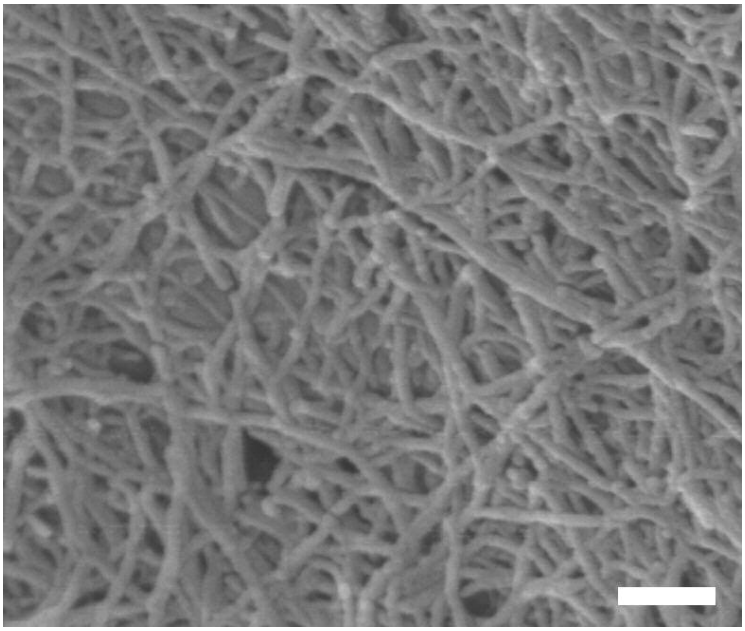
Supplementary Information

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 μm).

Supplementary Figure S3 Sample blood glucose profile of an **HBPA-GF** specimen that achieved sustained normoglycemia 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.



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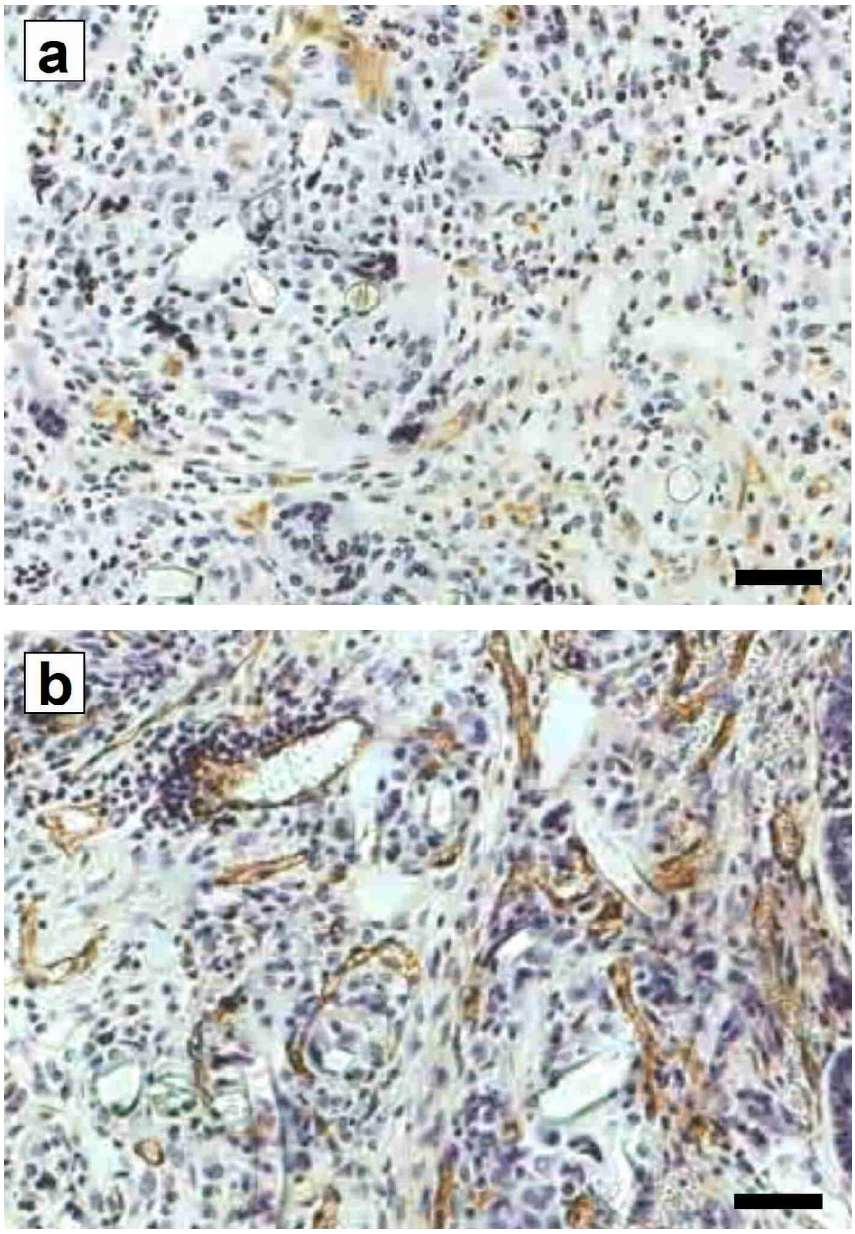

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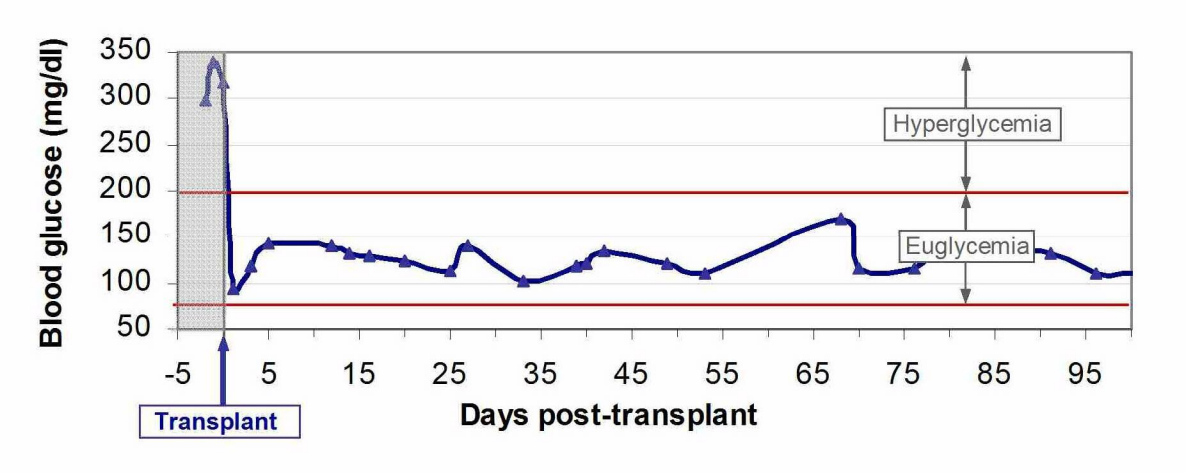

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