

# Calcium alendronate-coated composite scaffolds promote adhesion and osteogenesis of ADSCs via integrin and FAK/ERK signalling pathways

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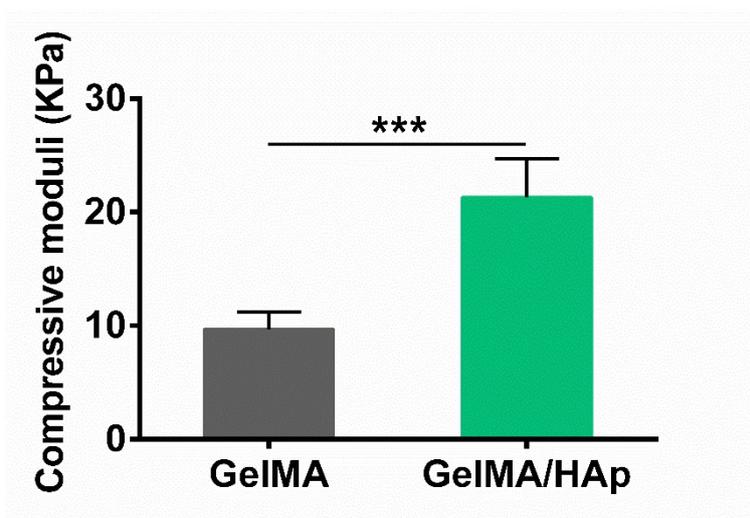


Fig. S1 Compressive moduli of GelMA and GelMA/HAp scaffolds, \*\*\* $p < 0.001$ .

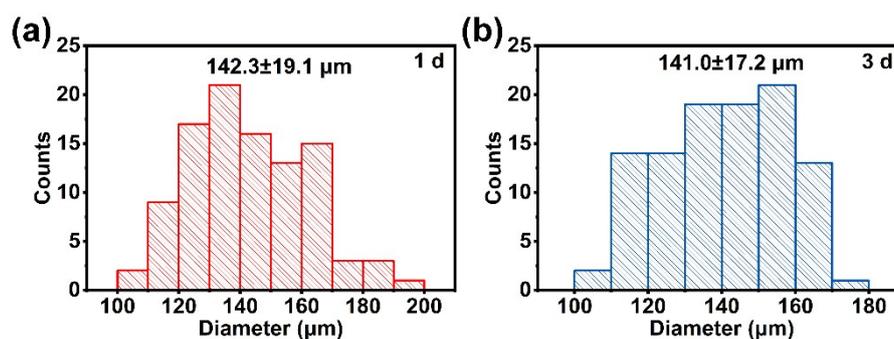


Fig. S2 Statistical quantification of the size of ball-like crystals incubated in 30 mg/mL

ALN solution for 1 day (a) and 3 day (b).

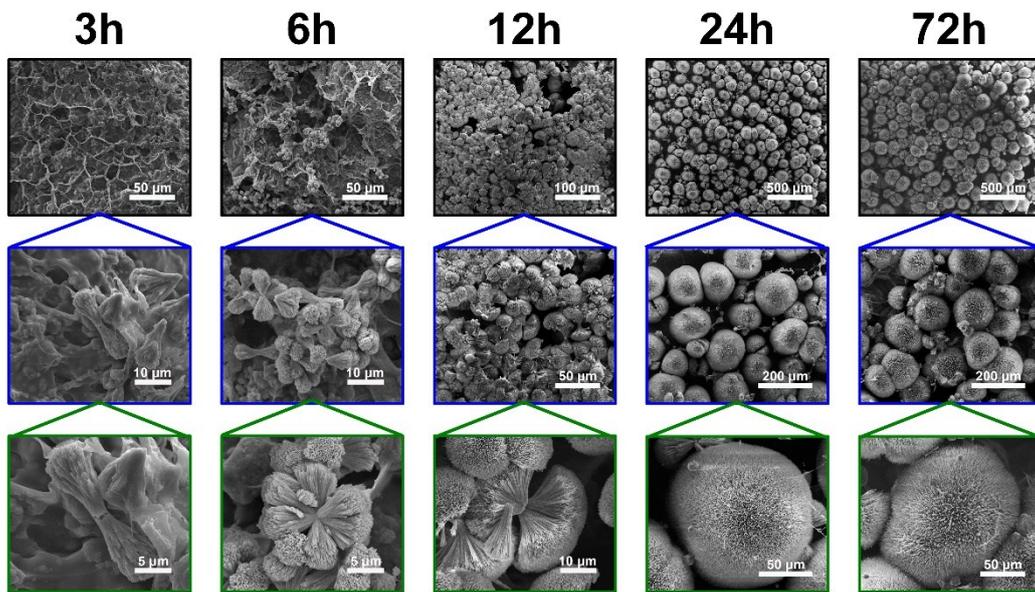


Fig. S3 SEM images of GelMA/HAp composite scaffolds incubated in 30 mg/mL ALN solution for 3, 6, 12, 24 and 72 h.

