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Supplementary Information

3D Cell Printing of Islet-laden Pancreatic Tissue-derived Extracellular Matrix Bioink Constructs for Enhancing Pancreatic Functions

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1. Islet viability assay

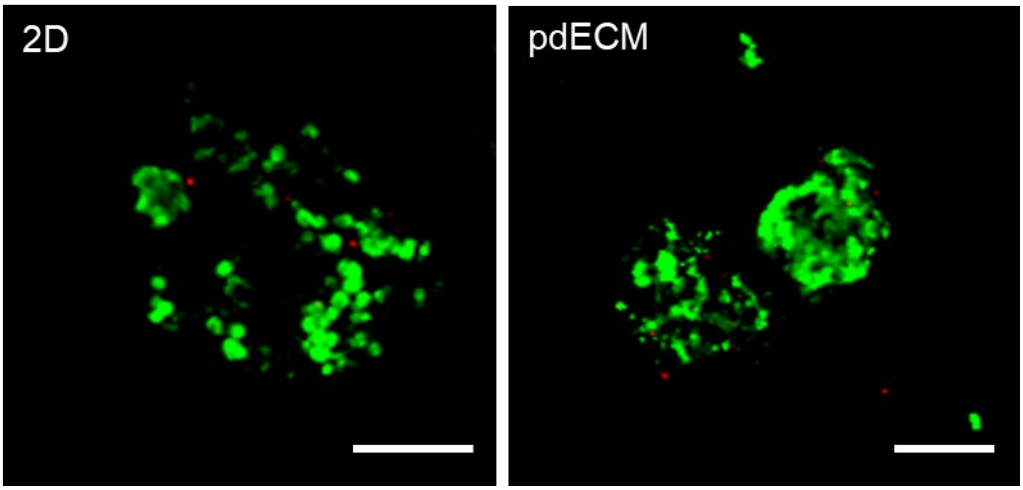

Fig. S1 Qualitative analysis of islet viability after 1 days culture in 2D condition and pdECM bioink condition . (Scale bar: 100 μm)

The confocal images show that both pdECM and 2D islet culture presented relatively high viability on day 1 compared to day 5, which means the cells did not die during handling or printing of the islets. It is expected that islets typically die in vitro as the culture continues over time.

Since the pancreatic islets are not proliferating cells in in vitro conditions[1], the viability of each islet may be relatively low at day 5. What we are focusing on in this figure is that the islet survival rate of each experimental condition is virtually the same. Therefore, it can be noted that there is no islet survival-related problem when using pdECM bioink compared to the 2D conventional culture.

Reference

1. T. C. Brelje, D. W. Scharp, P. E. Lacy, L. Ogren, F. Talamantes, M. Robertson, H. G. Friesen and R. L. Sorenson, *Endocrinology*, 1993, **132**, 879-887.