## Supplementary information:

## Figures S1-Figure S5



SF.1 Confocal microscopy images of periodontal ligament fibroblasts morphology on peptide scaffold ( a ) VEVK9 mixed with vPRG and vPVG, (b ) VEVK9 mixed with vYIG and vPVG, (c ) VEVK9 mixed with vIKV and vPVG, (d ) VEVK12 mixed with vPRG and vPVG, (e ) VEVK12 mixed with vYIG and vPVG, (f ) VEVK12 mixed with vIKV and vPVG. Fluorescenct staining with Rhodamin phalloidin for F-actin (red) and SYTOX Green for nuclei (yellow) showed the cell attachments and distributions. The bar represent 100  $\mu$ m.



SF.2 Constructed images of 3-D confocal microscopy images of periodontal ligament fibroblasts on each scaffold (a) VEVK9 mixed with vYIG, (b) VEVK9 mixed with vIKV. (a1-b1) Vertical and (a2 – b2) horizontal images after three weeks culture. The bar represent 200  $\mu$ m.



SF.3 Constructed images of 3-D confocal microscopy images of periodontal ligament fibroblasts on each scaffold (a) VEVK12, (b) VEVK12 mixed with vPRG, (c) VEVK12 mixed with vPRG and vPVG. (a1-c1) Vertical and (a2 – c2) horizontal images after three weeks culture. The bar represent 200  $\mu$ m.



SF.4 Constructed images of 3-D confocal microscopy images of periodontal ligament fibroblasts on each scaffold (a) VEVK12 mixed with vY16, (b) VEVK12 mixed with vY16 and vPR6, (c) VEVK12 mixed with vIKV, (d) VEVK12 mixed with vIKV and vPV6. (a1-d1) Vertical and (a2 - d2) horizontal images after three weeks culture. The bar represent 200  $\mu$ m.

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SF.5 Constructed images of 3-D confocal microscopy images of periodontal ligament fibroblasts on VEVK9 mixed with vPRG and vPVG at (a) day 1, (b) day7, (c) day 11 and (d) day21. (a1-d1) Vertical images and (a2 - d2) horizontal images. The bar represent 200  $\mu$ m.