

Supporting Information

Original paper entitled:

**Click-based injectable bioactive PEG-hydrogels guide rapid craniomaxillofacial
bone regeneration by spatiotemporal delivery of rhBMP-2**

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This file includes:

Figures S1 to S3

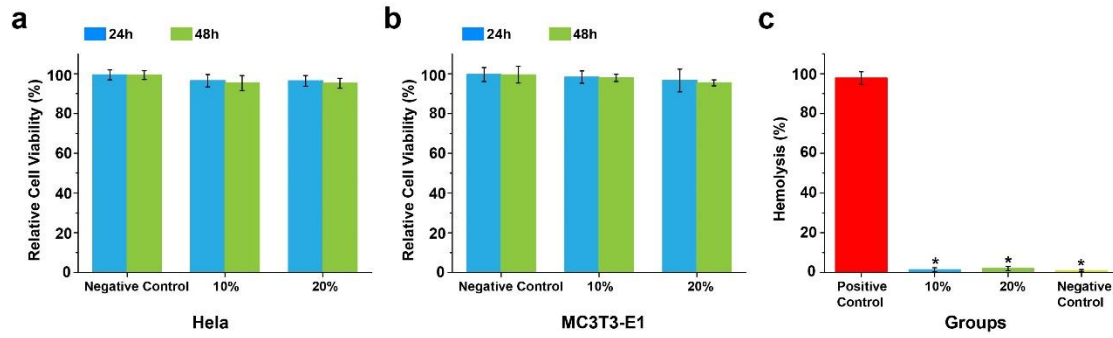


Figure S1. Biosafety evaluation of different hydrogel extracts. (a) Cytotoxicity tests of hydrogel extracts on hela cells. (b) Cytotoxicity tests of hydrogel extracts on MC3T3-E1. (c) Hemolysis assay of different concentrations of hydrogel extracts. * $p < 0.05$ vs. groups of positive control.

