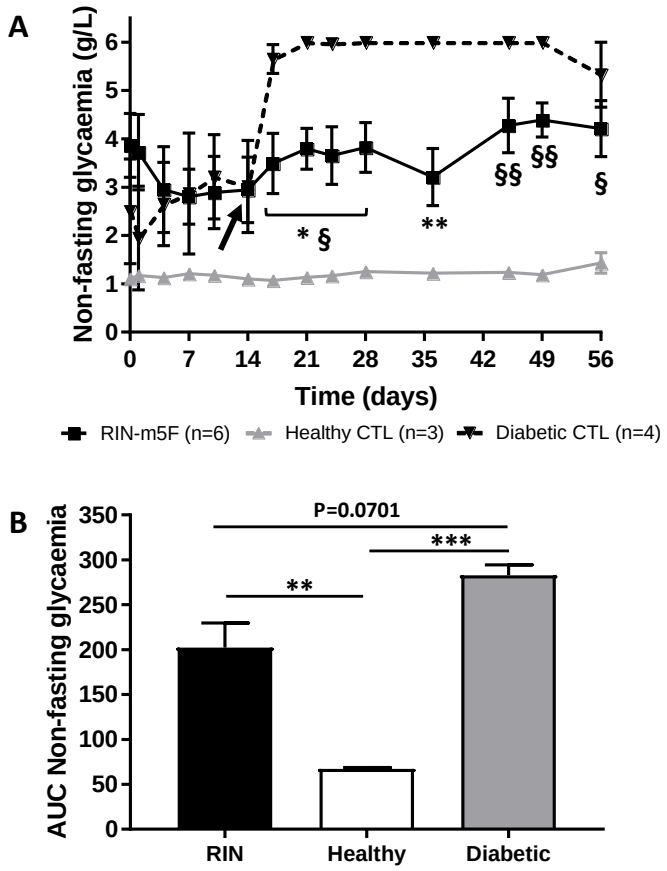
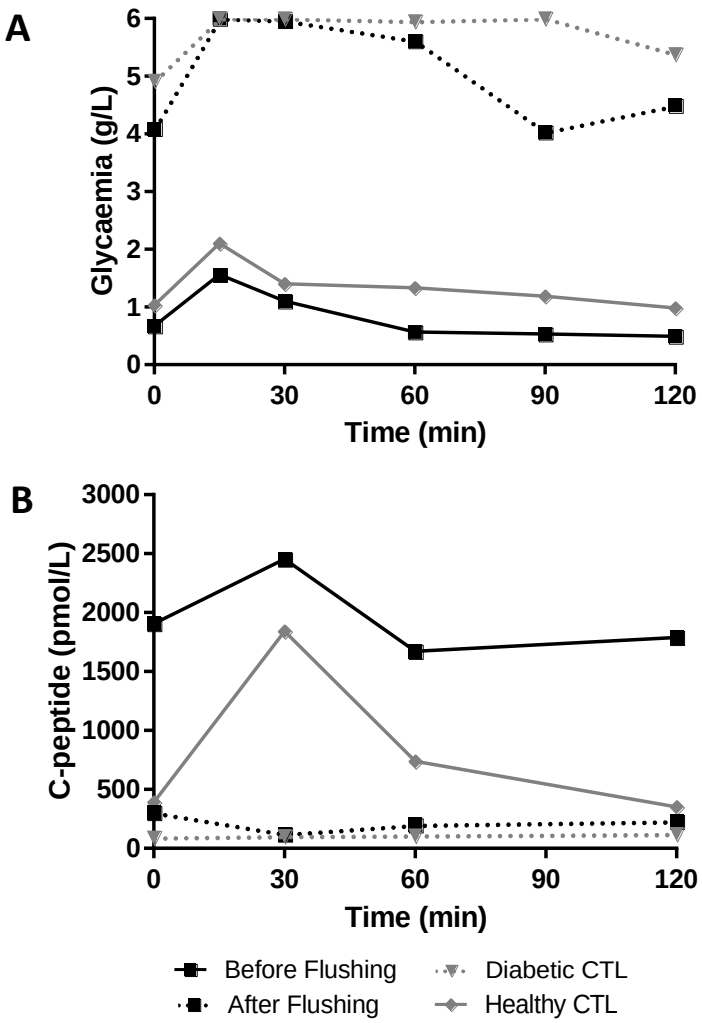
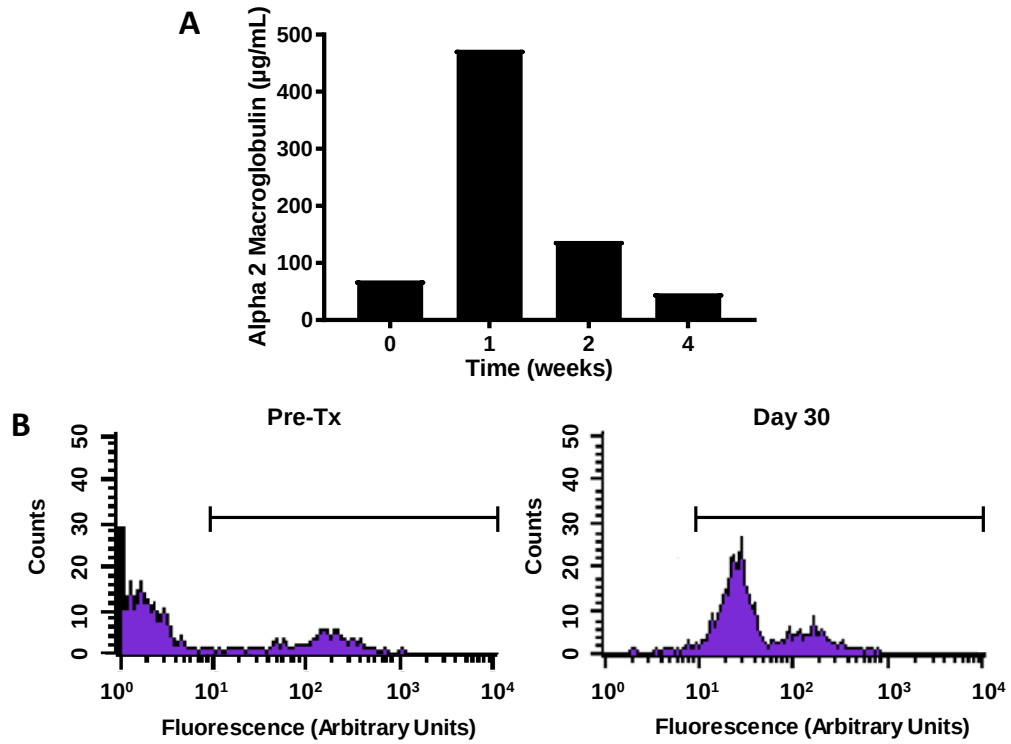
SUPPLEMENTARY MATERIAL



