Electronic Supplementary Information

Highly biosafe biomimetic stem cell membrane-disguised nanovehicles for cartilage regeneration

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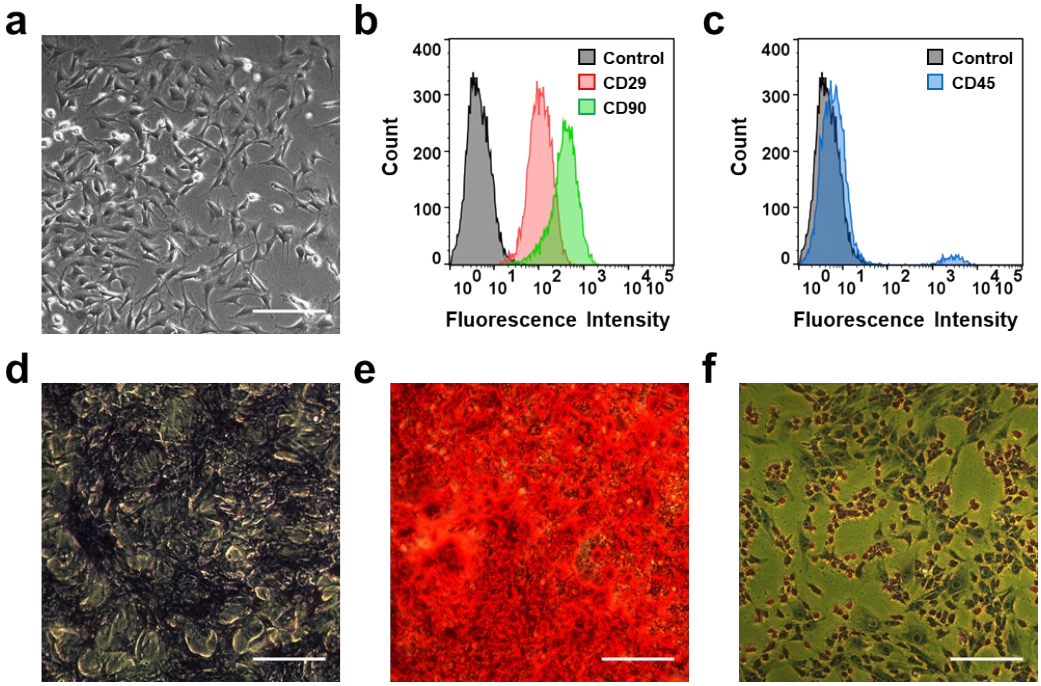

Fig. S1. The characterization of the isolated BMSCs (scale bars, 200 μm). (a) Passage 2 generation of BMSCs isolated from the femurs and tibias of a skeletally mature Sprague-Dawley rat. (b, c) Flow cytometry analysis for the positively expressed (CD29 and CD90, b) and negatively expressed (CD45, c) membrane markers of BMSCs. (d) Alkaline phosphatase staining of BMSCs under osteogenic induction for 14 d. (e) Alizarin red staining of BMSCs under osteogenic induction for 21 d. (f) Toluidine blue staining of BMSCs under chondrogenic induction for 28 d.

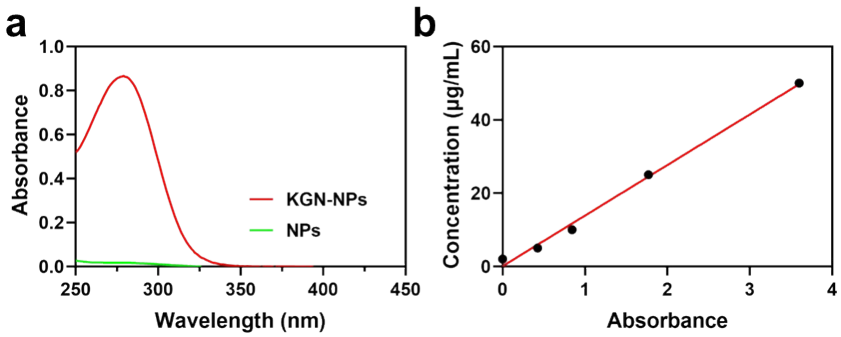

Fig. S2. The characterization of KGN loading and releasing of KGN-NPs. (a) The comparation of UV-vis absorption spectra between the dialysis solutions of NPs and KGN-NPs. (b) The linear regression between KGN concentration and UV-vis absorbance.