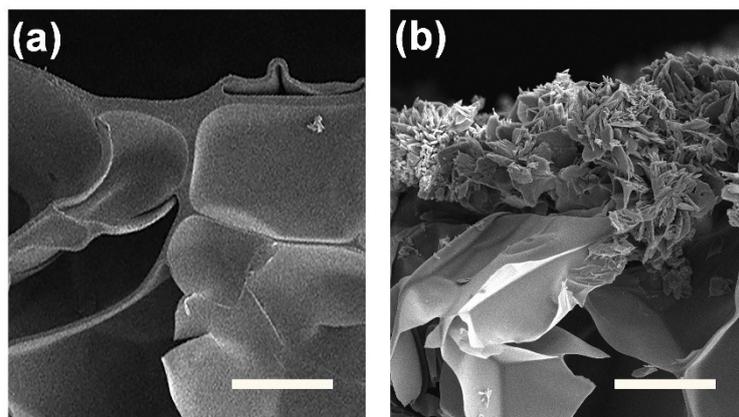


Fig. S4 SEM images of the cross-section of GelMA/HAp composite scaffolds that incubated in (a) 0 and (b) 10 mg/mL ALN solutions 3 days.

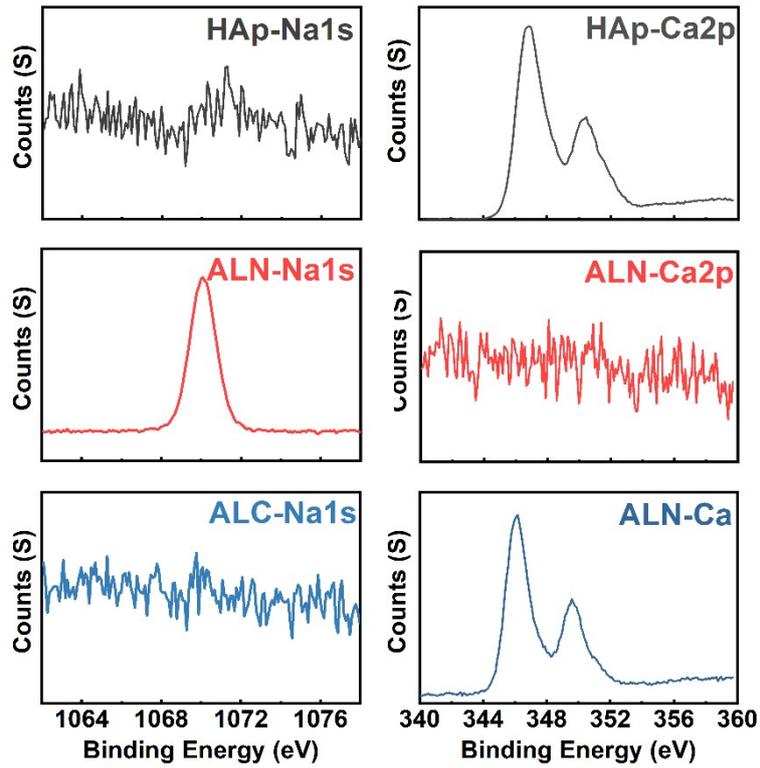


Fig. S5 High-resolution XPS spectra of Na1s and Ca2p for HAp, ALN and ALC.

