Nyqvist et al. Legends to Supplemental Data Movies

Supplement 1. A 3D reconstruction made from an image z-stack corresponding to 58 μm shows the GFP fluorescence in a freshly isolated Tie2-GFP islet. The image stack is rotated 130° to display the continuous intraislet network of ECs.

Supplement 2. An image z-stack, starting at the kidney surface and going into the Tie2-GFP islet graft, is shown. The captured GFP fluorescence (green) is merged with the reflection image (blue). At the top section, the kidney capsule can be seen to cover most of the graft, whereas deeper in the graft the GFP fluorescent donor ECs can be seen to form vessels among the islet cells.

Supplement 3. A time-sequence of images captured from one optical section in a Tie2-GFP islet graft is shown. During the time-sequence, a pulse of Texas Red-Dextran (red) was added to the perfusion buffer. Texas Red-Dextran filled both fluorescent (green) and non-fluorescent vessels in a similar fashion before it was gradually flushed away.

Supplement 4. A 3D reconstruction made from an image z-stack of a Tie2-GFP islet graft is shown. The image stack corresponding to 42 μm was captured during continuous addition of Texas Red-Dextran to the perfusion buffer. The fluorescence from GFP (green) and Texas Red-Dextran (red) were merged to display Texas Red-Dextran perfused donor-derived (green and red) and host-derived (red) vessels. As the reconstruction is rotated 70°, the islet graft vasculature can be seen to consist of perfused and connected vessels formed by ECs of both donor and host origin.