

Supplementary Table 1. Seeding densities of hiPSCs clones time until confluency employing the extended endothelial cell culture method (EECM)

| Clone name | UMM (/cm ²) | DMM (/cm ²) | EECM (/cm ²) | Average range of time for become confluent in EECM (day) |
|------------|----------------------------|----------------------------|-----------------------------|---|
| Donor 1 | 21,000 | 150,000 | 100,000 | 5-7 |
| Donor 2 | 10,000 | 36,000 | 26,000 | 3-5 |
| Donor 3 | 10,000 | 36,000 | 21,000 | 3-5 |
| IMR90-4 | 10,000 | 36,000 | 20,000 | 4-8 |

Supplementary Table 2. Material list for EECM-BMEC-like cell protocol

| Material | Company | Catalog Number |
|---|------------------------------|----------------|
| ROCK inhibitor Y-27632 | Tocris | 1254 |
| Human fibroblast growth factor 2 | Tocris | 233-FB-500 |
| Accutase | Innovative Cell Technologies | AT104-500 |
| CHIR99021 | Selleckchem | S1263 |
| 40µmFalcon cell strainer | Falcon | 352340 |
| CD31-FITC antibody (clone AC390) | Miltenyi Biotec | 130-110-668 |
| L-ascorbic acid | Sigma | A4403-5G |
| EasySepFITC Positive Selection Kit | Stemcell Technologies | #18558 |
| EasySepMagnet | Stemcell Technologies | #18000 |
| advanced DMEM/F-12 | Life Technologies | 12634 |
| Human endothelial serum-free medium (hESFM) | Thermo Fisher | 11111-044 |
| B27, 50× | Thermo Fisher | 17504044 |
| Water, sterile, cell culture | Sigma | W3500 |
| Collagen IV from human placenta | Sigma | C5533 |
| Fibronectin from bovine plasma | Sigma | F1141 |