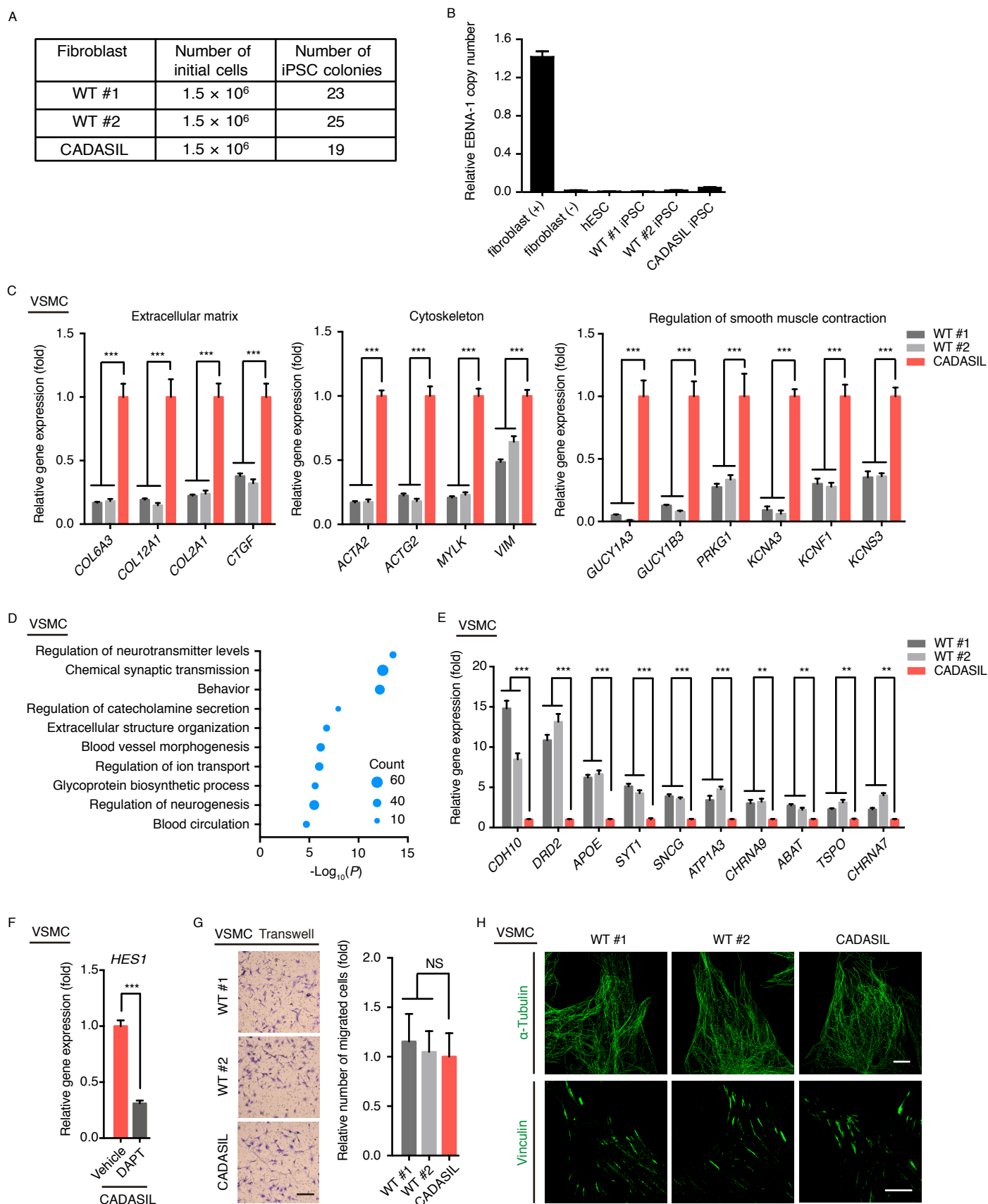


**Figure S1.** (A) Summary of reprogramming efficiency of WT and CADASIL fibroblasts. (B) RT-qPCR analysis showing little residual episomal vector element *EBNA-1* in WT and CADASIL iPSCs. Human fibroblasts 4 days after electroporated with pCXLE-hOCT3/4-shp53-F, pCXLE-hSK and pCXLE-hUL (fibroblast (+)) were used as positive control; fibroblasts without electroporation (fibroblast (-)) and human ESCs (hESCs) were used as negative control. Data are shown as mean  $\pm$  SD. n = 4. NS, not significant. (C) Verification of upregulated genes in CADASIL VSMCs by RT-qPCR. CADASIL was taken as reference. Data are presented as mean  $\pm$  SEM, n = 4. \*\*\**P* < 0.001. (D) GO enrichment analysis of downregulated genes in CADASIL VSMCs. (E) Verification of downregulated genes in CADASIL VSMCs by RT-qPCR. CADASIL was taken as reference. Data are presented as mean  $\pm$  SEM, n = 4. \*\*\**P* < 0.001; \*\**P* < 0.01. (F) RT-qPCR analysis of *HES1* expression in CADASIL VSMCs after treated with 20  $\mu$ mol/L DAPT for 18 h. Vehicle was taken as reference. Data are presented as mean  $\pm$  SEM, n = 4. \*\*\**P* < 0.001. (G) Transwell migration analysis of WT and CADASIL VSMCs. Representative images of crystal violet staining are shown to the left, Scale bar, 50  $\mu$ m. The relative number of migrated cells are shown to the right (CADASIL was taken as reference). Data are presented as mean  $\pm$  SD, n = 3. NS, not significant. (H) 3D-SIM images of microtubule structure in CADASIL VSMCs (top). Scale bar, 5  $\mu$ m. Confocal microscope images of vinculin (one of the adhesion junction components) structure in CADASIL VSMCs (bottom). Scale bar, 10  $\mu$ m.

**Figure S2.** (A) Verification of upregulated genes in CADASIL VECs by RT-qPCR. CADASIL was taken as reference. Data are presented as mean  $\pm$  SEM, n = 4. \*\*\**P* < 0.001. (B) GO enrichment analysis of downregulated genes in CADASIL VECs. (C) Verification of downregulated genes in CADASIL VECs by RT-qPCR. CADASIL was taken as reference. Data are presented as mean  $\pm$  SEM, n = 4. \*\*\**P* < 0.001; \*\**P* < 0.01; \**P* < 0.05. (D) 3D-SIM images of microtubule structure in CADASIL VECs (top). Scale bar, 5  $\mu$ m. Confocal microscope images of vinculin structure in CADASIL VECs (bottom). Scale bar, 10  $\mu$ m. (E) Immunofluorescence staining of ZO1 and ClaudinV in WT and CADASIL VECs. Nuclei were stained with Hoechst 33342. Scale bar, 25  $\mu$ m.

**Figure S1**



**Figure S2**

