

Supplemental Figure 1: Immunofluorescent images of Ki-67 positive cells (green) and DAPI (blue) of HMECs cultured on the BMC of porcine urinary bladders exposed to water (A), Triton X-100 (B), CHAPS (C), sodium deoxycholate (D), and SDS (E) for 24hrs. Percentage of cells positive for Ki-67 was determined for each group (F). Scale bar represents 50 μ m. Graph shows mean \pm standard error, and * indicates significance at $p < 0.05$.

Supplemental Figure 2: Biochemical assays to quantify soluble protein (A), VEGF (B), and bFGF (C) normalized to dry weight tissue. Graph shows mean \pm standard error.

Supplemental Figure 3: Graphical examples of the semi-quantitative scoring of the HMECs. H&E images were evaluated by five blinded investigators using a standardized system. Criteria included confluence, phenotype, and infiltration. The confluence score is defined as the percentage of the BMC surface covered with cells. A score of 100 would indicate a fully coated surface with adjoining cells and no gaps (A). A score of 85 indicates 15% of the BMC surface is absent of cells, as in image B. The phenotype score is defined as the percentage of healthy appearing cells. A healthy cell is flat and fully adhered to surrounding tissue and other cells (C). An unhealthy cell is round and not adhered to the surrounding tissue or other cells. Approximately 40% of the cells in image D appear unhealthy. The infiltration score is defined as the percentage of the total depth in which cells have migrated within the tissue. For example, in image E cells are found throughout the entire depth of the scaffold. Thus, image E would correspond to an infiltration score of 100. The opposite can be said about image F, where no cells are infiltrating into the scaffold. Therefore, image F corresponds to a score of 0.

Supplemental Figure 4: SEM image of a BMC fiber network where cells were physically removed and no chemical treatments were used.

Supplemental Figure 5: TUNEL staining of HMECs cultured on the BMC of porcine urinary bladders exposed to water (A), Triton X-100 (B), CHAPS (C), sodium deoxycholate (D), and SDS (E) for 24hrs. Few TUNEL-positive cells were found on the BMC exposed to Triton X-100. Scale bar represents 50 μ m.