

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: Migration of *siControl* HUVECs exposed to arterial flow. Migration tracks indicate cell migrating with (purple) or against flow (yellow).

File Name: Supplementary Movie 2

Description: Migration of *siEPHB4* HUVECs exposed to arterial flow. Migration tracks indicate cell migrating with (purple) or against flow (yellow).

File Name: Supplementary Movie 3

Description: Migration of *siEPHB4* + *siDACHI* HUVECs exposed to arterial flow. Migration tracks indicate cell migrating with (purple) or against flow (yellow).