



**Extended Data Figure 4 | The senescence-associated secretory phenotype (SASP) is dispensable for senescence-associated stemness (SAS) induction.** **a**, Expression of a panel of SASP transcripts<sup>40,57</sup> by qPCR in Suv39h1-regulatable lymphoma cells after five days of ADR  $\pm$  4-OHT exposure, and after two passages in 4-OHT/ADR-free medium (that is, in never senescent and previously senescent cells), showing SASP upregulation in TIS and its downregulation back to baseline levels in senescence-released previously senescent cells. Results represent mean fold induction relative to untreated lymphomas  $\pm$  s.d. ( $n = 3$  biologically independent samples). **b**, Blunting SASP production (top) by NF- $\kappa$ B super-repressor I $\kappa$ B $\alpha$  $\Delta$ N (NF- $\kappa$ B-SR)-mediated genetic inhibition of NF- $\kappa$ B as the major SASP driver in TIS cells (without compromising their ability to enter TIS)<sup>9,40</sup> did not prevent acquisition of stemness markers

(bottom) by qPCR. Results represent mean fold induction relative to mock-transduced untreated cells  $\pm$  s.d. ( $n = 4$  biologically independent samples). **c**, Co-expression of the stem-cell marker Sca1 and the TIS marker H3K9me3 by flow cytometry in NF- $\kappa$ B-SR-expressing control;*Bcl2* cells exposed to ADR for five days, indicating uncompromised SAS induction. Percentages indicate mean Sca1/H3K9me3 double-positive cells  $\pm$  s.d. ( $n = 4$  biologically independent samples). **d**, ABC transporter activity by flow cytometry in control;*Bcl2*;NF- $\kappa$ B-SR cells as in **c**, again demonstrating strong induction of stem-cell-remiscent ABC transporter activity in TIS cells (compare with Extended Data Fig. 1d) irrespective of their blunted SASP response. Representative plots out of four independent lymphomas shown.