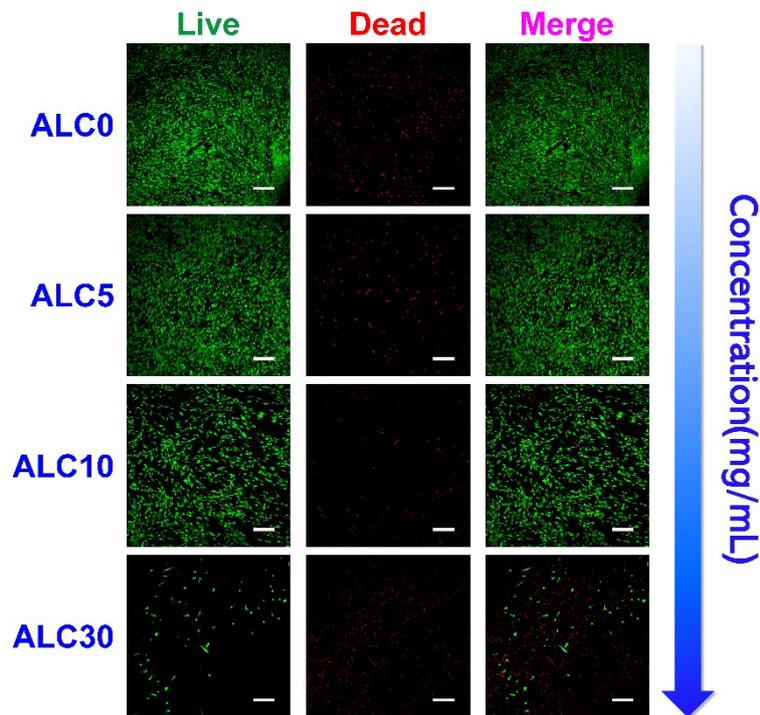


Fig. S6 Live/dead staining of ADSCs cultured on ALC 0 mg/mL-24 h, ALC 5 mg/mL-24 h, ALC 10 mg/mL-24 h and ALC 30 mg/mL-24 h for 3 days.

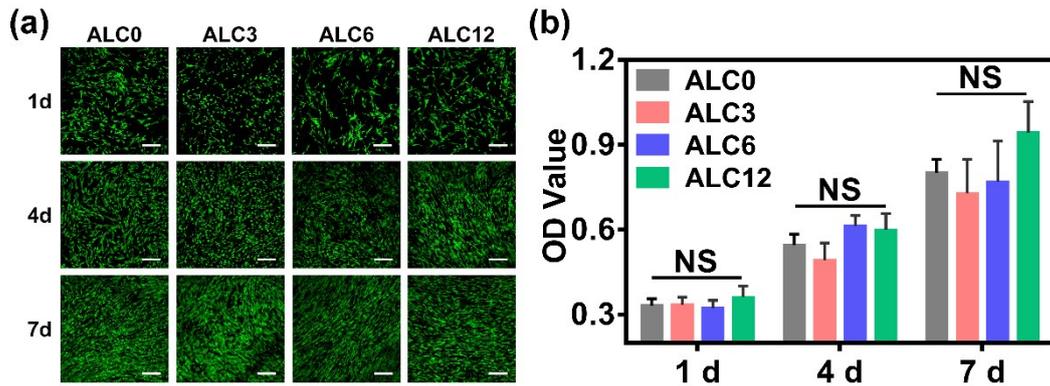


Fig. S7 Live/dead staining (a) and CCK-8 assay (b) of ADSCs cultured on ALC0, ALC3, ALC6 and ALC12 scaffolds for 1, 4 and 7 days.

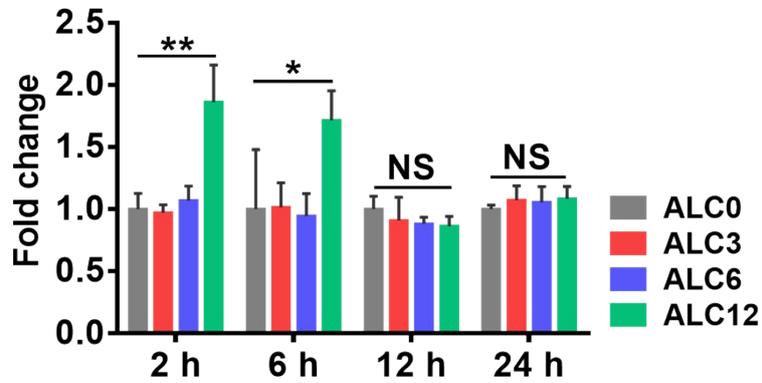


Fig. S8 Protein adsorption of scaffolds incubated in serum-containing media for 2, 6, 12 and 24 h.

