



**SUPPLEMENTARY FIG. S1.** Flow chart of culture process. For the 2<sup>4</sup> design of experiments, CD34<sup>+</sup> hematopoietic stem and progenitor cells (HSPCs) were maintained under one set of conditions from day 0 to day 5. At day 5, cells were divided into the conditions shown in Table 1. The condition with the greatest Mk production was then chosen to perform subsequent studies. DOE, design of experiments; IL, interleukin; Mk, megakaryocytic cell; NIC, nicotinamide; SCF, stem cell factor; Tpo, thrombopoietin.