Supplementary information

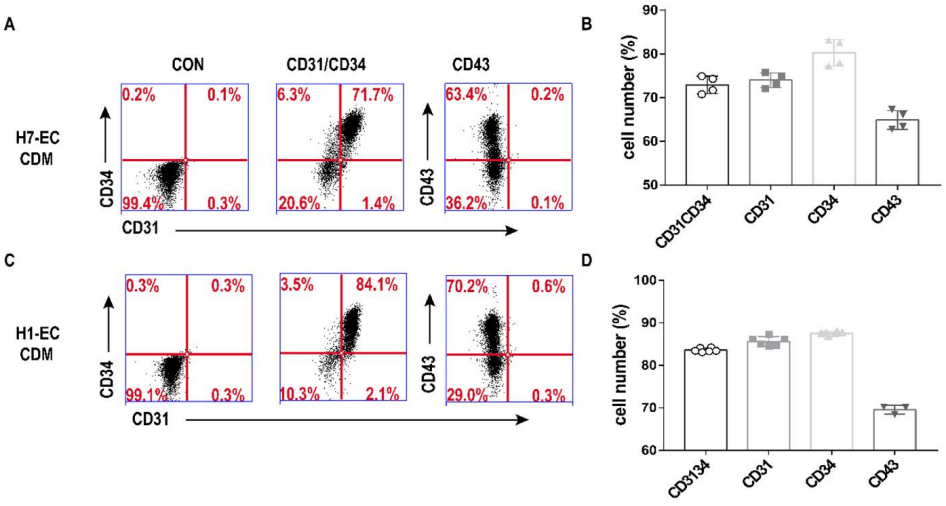

Fig. S1. PSCs-derived ECs have similar differentiation efficiency by using another chemically-defined medium (CDM). (A) and (C) Repeating the PSCs-derived ECs differentiation plus DMSO and Y27632 for three days. (B) and (D) Statistics of $CD31^+$ $CD34^+$, $CD31^+$, $CD34^+$ and $CD43^+$ cells. Data are represented as mean ± SD. n = 4 ~ 6, the experiments were repeated more than three independent times.

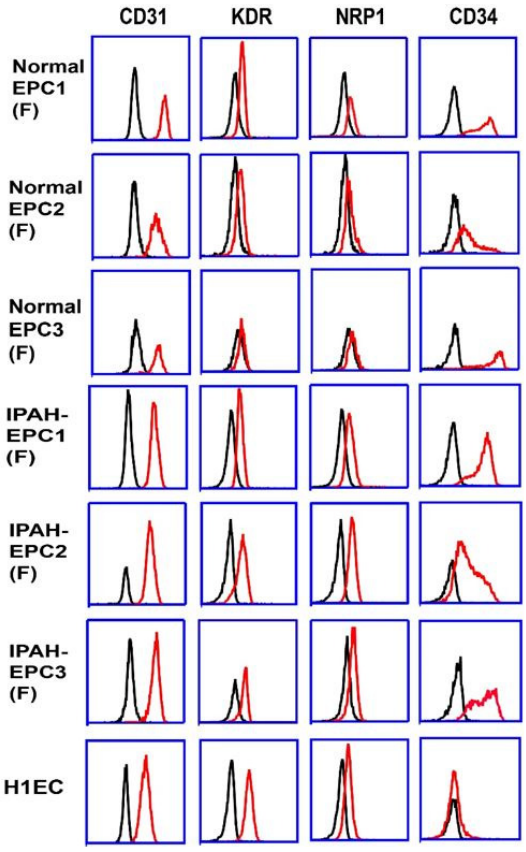

Fig. 2. Representative flow cytometry results of surface markers CD31, CD34, KDR and NRP1 between IPAH-EPCs (IPAH-EPC1, IPAH-EPC2 and IPAH-EPC3), normal EPCs (normal EPC1, normal EPC2, normal EPC3) and PSCs-derived EPCs (H1EC).

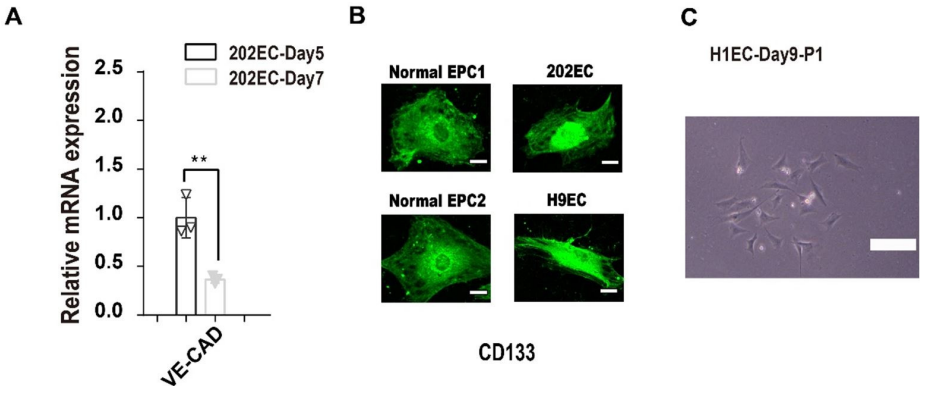

Fig. S3. Isolated CD31^{+} cells are PSCs-derived EPCs. (A) Detection of expression level of *VE-cadherin* by qRT-PCR on day 5 and day 7. (B) CD133 expresses highly in normal EPCs (normal EPC1, normal EPC2) and PSCs-derived EPCs (202EC, H9EC) using Immunofluorescence assay (scale bars: 20 μm). (C) PSCs-derived EPCs can form colonies (scale bars: 500 μm).

Table S1. The sequences of oligonucleotide primers used for qRT-PCR are listed in the table

Gene name	F (3′ to 5′)	R (3′ to 5′)
NRP1	ACCCAAGTGAAAAATGCGAATG	CCTCCAAATCGAAGTGAGGGTT
GAPDH	AACAGCCTCAAGATCATCAGC	GGATGATGTTCTGGAGAGCC
CD133	TTCTTGACCGACTGAGACCCA	TCATGTTCTCCAACGCCTCTT
EFNB2	TTCAGCCCTAACCTCTGGGG	CCTCCAAAGACCCATTTGATGTA
EPHB4	CTGTGAACCTGACTCGATTCC	CTCGGCACTTGGTGTTCCC
VE-CAD	TGTGGGCTCTCTGTTTGTTG	CGACGATGAAGCTGTATTGC

Table S2. *VE-cadherin (CDH5/CD144)* expressed highly based on microarray analysis

Gene symbol	Con1. rma.chp Signal	Con2. rma.chp Signal	Con3. rma.chp Signal	H7EC. rma.chp Signal	H9EC. rma.chp Signal	202EC. rma.chp Signal
VE-cadherin	11.40	11.95	11.91	11.21	11.50	11.22
GAPDH	12.74	12.91	12.88	12.96	12.87	12.92