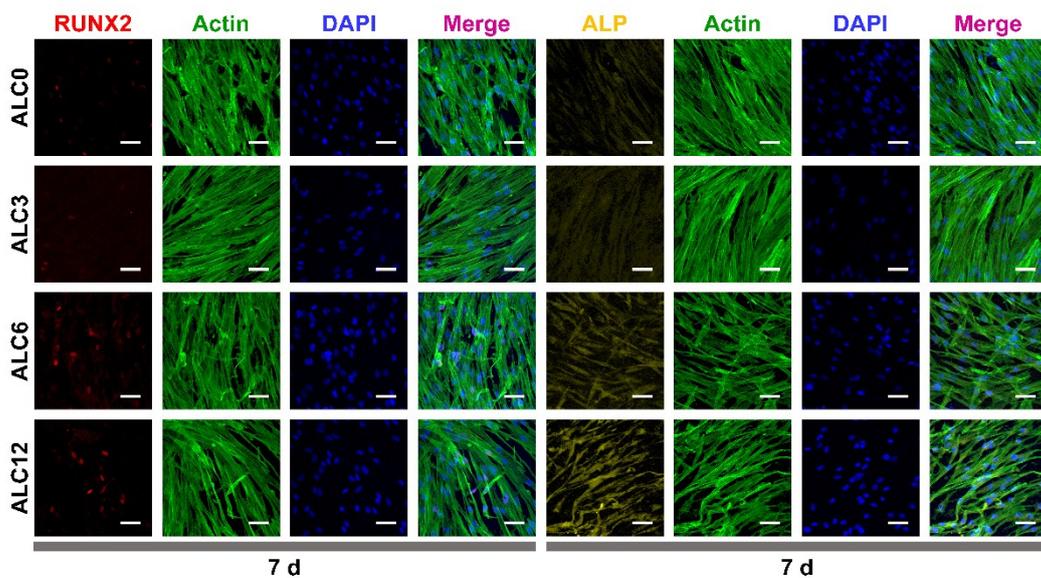


Fig. S9 Representative immunofluorescence staining images of RUNX2 and ALP for 7 days, scale bar =100 μm.

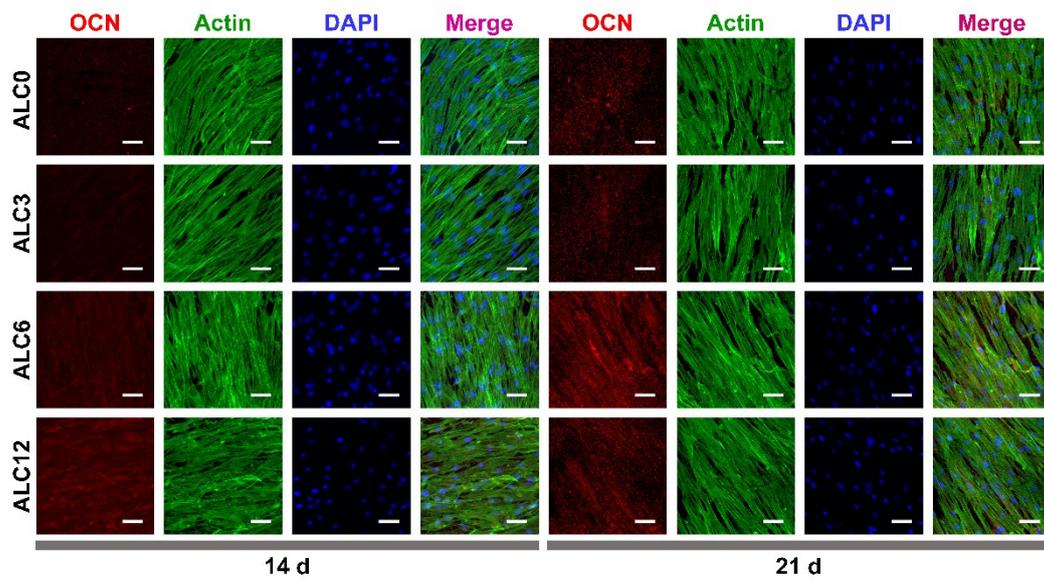


Fig. S10 Representative immunofluorescence staining images of OCN for 14 and 21 days, scale bar =100  $\mu$ m.

