

Extracellular Matrix Hydrogels Originated from Different Organs mediate Tissue-Specific Properties and Function

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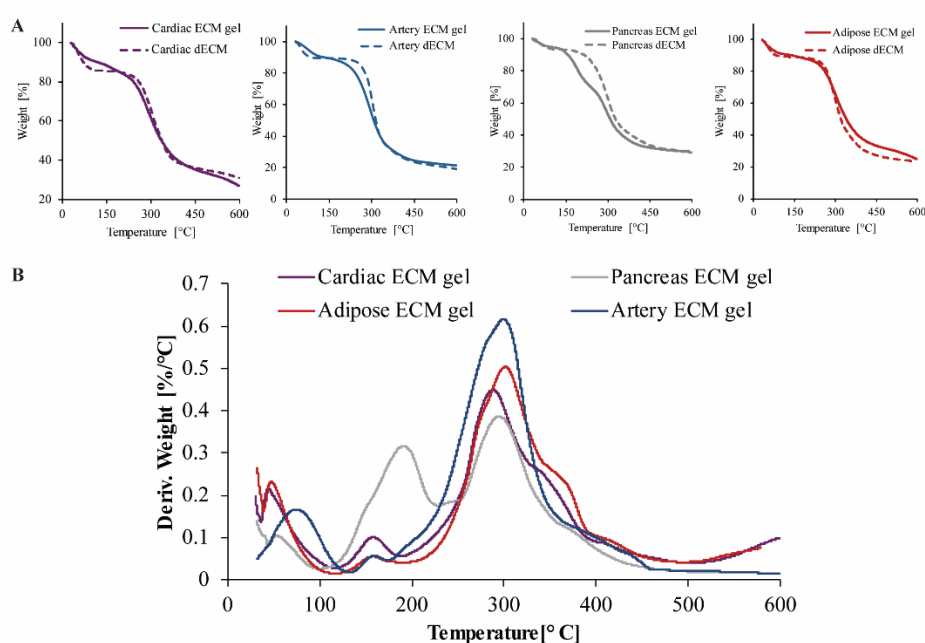


Figure S1. Thermal gravimetric analysis of pECM hydrogels and decellularized pECM.

Samples weight (A) and their 1st derivative (B) upon increasing the temperature of cardiac, artery, pancreas, and adipose pECM.

