Supplementary Data Figure Captions

Fig. S1. (A) Titanium tube assembly. PVC heat shrink tubing (blue, left) was fused around 3 identical longitudinally-cut segments of Ti tubing (middle), to reassemble tubes (right).

Fig. S2. EPCs on Ti implant surface stained for PECAM (green). Nuclei stained with Hoechst 34580 (blue), showing presence of additional cells in a non-uniform distribution overlying confluent EPCs. (A) Scale bar = 200 μm. (B) Scale bar = 100 μm.

Fig. S3. EPCs on Ti tube surface after 3 days implantation, showing "peeling edge," as a consequence of tube disassembly and dissection. This pattern was observed at edges of confluent areas of EPCs on all explants after dissection and 'breaking-open' of Ti tube. Scale bar = 200 μm.

Fig. S4. EPCs visualized with minimally invasive Cellvizio fluorescent microscopy. (A) EPCs pre-stained with PKH26 (green) 3 weeks before implantation, visualized by percutaneous insertion of probe *in vivo*. Scale bar = 50 μm. (B) EPCs cultured *ex vivo* and stained with Cell Tracker Orange (green), visualized by direct contact with probe. Scale bar = 50 μm.