**Supplementary Table 1. Summary of molecular markers used to identify endothelial stem/progenitor cells**

| Marker          | Species | Origin                          | Isolation Protocol                              | Notes                                                                                     | PMID          |
|-----------------|---------|---------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------|---------------|
| CD34+ VEGFR2+   | Human   | Cord blood, peripheral blood    | CD45- CD34+ VEGFR2+                            | CD146 and CD144 further define the population                                           | 28910385     |
| C-Kit+          | Mouse   | Lung vasculature                | Lin-CD31+ CD105+Sca1+ CD117(ckit)+             | Produce tens of millions of daughter endothelial cells in vitro                          | 23091420     |
| CD133+          | Mouse   | Lung vasculature                | CD31+CD133+                                    | Generate in vivo functional blood vessels                                                | 27059286     |
|                 | Mouse   | Cord blood, Bone marrow         | CD34+AC133+ VEGFR2+                            | CD133+ are hematopoietic precursors                                                      | 17588480     |
|                 |         |                                 | CD34+CD45-                                     | Generate in vivo functional blood vessels                                                | 17495235     |
| CD133+          | Human   | Cord blood                      | N/A                                            | Intracellular CD133 expression                                                          | 30879244     |
|                 | Human   | Infantile haemangiomas          | CD133+                                         | Silencing of CD133 abolished post-ischaemia neovascularization                          |               |
|                 |         | Bone marrow                     | Small CD133+ Lin-CD45- (VSELs)                 | A potential competitor for ESCs and iPSCs. Angiogenic properties in HLI model            | 25608764     |
|                 |         |                                 |                                                | A potential competitor for ESCs and iPSCs. Angiogenic properties in HLI model            |               |
| NRP1+           | Human   | Induced Pluripotent Stem Cells  | Differentiated towards endothelial lineage in 12day protocol, then sorted for NRP1+CD31+ | In vivo vessel forming ability in model of HLI and OIR                                   | 25306246     |
| CXCR4+          | Human   | Peripheral blood                | N/A                                            | CXCR4 is marker of tip cell activity                                                    | 26113473     |
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| Molecular Marker | Cell Source | Characteristics | Findings | Publication IDs |
|------------------|-------------|-----------------|----------|----------------|
| **CD157+**       | Mouse Liver | CD31+VEcad+CD157+CD200+ | CD157+CD200+ECs formed larger colonies with higher efficiency than CD157-CD200- and CD157-CD200- | Long term lineage tracing shows contribution of CD157+ ECs to maintenance of blood vessels long term | 29429943 |
|                  | Liver, Lung, Limb muscle, Small intestine, Pancreas | CD45-CD31+CD157+ | EC network formation and colony formation higher in CD157+ vs CD157- population | | 32005982 |
| **Human**        | Pluripotent stem cells | N/A | Differentiated towards endothelial lineage in 5day protocol | iPS-derived endothelial progenitors expressed CD157 highly, in addition to CD31, CD144, CD34, VEGFR2, and CXCR4 | 32509776 |
| **EPCR+**        | Mouse Mammary fat pad | Lin-CD31+CD105+EPCR+ | In vitro clonogenicity by serial passage for at least 10 passages | EPCR+ selection enriched for vascular endothelial stem cells. Potential to differentiate into endothelial cells and pericytes | 27364685 |
| **CD31lowVEGFR2 /lowIL33+SOX9+** | Mouse Aorta | CD34+CD45-CD31lowVEGFR2low | In vitro colony forming ability and self-renewal capacity in vivo | Defined a novel endothelial hierarchy as CD31lowVEGFR2low to CD31lowVEGFR2low to CD31hiVEGFR2hi | 27899395 |
| **CD45-side population** | Mouse Embryonic Lung | CD45-CD31+ | Express gene characteristics of endothelium, but do not grow or differentiate in vitro by themselves | Co-cultures with smooth muscle progenitors (CD45-CD31-) formed tube-like structures in vitro | 15802552 |
|                  | Adult Lung | CD45-CD31+VEGFR2- | Formed colonies in vitro and differentiated into CD45-CD31+VEGFR2- cells which then differentiated into ECs | CD45-CD31+VEGFR2- could also yield smooth muscle progenitors | 30628669 |