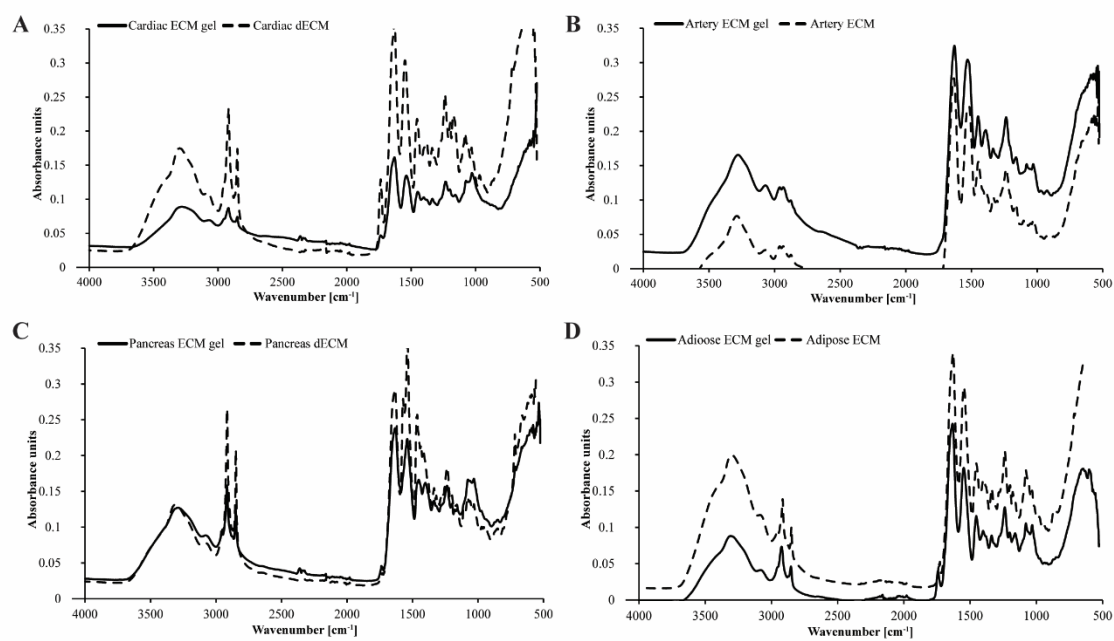


Figure S2. Preservation of the molecular structure of pECM hydrogels. FTIR analysis of pECM hydrogels and decellularized pECM of (A) cardiac, (B) artery, (C) pancreas, and (D) adipose pECM.