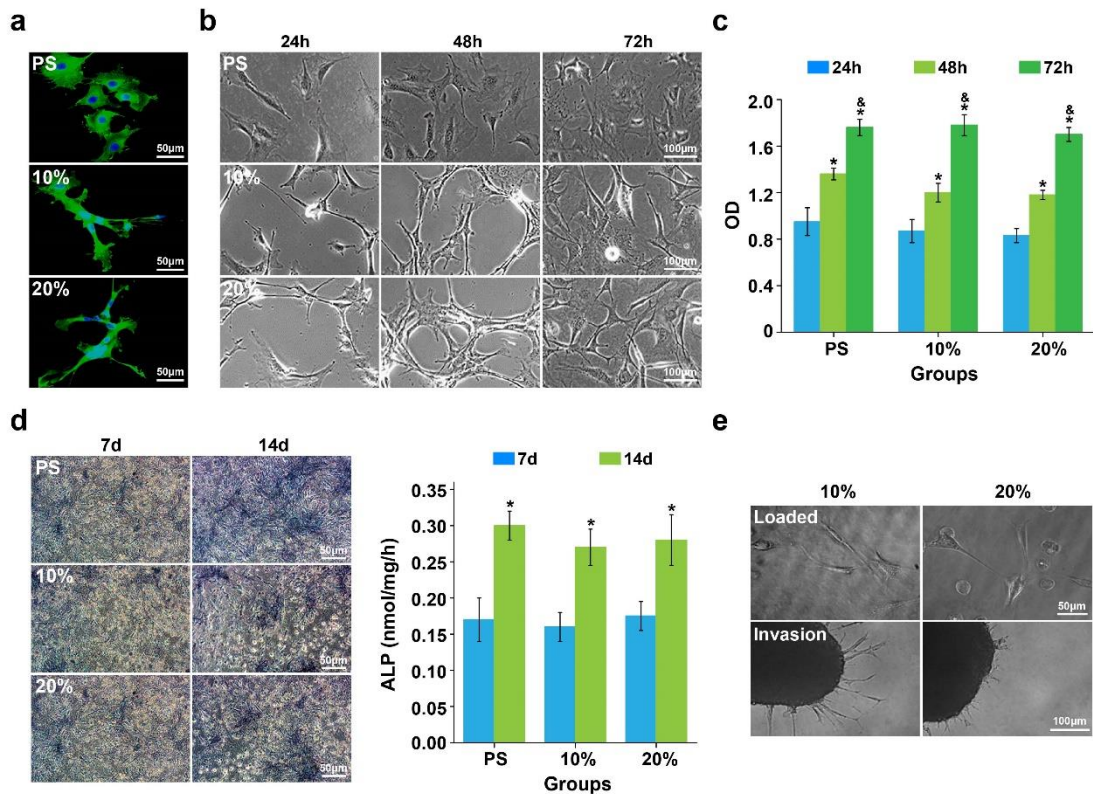


Figure S2. Effect of hydrogels on cells morphology, proliferation and osteogenesis of MC3T3-E1 cells. (a) MC3T3-E1 cell morphology on blank culture plates (PS), 10 wt% and 20 wt% hydrogel surfaces after 24h of culture. (b) MC3T3-E1 cell proliferation behaviors on blank culture plates (PS), 10 wt% and 20 wt% hydrogel surfaces after 24h, 48h and 72h of culture. (c) MC3T3-E1 cell proliferation measured using the Cell Counting Kit-8. Data are mean \pm SD; $n = 3$. * $p < 0.05$ vs. groups of 24h; & $p < 0.05$ vs. groups of 48h. (d) ALP expression and analysis of MC3T3-E1 cell cultured on hydrogels with different solid contents of 10 wt% and 20 wt%. Data are mean \pm SD; $n = 3$. * $p < 0.05$ vs. groups of 7d. (e) Cell growth morphology and the invasion distance of MC3T3-E1 cell loaded inside the hydrogel after 7d of culture.

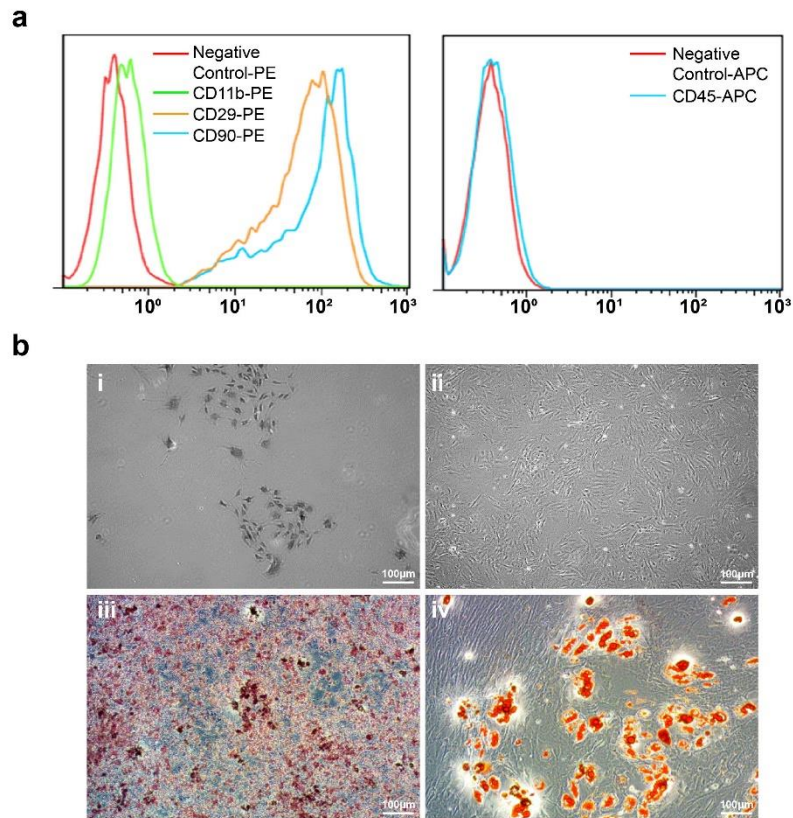


Figure S3. Identification of rBMSC. (a) Surface marker expression of cultured rBMSC. (b) Multidirectional differentiation ability of rBMSC. The primary cells are arranged in a whirlpool and became cell colonies (i). The cells of the third generation are fibroblast like (ii). Mineralized nodules formed after osteogenic induction (iii). Red fat droplets formed after adipogenic induction (iv).