

Supporting Information

Protein–Inorganic Hybrid Porous Scaffolds for Bone Tissue Engineering

*Minqi Lu,^{#a} Liangyan Sun,^{#b,c} Jinrong Yao,^a Bingjiao Zhao,^{b,c} Yuehua Liu,^{*b,c} Zhengzhong Shao,^a and Xin Chen^{*a}*

^aState Key Laboratory of Molecular Engineering of Polymers, Department of Macromolecular Science, Shanghai Stomatological Hospital & School of Stomatology, Laboratory of Advanced Materials, Fudan University, Shanghai, 200433, People's Republic of China

^bDepartment of Orthodontics, Shanghai Stomatological Hospital & School of Stomatology, Fudan University, Shanghai, 200433, People's Republic of China

^cShanghai Key Laboratory of Craniomaxillofacial Development and Diseases, Fudan University, Shanghai, 200433, People's Republic of China

[#] M. L and L. S contributed equally to this work.

^{*} Corresponding author: chenx@fudan.edu.cn (X. C.), liuyuehua@fudan.edu.cn (Y. L.)

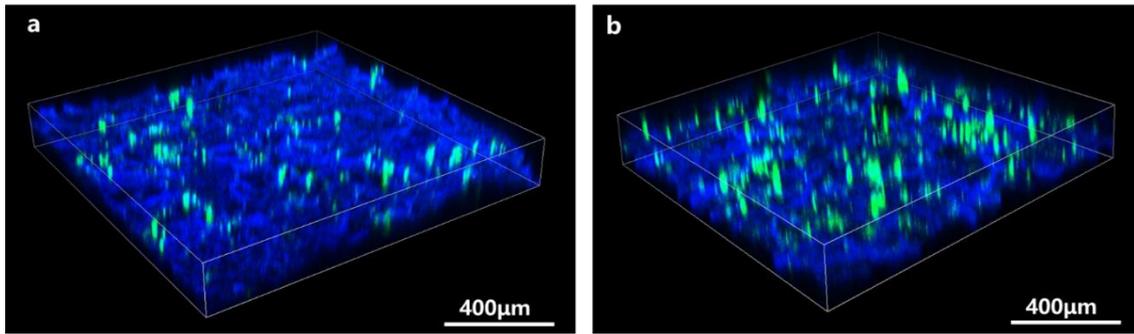


Fig. S1 Three-dimensional confocal images of BMSCs cultured on S4L5 porous scaffold for 3 days (a) and 7 days (b).