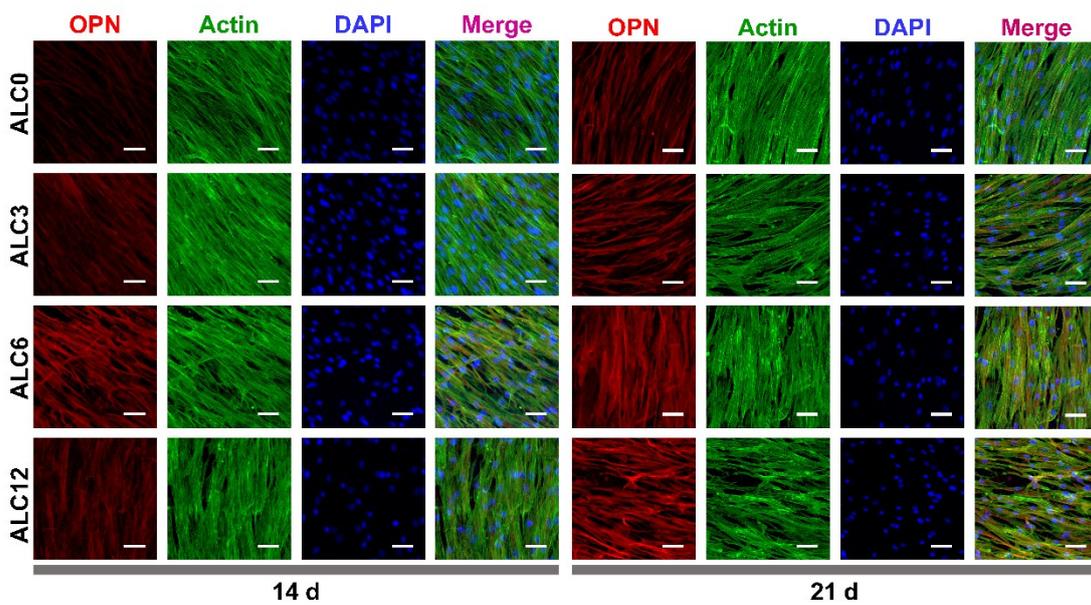


Fig. S11 Representative immunofluorescence staining images of OPN for 14 and 21 days, scale bar =100  $\mu$ m.

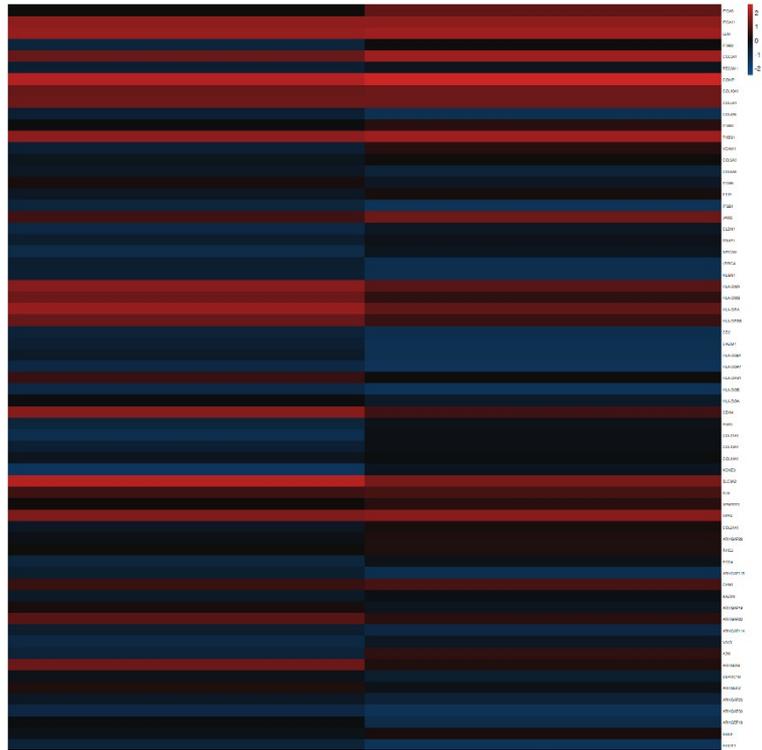


Fig. S12 Heat map of adhesion related DE genes.

