**Supplementary Figure legends**

**Supplemental Table 1. Sepsis and control patient demographics.** Sepsis patient plasma was collected on the day of admission. Presented are age, sex, SOFA score and culture results.  Control patient plasma was collected from healthy adult volunteers.

**Supplementary Figure 1. RT-qPCR IL-6 gene expression in human lung microvascular endothelial cells (HLMVEC) treated with rhPRG4.** ΔΔCt values plotted for each HLMVEC culture sample treated with sepsis patient plasma (sea#) compared to the same plasma patient sample given 100 µg/mL rhPRG4. LPS concentration was 250 ng/mL. Significance was identified at a ΔΔCt value of <0.05 or > 2. 0

**Supplementary Figure 2. RT-qPCR IL-6 gene expression in human lung microvascular endothelial cells (HLMVEC) treated with rhPRG4 at two different concentrations.** ΔΔCt values plotted for each HLMVEC culture sample treated with sepsis patient plasma and control groups compared to media levels of IL-6 gene expression. SEA# denotes patient plasma sample. +50 or +100 indicates samples treated with either 50 or 100 µg/mL rhPRG4. LPS concentration was 250 ng/mL. Significance was identified at a ΔΔCt value of <0.05 or >2. 0

**Supplementary Figure 3. VE-cadherin staining in mouse lung microvascular endothelial cells (MLMVEC).** All four genotypes of MLMVECs were immunolabeled for VE-cadherin (red) and counterstained with DAPI (blue). Merged VE-cadherin and DAPI stained nuclei appear pink in the images while the cell membrane is visible as red outlines.

**Supplementary Figure 4. PRG4 levels in control and sepsis patient plasma.** PRG4 levels were measured via ELISA in triplicate from 7 controls and 14 sepsis patients and compared using the one-tailed Welch’s t-test. Data presented are both mean ± SEM and individual values. \*P<0.05.