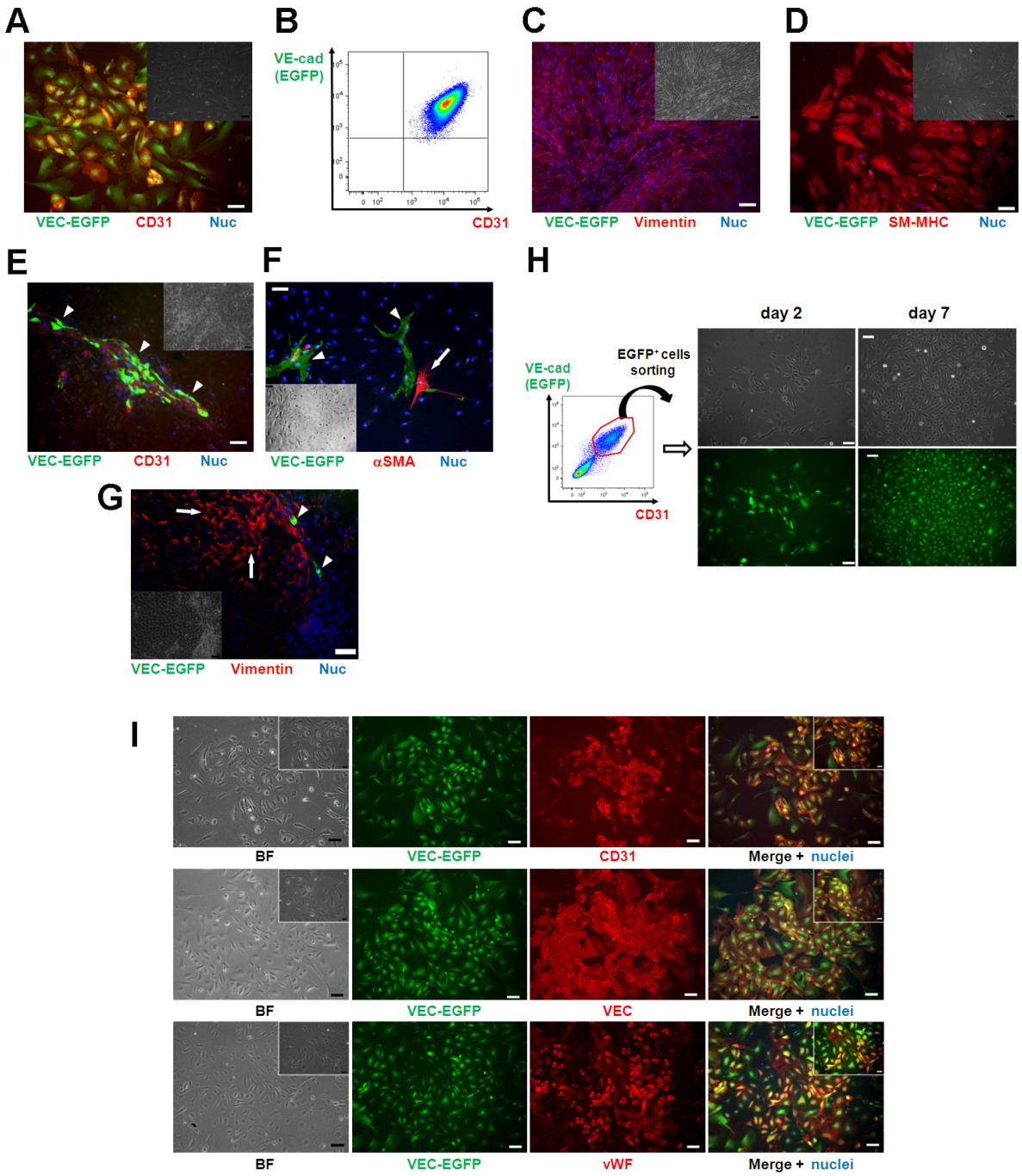

Supplementary information, Figure S1 Specific expression of VEC-EGFP in human endothelial lineage cells.

(**A** and **B**) Human umbilical vein endothelial cells (HUVECs) transduced with a VEC-EGFP lentiviral vector showed clear expression of EGFP, along with the coexpression of a pan-endothelial marker CD31 (**A**). FACS analysis demonstrated that these cells were double-positive for VEC (EGFP) and CD31 (**B**). (**C** and **D**) Human foreskin fibroblasts (**C**,

vimentin-positive) or arterial smooth muscle cells (**D**, SM-MHC-positive) transduced with VEC-EGFP never expressed EGFP. (**E**) The differentiating VEC-EGFP$^+$ hESCs (arrowheads) coexpressed CD31. (**F** and **G**) The differentiating VEC-EGFP$^+$ hESCs (arrowheads) did not express alpha-smooth muscle actin (α-SMA) (**F**) or vimentin (**G**). Arrows indicate α-SMA-positive (**F**) or vimentin-positive (**G**) differentiated cells. (**H**) The hESC-derived VEC-EGFP$^+$ cells sorted with FACS were seeded on the plates and then proliferated rapidly over the dates. Scale bars, 50 μm (**E, F,** and **G**) and 100 μm (**A, C, D,** and **H**). (**I**) Immunofluorescence studies shows the hESC-derived VEC-EGFP$^+$ cells expressed the typical endothelial antigens, CD31 (top), endogenous VEC (middle) and vWF (bottom), which are indicated as red signals. Scale bars, 50 μm (insets) and 100 μm.