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Regulatory Activity of Decellularized Matrix of Multipotent Mesenchymal Stromal Cells

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The decellularized extracellular matrix (dcECM) of native tissues and cultured cells has attracted the attention of researchers as a source of biological scaffolds for regenerative medicine. Cell-derived dcECM is used to study ECM as a regulator of the cell functional activity, as well as to mimic their tissue-specific microenvironment. Multipotent mesenchymal stromal cells (MSCs) are key components of connective tissue and synthesize a significant amount of ECM with various fibrillar and soluble components *in vitro*. The interaction of cells with ECM is bidirectional. The conditions of MSC cultivation manage ECM structure and functions. This, in turn, allows the use of dcECM from these MSCs to modulate various physiological processes after recellularization.

Keywords: extracellular matrix, multipotent mesenchymal stromal cells, decellularization, regenerative medicine