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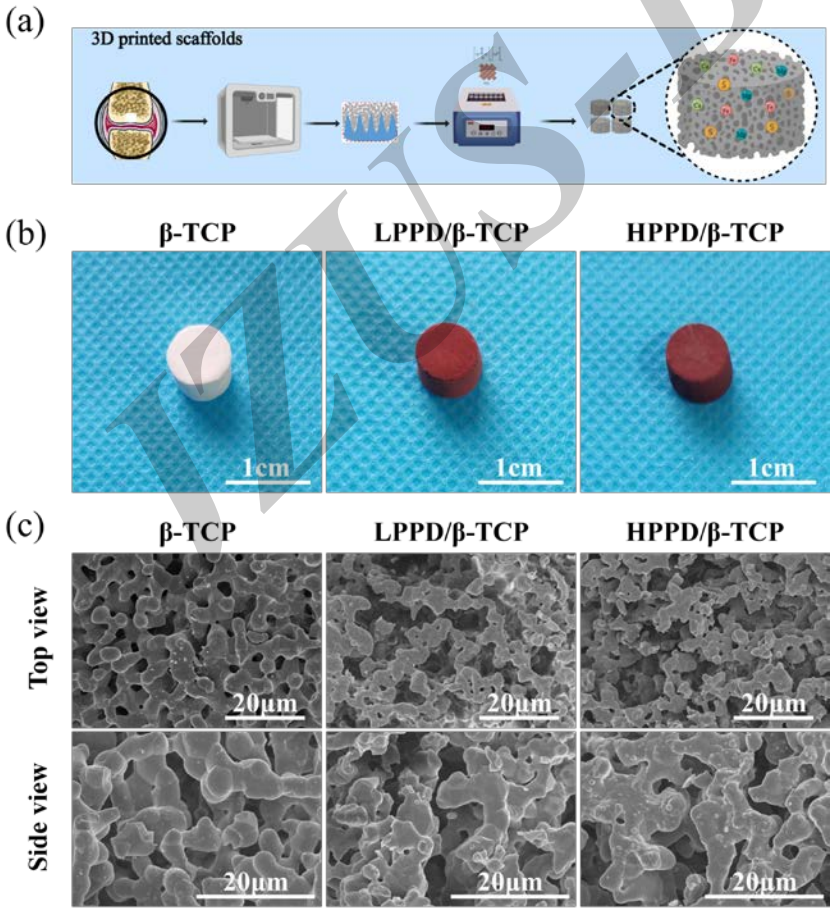
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Three-dimensional (3D) printing-assisted freeze-casting of processed pyritum-doped β-tricalcium phosphate biomimetic scaffold with angiogenesis and bone regeneration capability

Key words: Bone defect, Processed pyritum, Three-dimensional (3D) printing-assisted freeze-casting, Angiogenesis, Bone regeneration, VEGF-Notch1-BMP-2-OPN coupling

Research summary

This article mainly focuses on the 3D printing-assisted freeze-casting of processed pyritum-doped β-TCP biomimetic scaffold with angiogenesis and bone regeneration capability.

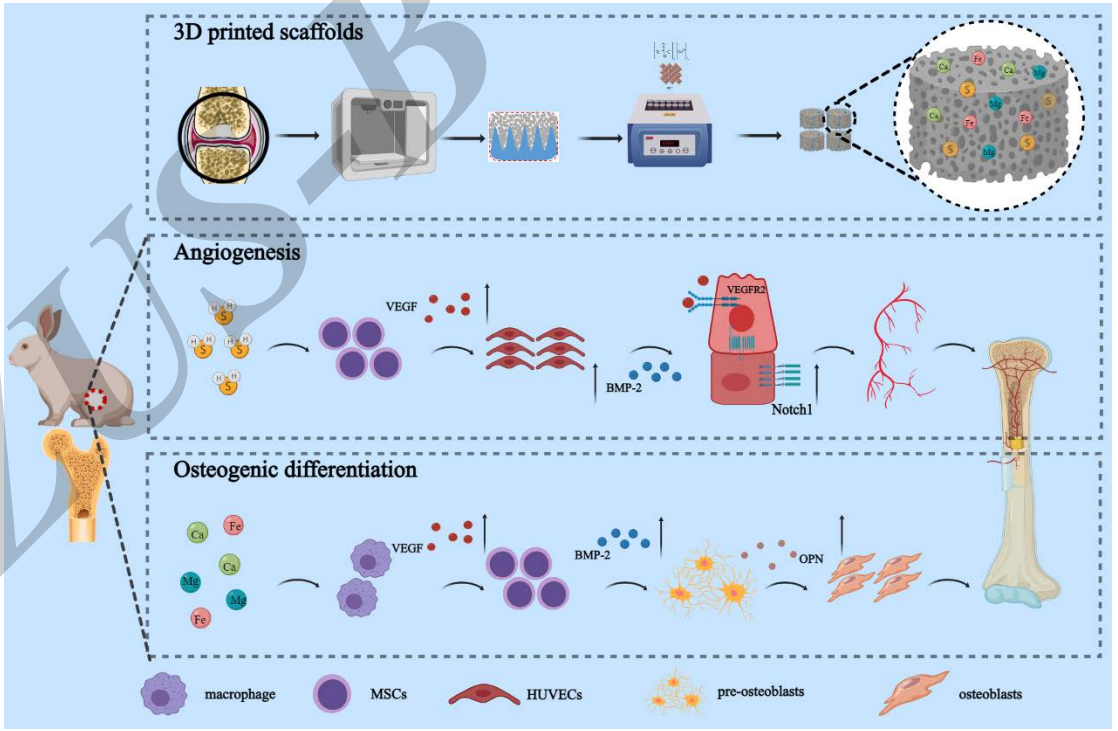


Innovation points

● Scaffold promotes angiogenesis-related cell proliferation and migration in vitro.

● Scaffold promotes osteogenic regeneration of bone defects in vivo.

● Scaffold has good biological activity and promotes angiogenesis and osteogenesis through VEGF-Notch1-BMP-2-OPN coupling, accelerating the bone repair process.



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