

## Supplemental Information

### Supplemental Table 1

Minimal Cytokines (SCF, Flt3L, TPO)	Mean (+/- s.e.m.)	Median	Range
<b>Cytokine Alone</b>			
CD45+ (fold increase)	124 +/- 3.31	121	121-131
CD45+CD34+ (fold increase)	54 +/- 7.29	59	39-63
Lin <sup>Neg</sup> CD34 <sup>+</sup> CD45RA <sup>Neg</sup> CD49f <sup>+</sup> (fold increase)	7 +/- 0.70	7	7-10
<b>E4<sup>+</sup>ECs + cytokines</b>			
CD45+ (fold increase)	408 +/- 49.02	400	310-462
CD45+CD34+ (fold increase)	148 +/- 35.32	136	94-215
Lin <sup>Neg</sup> CD34 <sup>+</sup> CD45RA <sup>Neg</sup> CD49f <sup>+</sup> (fold increase)	23 +/- 3.15	20	16-29

### Supplemental Figure Legend

**Supplemental Figure 1. Serum- and cytokine- free EC co-cultures supplemented with high cytokine doses of 300ng/ml SCF, 300ng/ml Flt3L, 100ng/ml TPO, 100ng/ml IL-6, and 10ng/ml IL-3 expand phenotypically marked HPCs/HSPCs and differentiated hematopoietic progenitors.**

Human umbilical CB units were enriched for CD34<sup>+</sup> cells and 5x10<sup>4</sup> CD34<sup>+</sup> cells were co-cultured with or without ECs. **A-C)** Co-cultured hematopoietic cells were cumulatively expanded. **A)** Fold expansion of total hematopoietic cells. **B)** Fold expansion of CD45<sup>+</sup>CD34<sup>+</sup> hematopoietic progenitor cells. **C)**

Fold expansion of phenotypically marked HSPCs defined by CD45<sup>+</sup> Lin<sup>neg</sup>CD34<sup>hi</sup>CD45RA<sup>neg</sup>CD49f<sup>+</sup>.

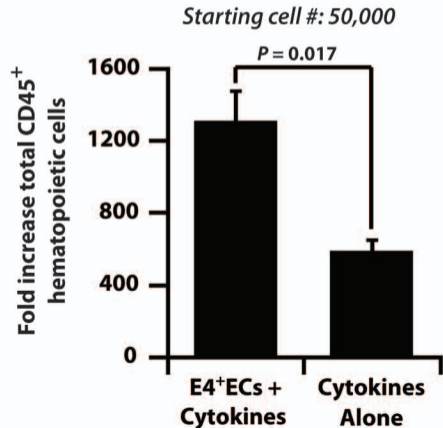
Note that human hematopoietic cells that were co-cultured with E4<sup>+</sup>ECs expanded significantly more when compared to cultures without vascular feeder cells (n = 12 p-values were calculated using Student's t-test).

# Supplemental Figure 1

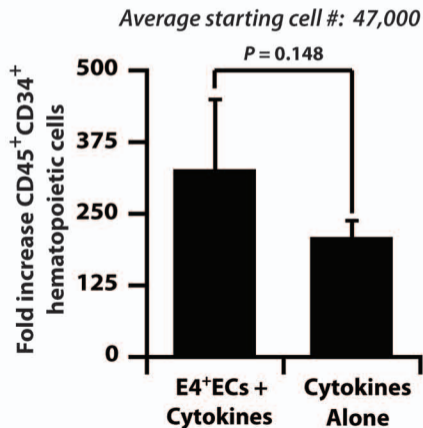
## Expansion under high cytokine addition

(300ng/ml SCF; 100ng/ml TPO; 300ng/ml Flt-3L, IL-6 100ng/ml, IL-3 10ng/ml)

**A**



**B**



**C**

