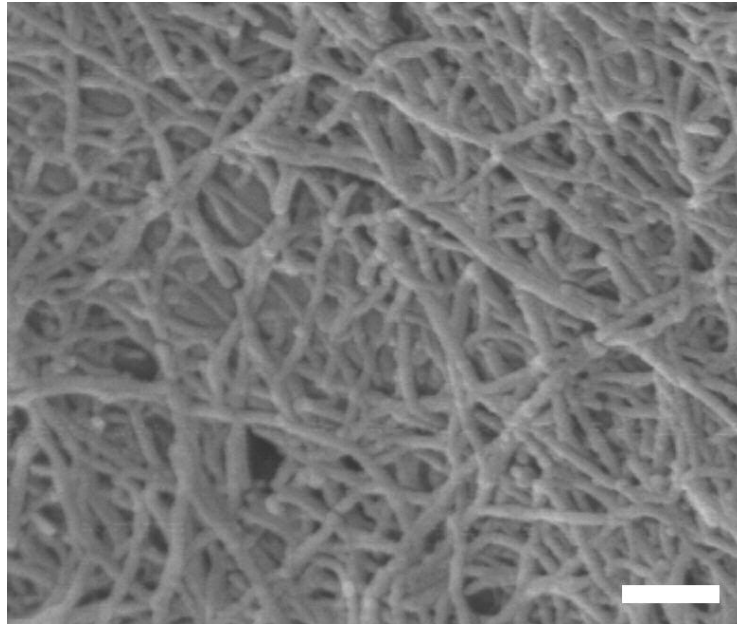


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44 **Supplementary Information**

