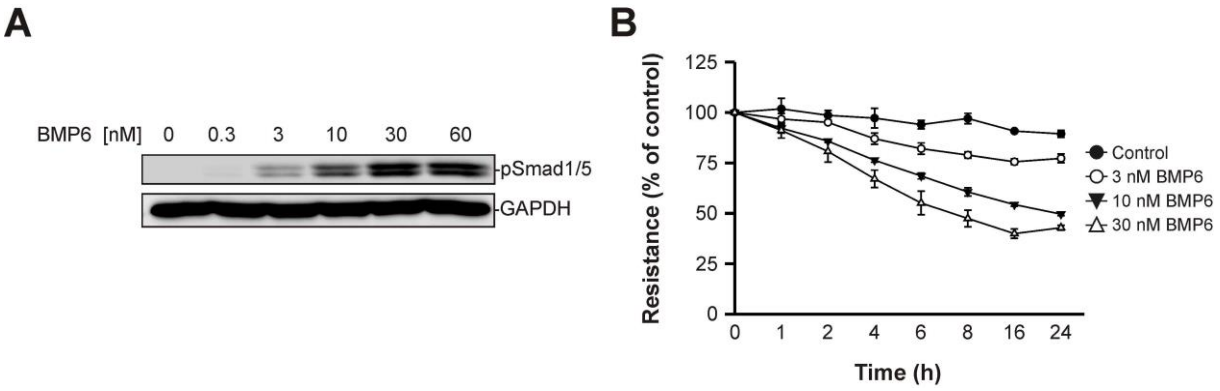

Figure S1 (related to Figure 1): BMP6-induced signaling and permeability is dose-dependent. (A) BMP6-induced phosphorylation of SMAD1/5 is dose-dependent. HUVECs were stimulated with increasing concentrations of BMP6 for 45 minutes, lysed and blotted as indicated. **(B)** BMP6 stimulation decreases TEER in a dose-dependent manner. HUVECs were seeded in transwell-inserts and stimulated with different concentrations of BMP6 for 24 hours. At indicated time points, TEER was measured. Bar chart represents means ± s.d. normalized to untreated control cells from in three independent experiments.

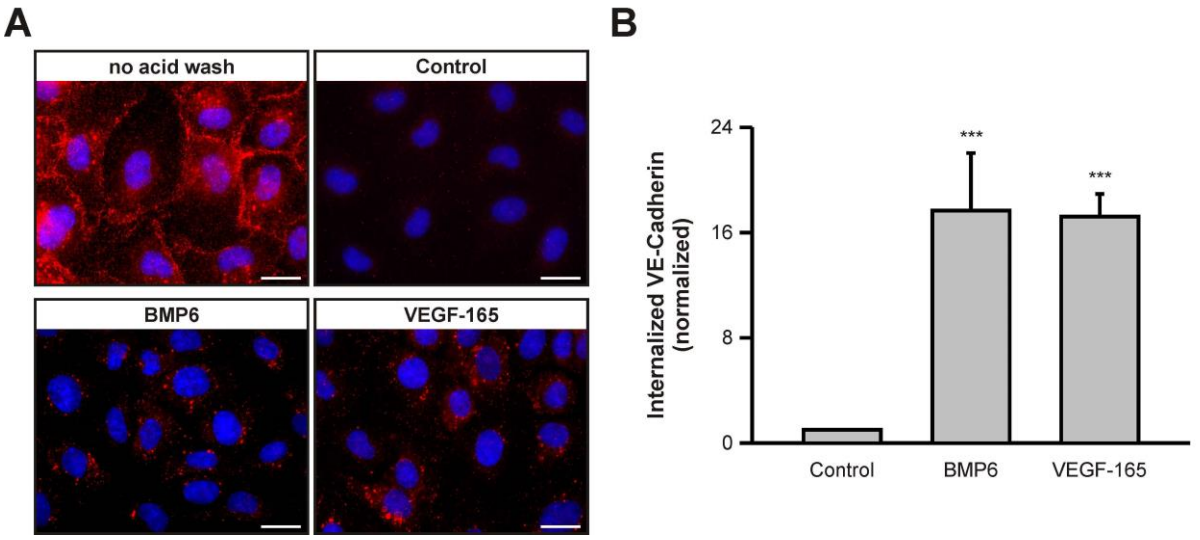

Figure S2 (related to Figure 2): BMP6 stimulation increases internalization of VE-cadherin in confluent HUVEC cultures. (A) BMP6 increases internalization rate of cell surface-labeled VE-cadherin. Confluent HUVECs were incubated with VE-cadherin extracellular domain targeting antibody BV6 at 4°C. VE-cadherin internalization was monitored by uptake of BV6 antibody upon growth factor treatment for four hours at 37°C. Remaining cell surface antibodies, visible in no acid wash conditions, were washed away with a mild acid solution and internalized VE-cadherin antibodies were visualized in fixed cells by addition of a fluorophore-coupled secondary antibody. Scale bar represents 20 µm. **(B)** Quantification of VE-cadherin vesicles visible in (A) normalized to untreated control cells. Bar chart represents means ± s.d. from three independent experiments. ***$p \leq 0.001$.

