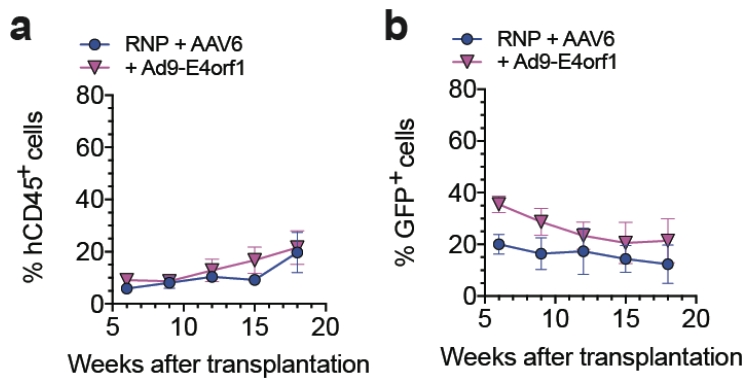
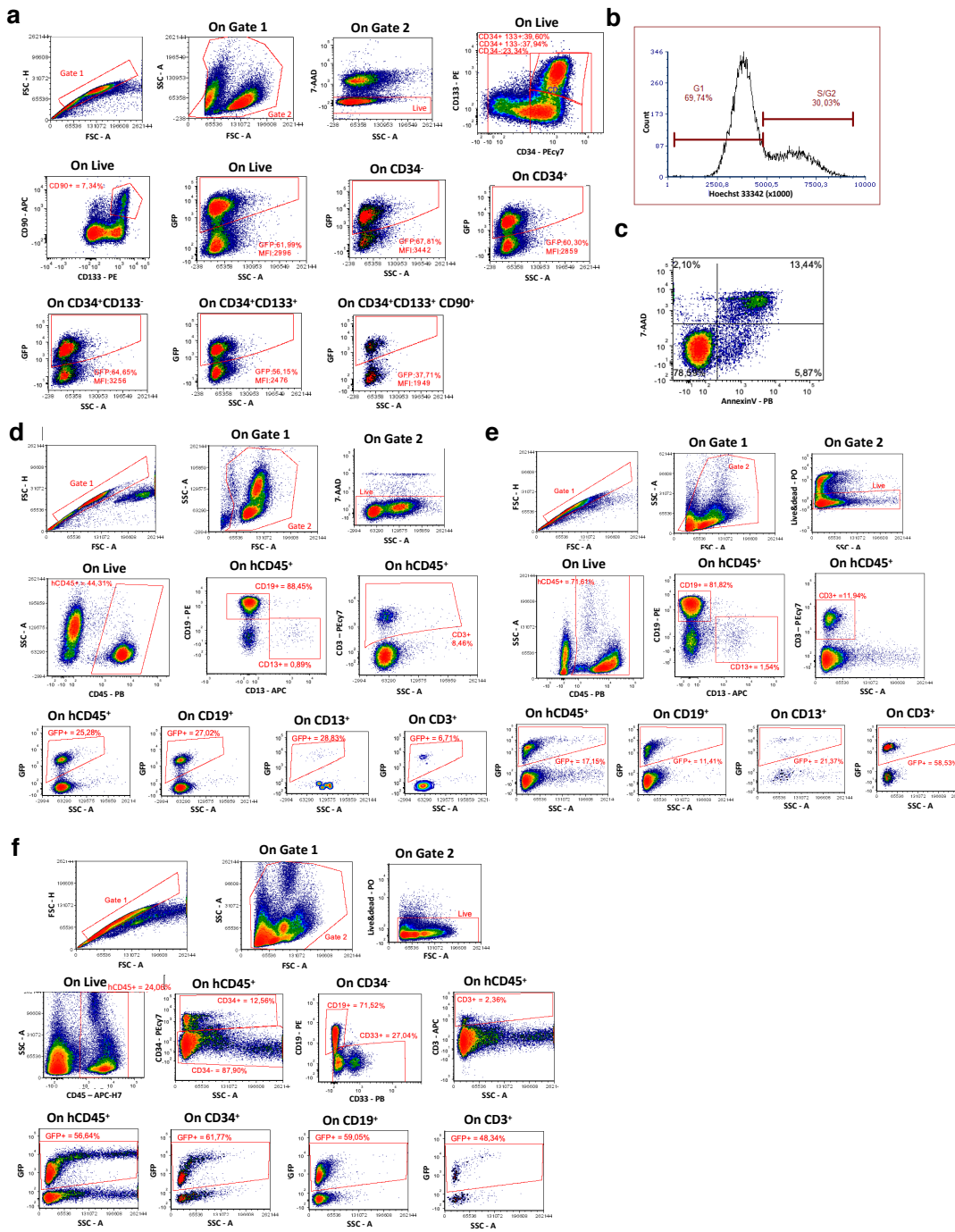


## SUPPLEMENTARY FIGURES



**Supplementary Fig. 1. Transplantation of HSPCs edited in presence of Ad9-E4orf1 in NSG mice.** **a-b**, Percentage of circulating hCD45<sup>+</sup> (**a**) and GFP<sup>+</sup> cells within human graft (**b**) in mice transplanted with the outgrown progeny of starting-matched limiting doses of CB HSPCs edited in *AAVS1* with indicated treatments (n = 4). When we evaluated *in vivo* the potential benefit of adding Ad9-E4orf1 to the HSPC editing treatment we found no improvement in human cell engraftment and only a minor increase in the percentage of HDR-edited cells in the graft, thus prompting no further investigation. Mean  $\pm$  SEM. n indicates independent animals.



**Supplementary Fig. 2. Gating strategies for flow cytometry analyses.** Gating strategies for the analysis of: **a**, HSPC phenotype 96 h after treatments; **b**, Cell cycle phases 12-24 or 96 h after treatments; **c**, Apoptotic/necrotic cells 24 h after treatments; **d**, Human PBMCs in transplanted mice; **e**, Human cells within BM of transplanted mice; **f**, Human cells within SPL of transplanted mice.