA, \* $p < 0.05$ ,  $n = 3$ . (b) The ALP activity normalized by DNA content for the MSC mono-cultures on F-GO (as control) and F-rGO on day 7 and 14. 1-way ANOVA, \* $p < 0.05$ , \*\* $p < 0.01$ ,  $n = 3$ . (c) Relative gene expression of the endothelial, osteogenic markers and cell-matrix adhesion molecule integrin evaluated by semi-quantitative RT-PCR for MSC/OEC co-cultures on F-GO/F-rGO on day 7. 2-way ANOVA, \*\*\* $p < 0.001$ ,  $n = 3$ . (d) The ALP activity normalized by DNA content for MSC/OEC co-cultures on F-GO (as control) and F-rGO on day 7. t-test,  $n = 3$