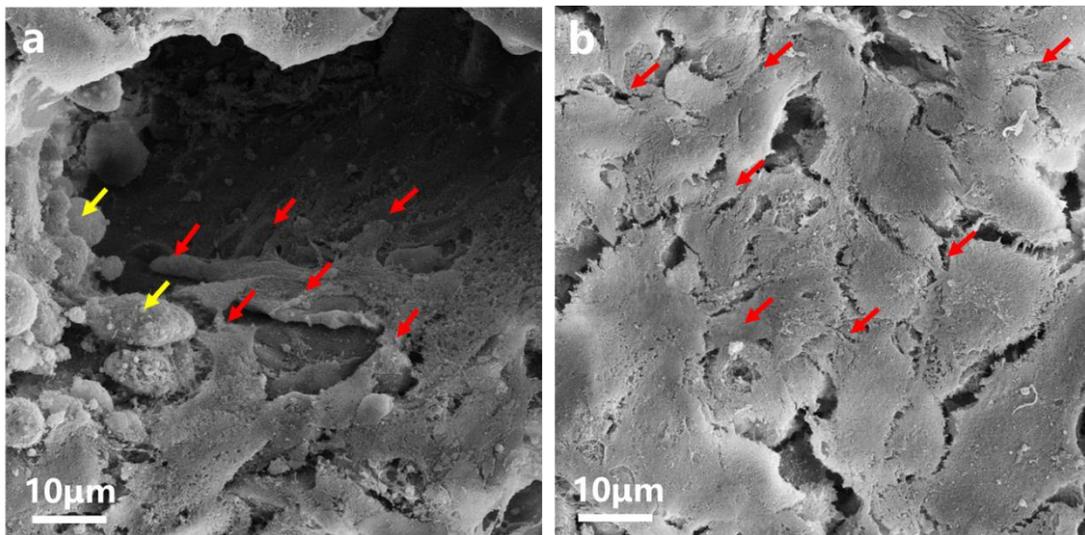


Fig. S2 SEM images of BMSCs cultured on S4L5 porous scaffolds for 3 days (a) and 7 days (b). (red arrows: spread morphology of BMSCs; yellow arrows: spherical morphology of BMSCs)

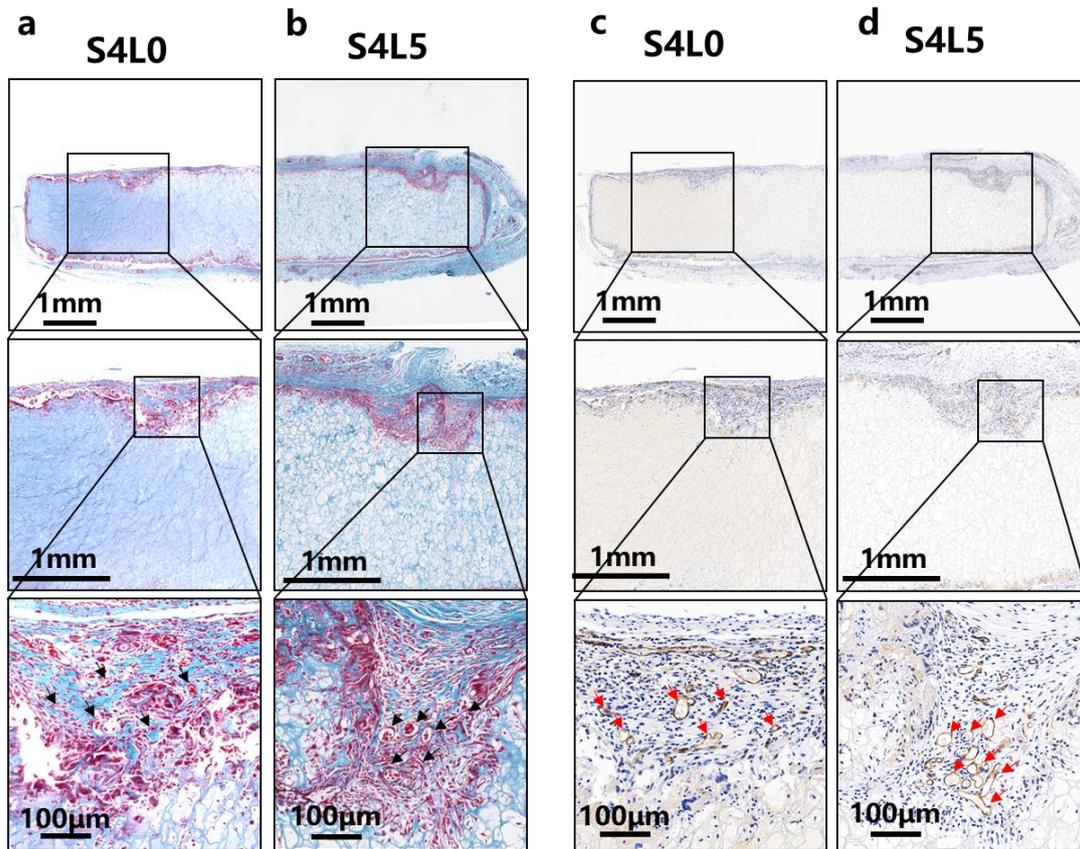


Fig. S3 (a, b) Masson staining images with different magnifications of S4L0 and S4L5 porous scaffolds after subcutaneous implantation for 2 weeks. The black arrows indicated the blood vessels, which contained red blood cells. (c, d) Immunohistochemistry staining images of the S4L0 and S4L5 porous scaffolds after subcutaneous implantation for 2 weeks assessed by CD31. The red arrows indicated new vessel formation in the interfacial zone between the scaffold and the host tissue.