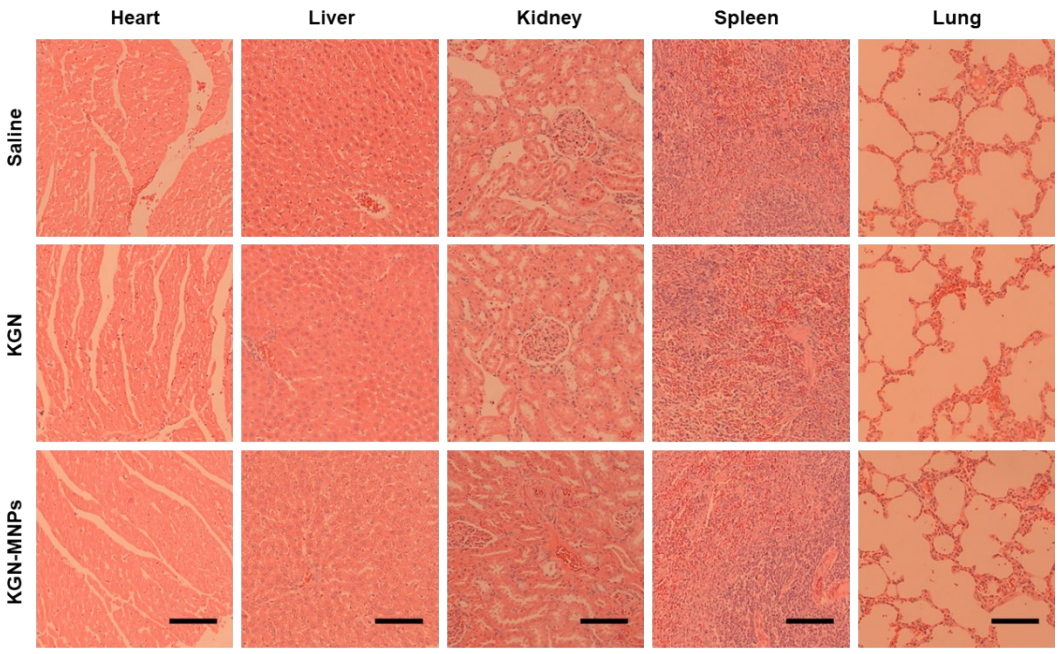

Fig. S3. *In vivo* biosafety evaluation of major organs of heart, liver, kidney, spleen and lung resolved by H&E staining (scale bars, 100 μm).

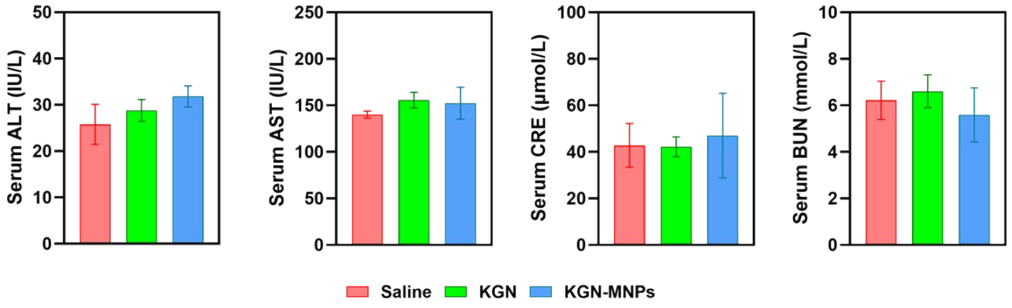

Fig. S4. Serum biochemical functional indicators of ALT, AST, CRE and BUN for systemic biosafety analysis. Data were presented as mean ± S.D. In all datasets, n = 6 independent experiments were performed.