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Tissue-specific extracellular matrix scaffolds for the regeneration of spatially complex musculoskeletal tissues

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Extracellular matrix; Scaffold; Growth plate; Articular cartilage; Osteochondral defect

Abstract

Biological scaffolds generated from tissue-derived extracellular matrix (ECM) are commonly used clinically for soft tissue regeneration. Such biomaterials can enhance tissue-specific differentiation of adult stem cells, suggesting that structuring different ECMs into multi-layered scaffolds can form the basis of new strategies for regenerating damaged interfacial tissues such as the osteochondral unit. In this study, mass spectrometry is used to demonstrate that growth plate (GP) and articular cartilage (AC) ECMs contain a unique array of

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