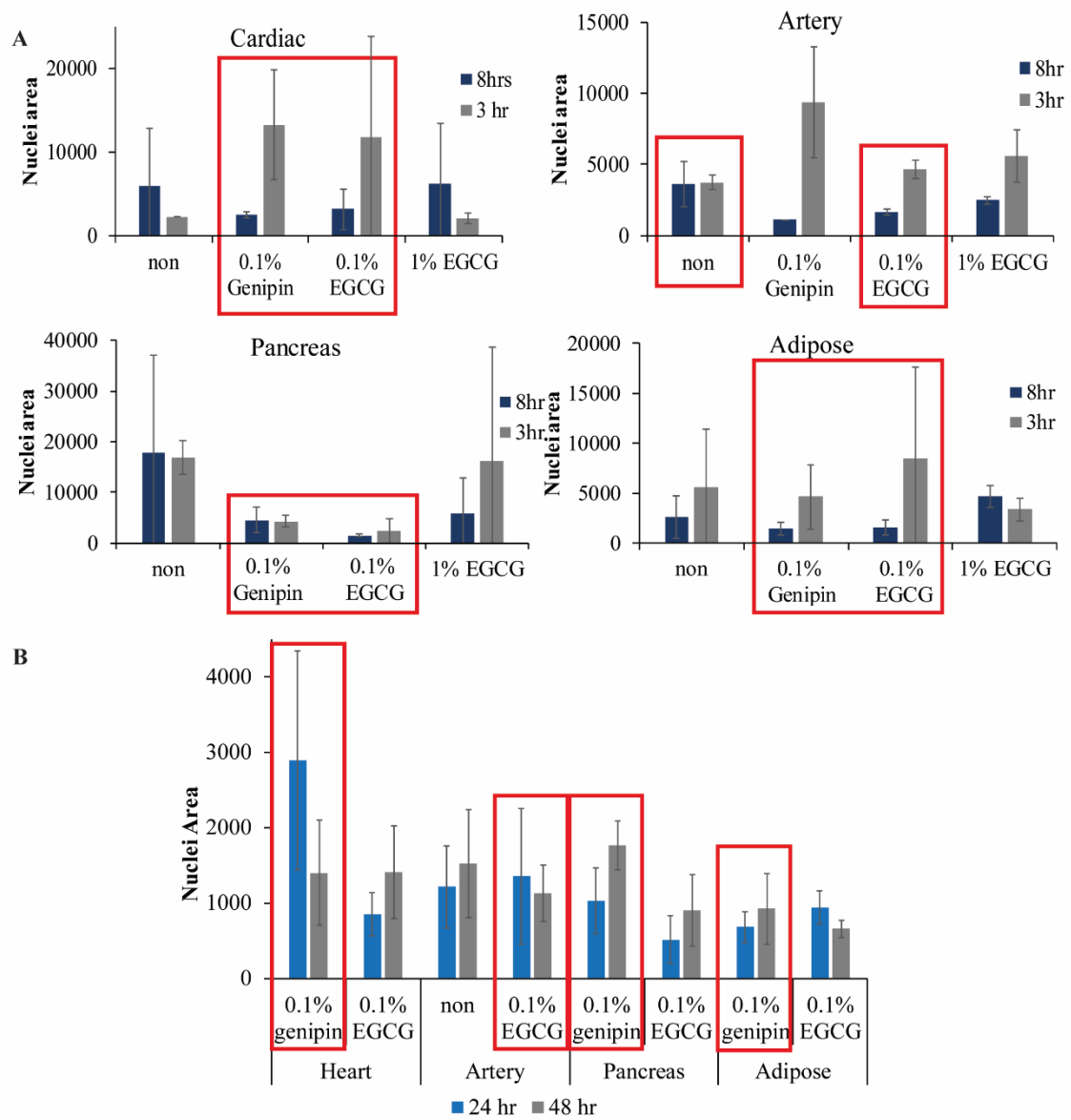


Figure S3. hiPSCs adherence to crosslinked pECM hydrogels. InCell 2000 quantitative analysis determining the hiPSCs adherence to pECM hydrogels supplemented with natural crosslinkers. Cell adherence is represented by the nuclei area. (A) Cell adherence 3 and 8 hours post-seeding using variable crosslinkers, and (B) 24 and 48 hours post-seeding using the chosen crosslinking conditions.