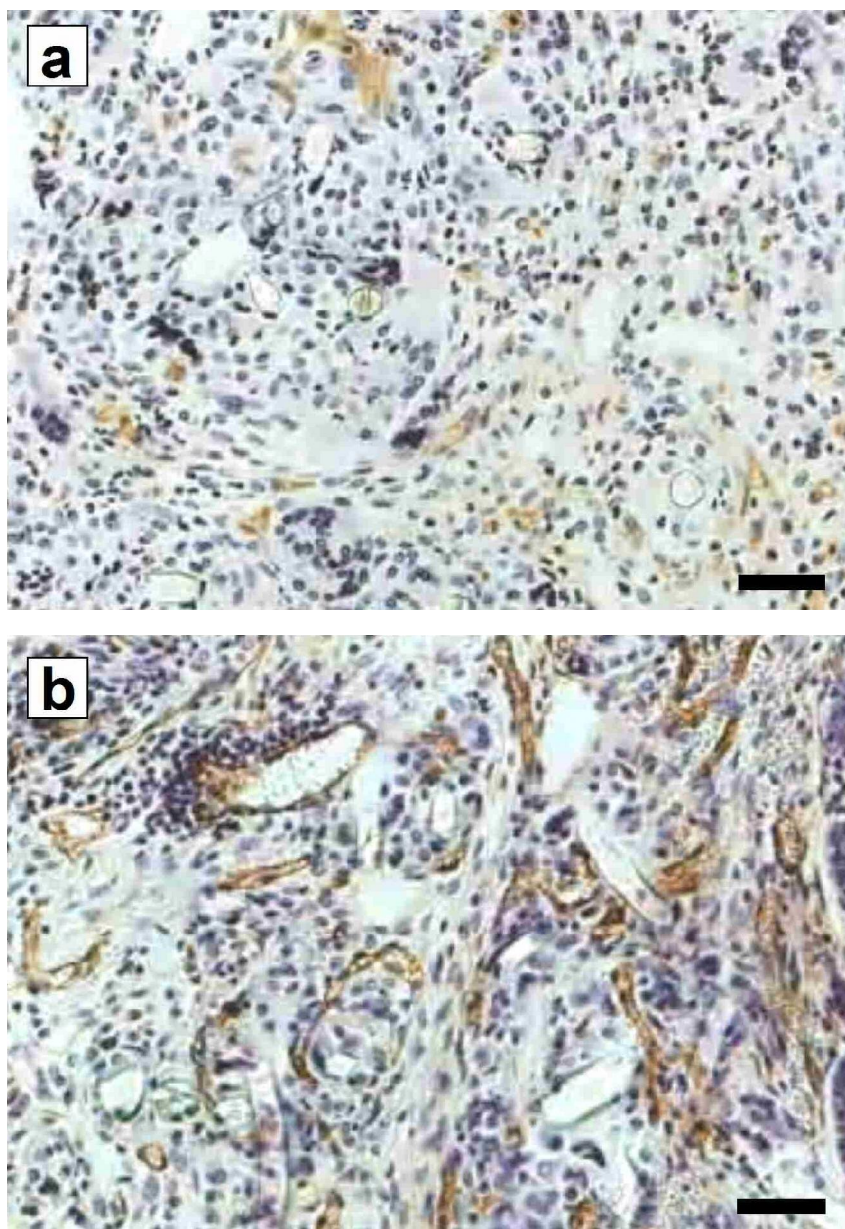
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46 **Supplementary Figure S1** Scanning electron micrograph of self-assembled HBPA
47 nanofiber bundles upon the surface of a PLLA microfiber. Heparin is complexed directly
48 to the HBPA nanofibers, which have diameters on the order of 7 nm. (scale bar represents
49 100 nm).
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52 **Supplementary Figure S2** CD31 staining of (a) **HBPA-CNTRL** and (b) **HBPA-GF**
53 scaffolds retrieved from the duodenal muscularis on post-transplant day 14. Biological
54 responses to HBPA-derived growth factors in the muscularis and epididymal fat pad (not
55 shown) were similar to those observed in the omentum. Scaffolds were implanted in the
56 muscularis via ~0.5 cm long incisions in the serosa (scale bars represent 25 μ m).
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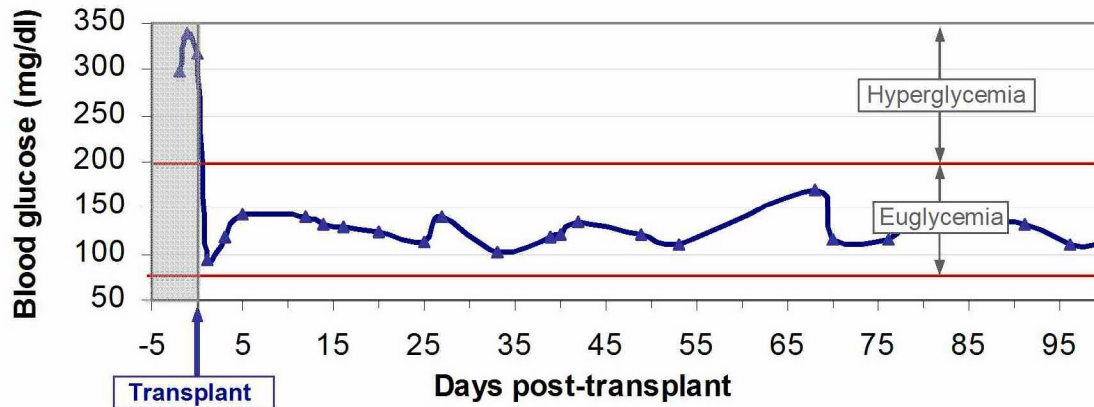
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3 **Supplementary Figure S3** Sample blood glucose profile of an **HBPA-GF** specimen that
4 achieved sustained normoglycemia within the first day post-transplant. Prior to
5 transplantation, blood glucose levels were >300 mg/dL due to streptozotocin-induced
6 diabetes. After receiving 250 islets in the presence of the **HBPA-GF** scaffold, blood
7 glucose levels quickly dropped below 200 mg/dL and remained there for the remainder of
8 the 100 day observation period.
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Supplementary Figure S1 Scanning electron micrograph of self-assembled HBPA nanofiber bundles upon the surface of a PLLA microfiber. Heparin is complexed directly to the HBPA nanofibers, which have diameters on the order of 7 nm (scale bar represents 100 nm).



Supplementary Figure S2 CD31 staining of (a) HBPA-CNTRL and (b) HBPA-GF scaffolds retrieved from the duodenal muscularis on post-transplant day 14. Biological responses to HBPA-derived growth factors in the muscularis and epididymal fat pad (not shown) were similar to those observed in the omentum. Scaffolds were implanted in the muscularis via ~0.5 cm long incisions in the serosa (scale bars represent 25 μ m).



Supplementary Figure S3 Sample blood glucose profile of an **HBPA-GF** specimen that achieved sustained euglycemia within the first day post-transplant. Prior to transplantation, blood glucose levels were >300 mg/dL due to streptozotocin-induced diabetes. After receiving 250 islets in the presence of the **HBPA-GF** scaffold, blood glucose levels quickly dropped below 200 mg/dL and remained there for the remainder of the 100 day observation period.