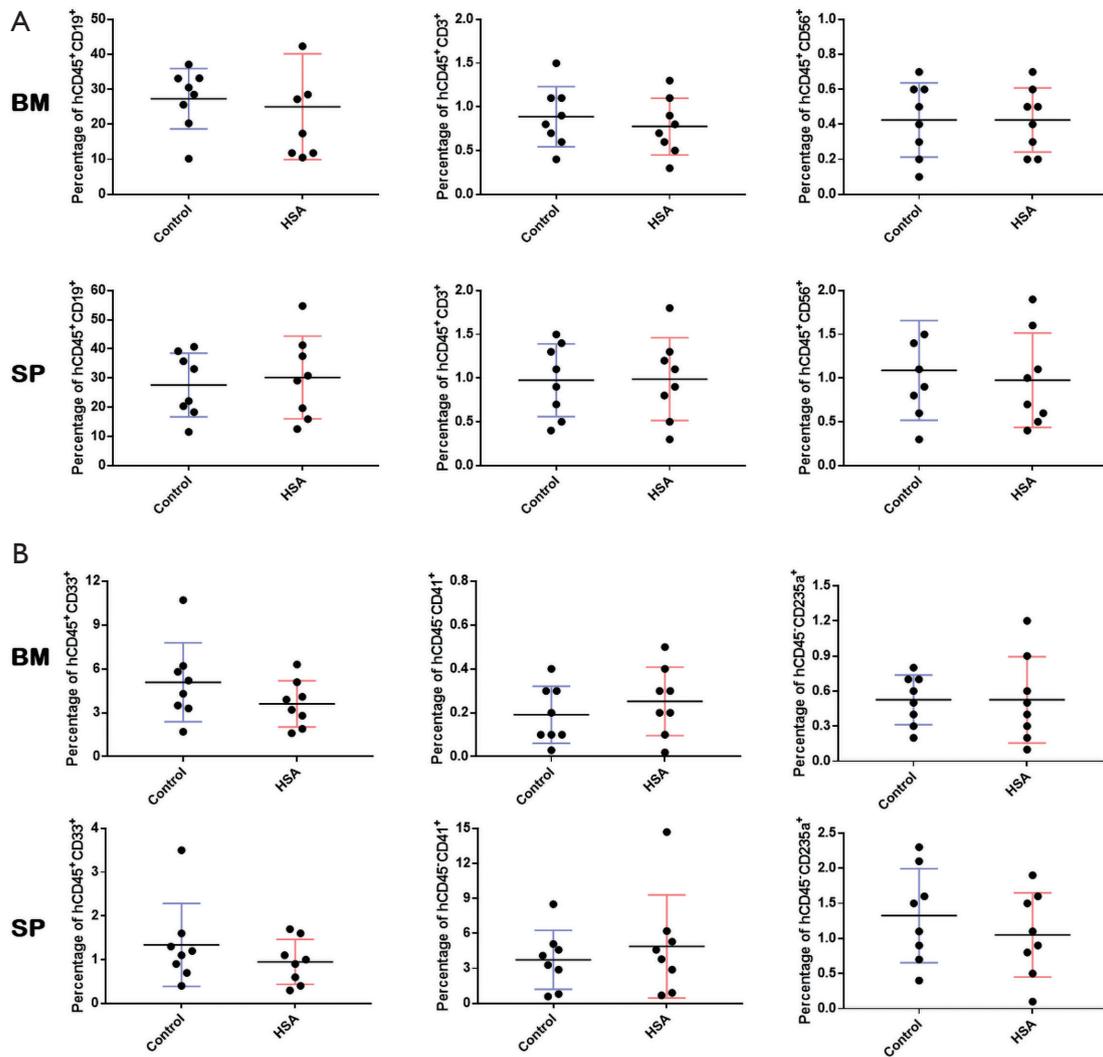


**Figure S1** HSA retained common cell surface markers in CD34<sup>+</sup>HSPCs culture *in vitro*. (A) The proportion of CD38, CD49f, and CD90 in CD34<sup>+</sup> cell with or without 8 days *in vitro* culture (n=7). All data represent the means  $\pm$  SD by two-tailed unpaired Student's *t*-test. (B) Colonies derived from HSA-treated cells following an additional 14 days in MethoCult H4434 Optimum culture (n=7). (C) Representative morphological images of BFU-E colonies derived from cultured UCB-CD34<sup>+</sup> cells treated with or without HSA. Scale bar, 200  $\mu$ m. \*, P<0.05. BFU-E, burst-forming unit-erythroid; CFU-E, colony-forming unit-erythrocyte; CFU-GEMM, colony-forming unit-granulocyte/erythrocyte/macrophage/megakaryocyte; CFU-G, colony-forming unit-granulocyte; CFU-M, colony-forming unit-macrophage; HSA, human serum albumin.



**Figure S2** HSA sustained multilineage reconstitution in NOG mice. (A) The percentage of lymphoid-lineage hematopoietic reconstitution in BM and SP were detected at week 16 post-transplantation. The proportions of B-lymphoid cells (hCD45<sup>+</sup>CD19<sup>+</sup>), T-lymphoid cells (hCD45<sup>+</sup>CD3<sup>+</sup>), and natural killer cells (NK cells, hCD45<sup>+</sup>CD56<sup>+</sup>) were compared between the control and HSA groups (n=8). All data represent the means ± SD by two-tailed unpaired Student's *t*-test. (B) The percentage of myeloid-lineage hematopoietic reconstitution in BM and SP were detected at week 16 post-transplantation. The proportions of myeloid cells (hCD45<sup>+</sup>CD33<sup>+</sup>), megakaryocytes (hCD45<sup>+</sup>CD41<sup>+</sup>), and erythroid cells (hCD45<sup>+</sup>CD235a<sup>+</sup>) were compared between the control and HSA groups (n=8). All data represent the means ± SD by two-tailed unpaired Student's *t*-test. BM, bone marrow; SP, spleen; HSA, human serum albumin.