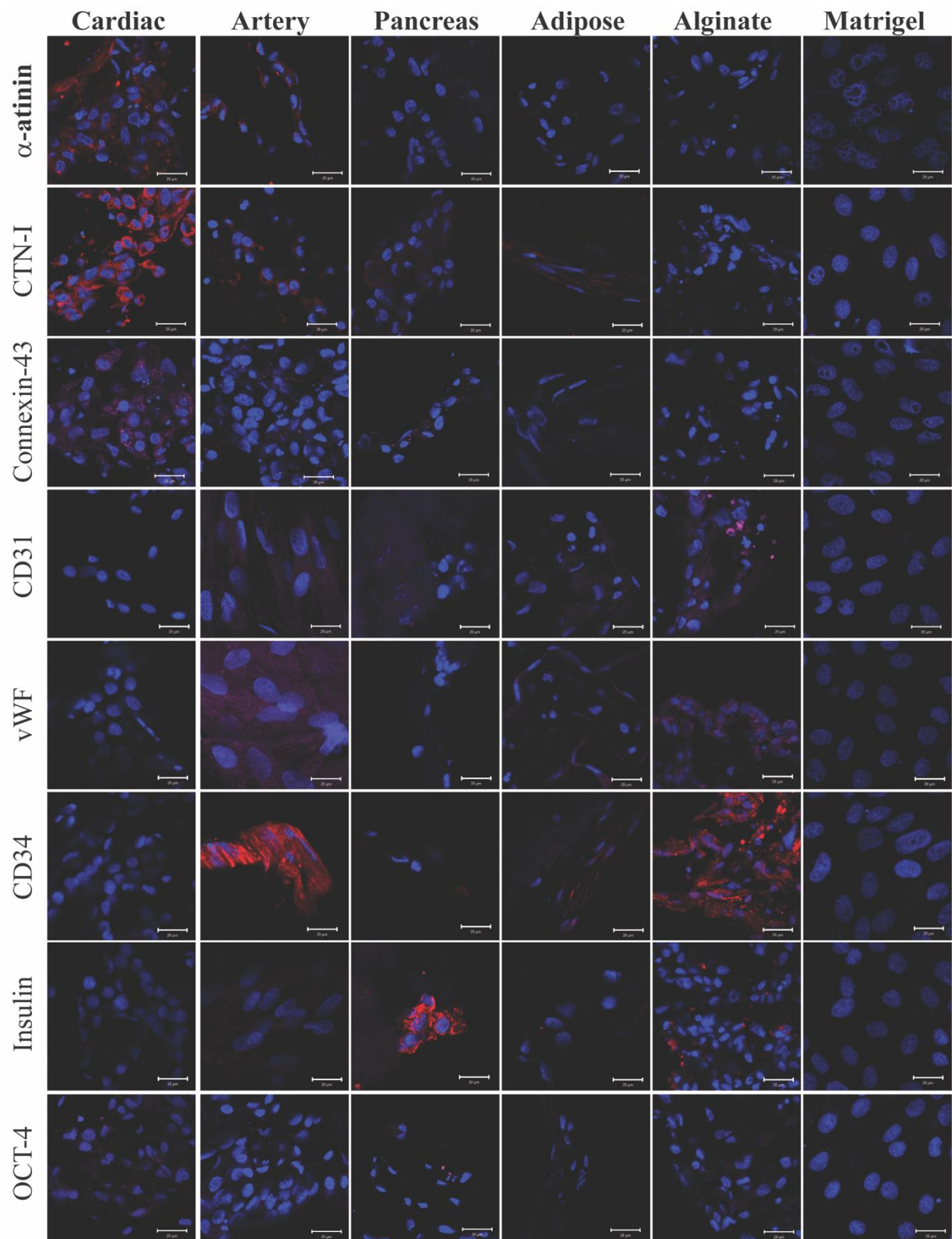


Figure S4. Spontaneous differentiation of hiPSCs on pECM hydrogels. Immunostaining of spontaneously differentiated hiPSCs 28 days post-seeding. Red: α -actinin, cTnI, CD34, and Insulin. Magenta: connexin-43, CD31, vWF and OCT-4. Blue: DAPI (DNA). Scale bars, 20 μ m.

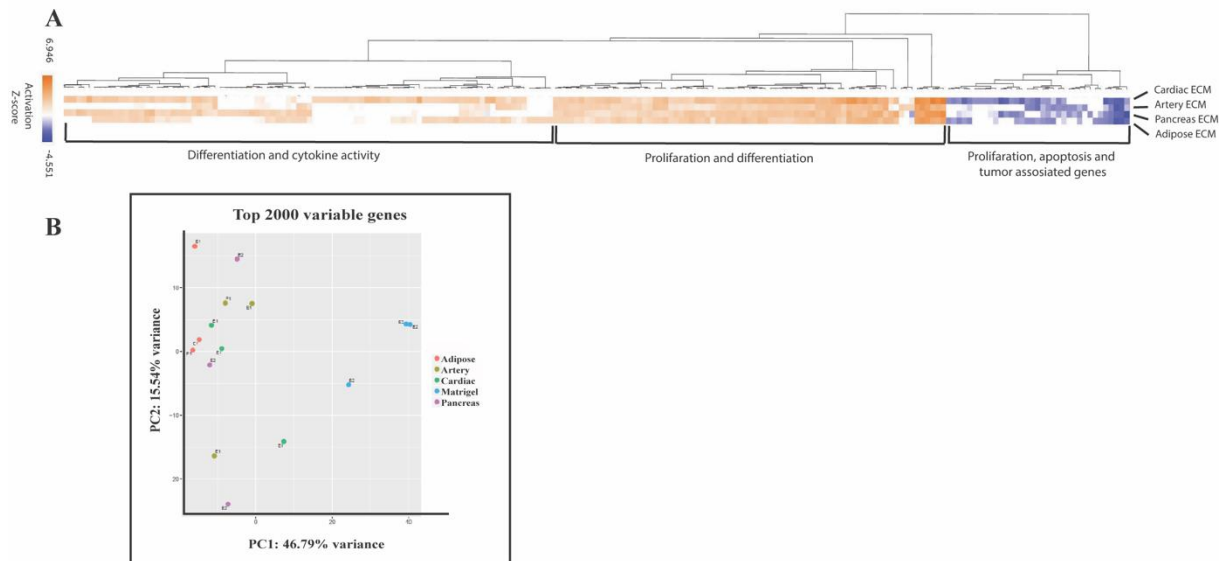


Figure S5. RNA-seq of spontaneously differentiated hiPSCs on pECM hydrogels. (A) Hierarchical clustering heat map of gene expression by hiPSCs cultured on the different pECM hydrogels relative to hiPSCs cultured on matrigel. Relative expression (z-score) is displayed in colors, in which orange indicates upregulation and blue indicates downregulation. (B) Principal component analysis (PCA) of the top 2000 variable genes. A comparison between cells cultured on all pECM hydrogels and matrigel.