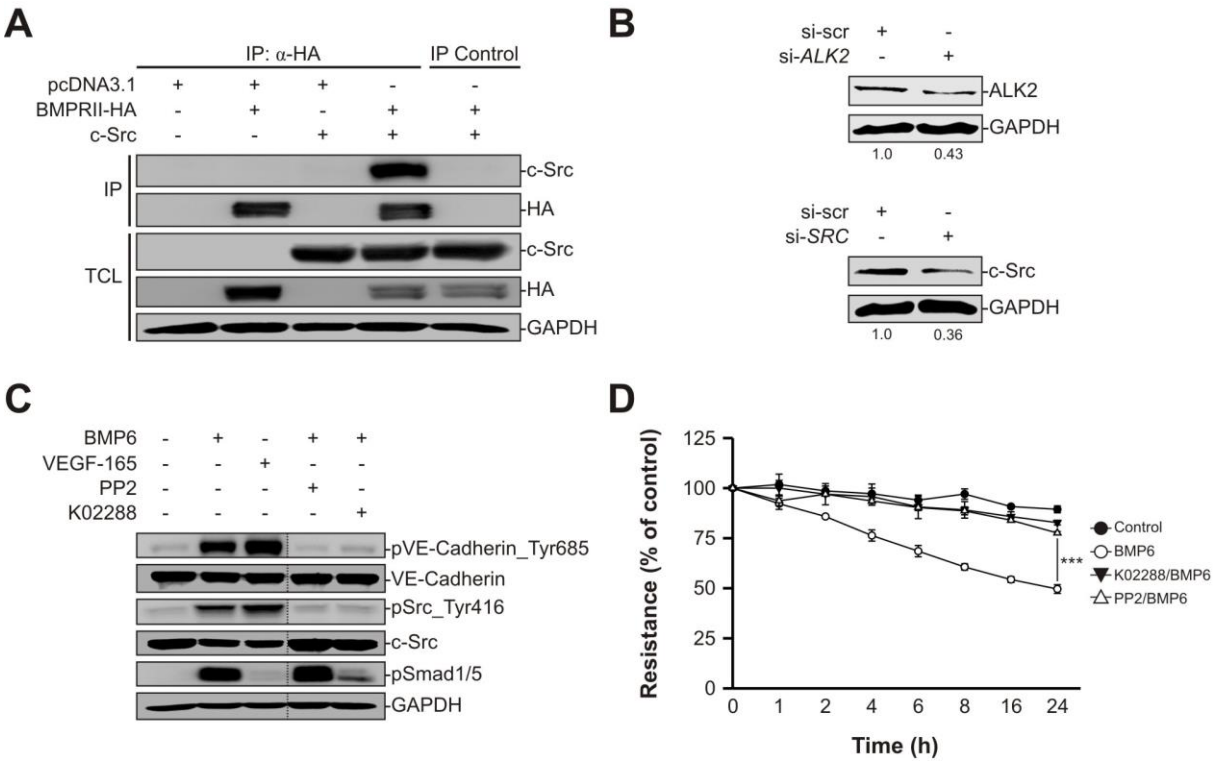

Figure S3 (related to Figure 3): BMP6-mediated permeability requires ALK2 and c-Src activity. (A) BMPRII associates with c-Src. HEK293T cells were transfected with BMPRII-HA and c-Src, HA-tagged BMPRII was immunoprecipitated with an HA-specific antibody. Normal IgG antibody served as IP control. TCLs represent lysates not subjected to immunoprecipitation **(B)** HUVECs were transfected with siRNA targeting either nonspecific sequences (si-scr), human *ALK2* (si-*ALK2*) or human *SRC* (si-*SRC*) and subsequently lysed and blotted as indicated. Numbers indicate signal intensities of respective target proteins normalized to GAPDH and control cells (si-scr). **(C)** HUVECs were, if indicated, treated with 0.5 µM K02288 or 5 µM PP2 60 minutes prior to growth factor stimulation for 30 minutes. Cells were lysed and blotted as indicated. Dotted lines indicate omitted samples from the same blot. **(D)** BMP6-induced permeability is mediated by ALK2- and c-Src-kinase. HUVECs were seeded in transwell-inserts and, if indicated, treated with 0.5 µM K02288 or 5 µM PP2 60 minutes prior to growth factor stimulation for 24 hours. At indicated time points, TEER was measured. Bar chart represents means ± s.d. normalized to untreated control cells from three independent experiments.