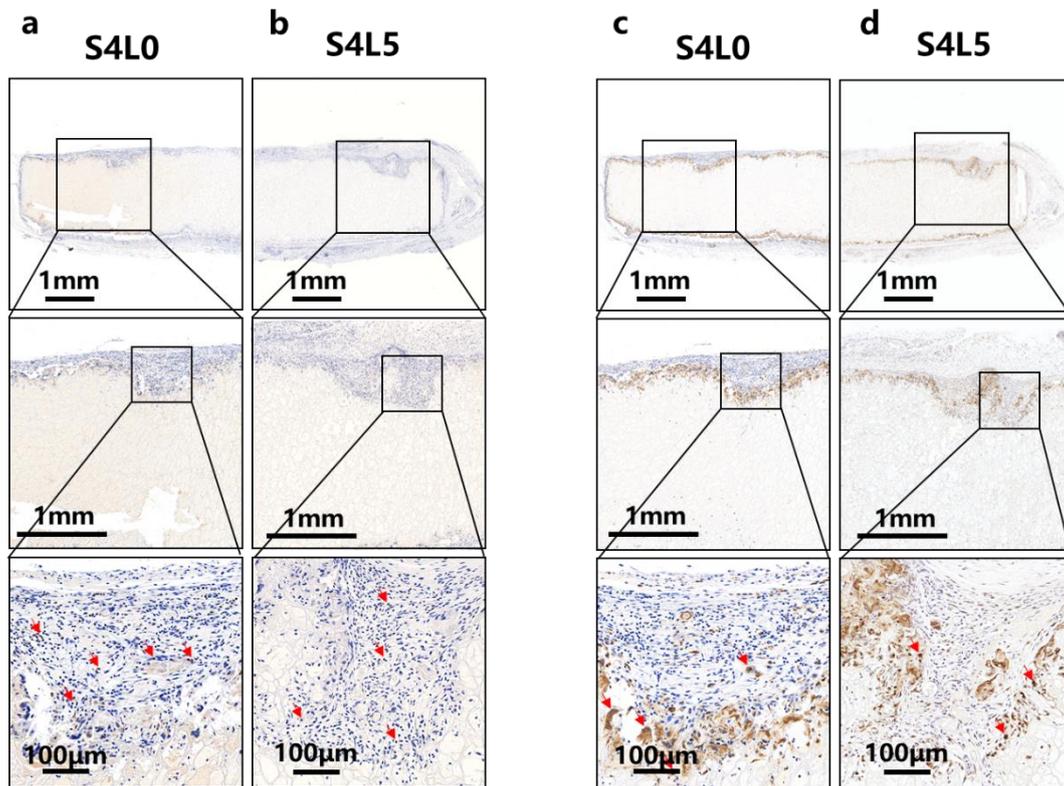


Fig. S4 Immunohistochemistry staining images of the S4L0 and S4L5 porous scaffolds after subcutaneous implantation for 2 weeks assessed by CD3 (lymphocytes were indicated by red arrows). (c, d) Immunohistochemistry staining images of the S4L0 and S4L5 porous scaffolds after subcutaneous implantation for 2 weeks assessed by CD68 (macrophages were indicated by red arrows).

Table S1. Premiers for RT-PCR analysis

Gene	Sequences (5'–3')	Product size (bp)
BMP-2	F: AAAGCGTCAAGCCAAACACAAACA R: CGACCAGAGGCATACAGGGACAAC	113
Runx2	F: TGAGGCCGCGCACGACAACC R: GCGAGGGCAGCACGGAGCACAG	108
OPN	F: CTGACGGCCGAGGTGATA R: CATGCGGGAGGTGAGGT	113
β -actin	F: GGCCGGGACCTGACAGACTACCTC R: GTCACGCACGATTTCCTCTCAGC	90