SI-1. Injection of RIN-m5F cells in MailPan® implanted in diabetic rats with partially normalized glycemia. (A) Non-fasting glycemia of rats that received RIN-m5F cells in MailPan® (RIN group n=6), healthy controls (n=3) and diabetic controls (n=4). Mean±SEM. * and ** $p<0.05$ and 0.01 vs. diabetic controls, § and §§ $p<0.05$ and 0.01 vs. healthy controls two-way ANOVA. Black arrow indicates the time when exogenous insulin therapy was stopped. (B) AUC calculated from glycemia curves. Mean±SEM. ** and *** $p<0.01$ and 0.001.



SI-2. Flushing out cells from the device impairs glucose tolerance and dramatically decrease C-peptide level. Glycaemia follow up (A), and C-peptide level (B) after OGTT performed on one rat with RIN-m5F cells into the MailPan® before and after flushing out the cells from the device.



SI-3. A hole in MailPan® device results in immunization of one recipient against allogeneic islets. (A) Plasma levels of α2-Macroglobulin in one non-diabetic rat, after injection of 5000 allogeneic IEQ (T=0). MailPan® device of this rat was pierced with a needle during the implantation procedure. (B) Presence of anti-Dark Agouti antibodies in serum the Lewis recipient with damaged device assessed by flow cytometry, before and 30 days after injection of 5000 IEQ from Dark Agouti in MailPan®.

Movies S1. Live imaging of microcirculation around MailPan® clearly shows blood flow. Imaging performed after 6 months of implantation, using orthogonal spectral imaging spectroscopy (Microscan®).