

## SUPPLEMENTAL DATA

### Figure Legends

**Fig. 1: Effect of MAPK inhibitors on intracellular S1P-mediated reorganization of cytoskeletal, adherens and tight junction proteins, Rac1 and IQGAP1.** HPAECs grown on glass cover slips (~90% confluence) were pretreated with inhibitors of JNK (SP600125), p38 MAPK (SB203580) or ERK (PD98050) at a concentration of 1  $\mu$ M for 1 h. Cells were then loaded with caged-S1P (1  $\mu$ M) and S1P was released by UV-flash for 2 seconds. Reorganization of cortactin (A), VE-cadherin (B),  $\beta$ -catenin (C), ZO-1 (D), Rac1 (E) and IQGAP1 (F) was analyzed by immunocytochemistry. Representative immunofluorescence images from several independent experiments are shown.

**Fig. 2: Effect of MAPK inhibitors on extracellular S1P-mediated reorganization of cytoskeletal, adherens and tight junction proteins, Rac1 and IQGAP1.** HPAECs grown on glass cover slips (~90%

confluence) were pretreated with inhibitors of JNK (SP600125), p38 MAPK (SB203580) or ERK (PD98050) at a concentration of 1 $\mu$ M for 1 h. Cells were stimulated with exogenous S1P (1  $\mu$ M, 15 min), and reorganization of cortactin (A), VE-cadherin (B),  $\beta$ -catenin (C), ZO-1 (D), and activation of Rac1 (E) and IQGAP1 (F) was analyzed by immunocytochemistry. Representative immunofluorescence images from several independent experiments are shown.