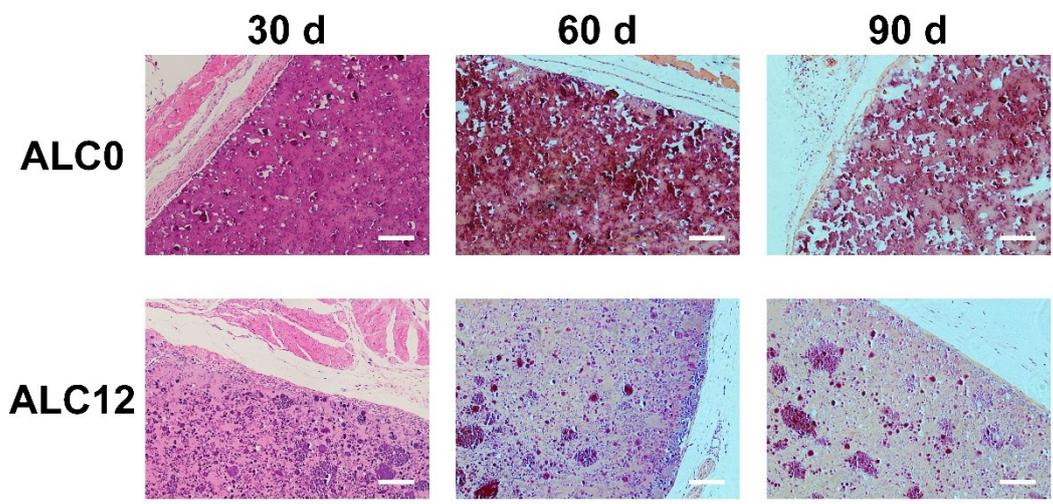


Fig. S13 H&E staining of ALC0 and ALC12 scaffolds implanted subcutaneously in nude mouse for 30, 60, and 90 d.

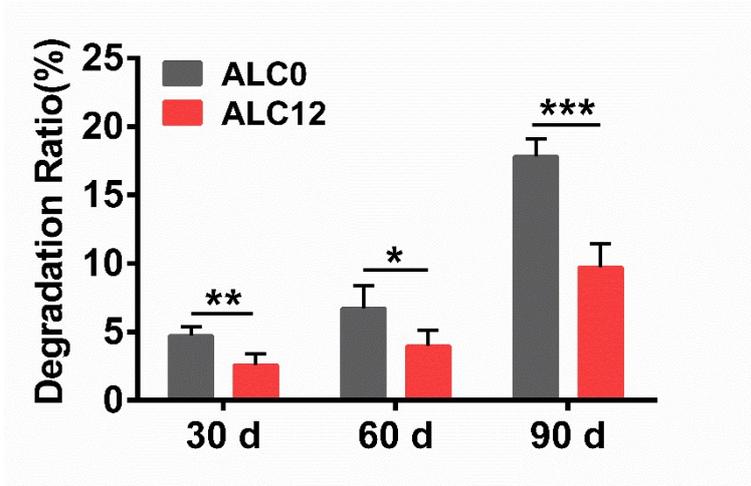


Fig. S14 *In vivo* degradation of ALC0 and ALC12 scaffolds implanted subcutaneously in nude mouse for 30, 60, and 90 d. \*  $p < 0.05$ , \*\*  $p < 0.01$  and \*\*\*  $p < 0.001$  compared to the ALC0 group.

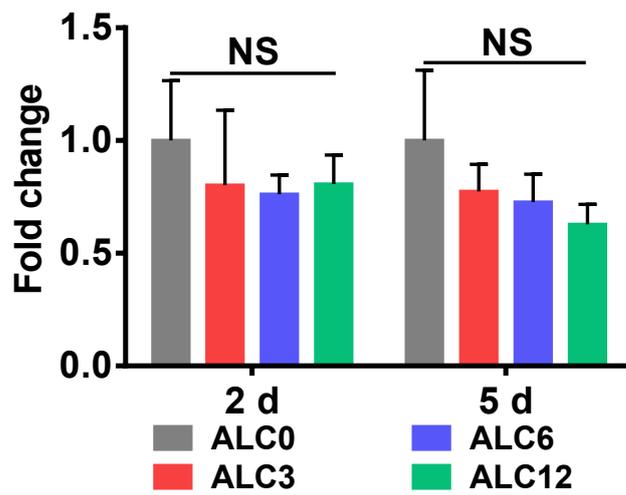


Fig. S15 Total protein of RAWs cultured on ALC0, ALC3, ALC6 and ALC12 scaffolds for 2 and 5 days.