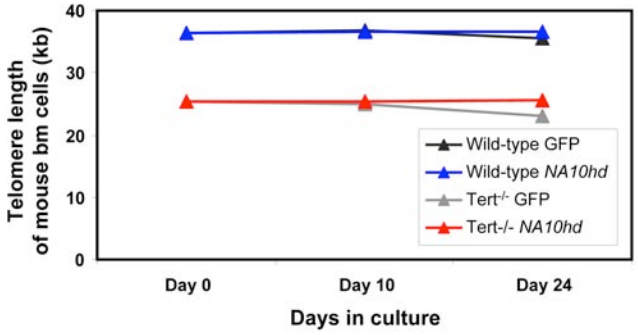
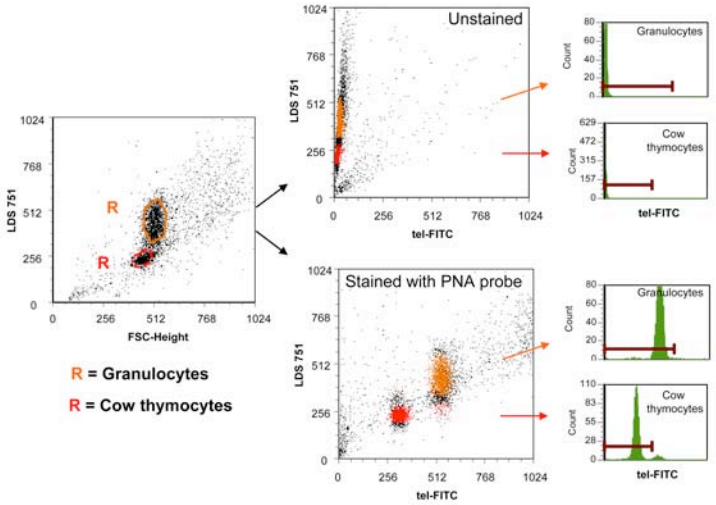


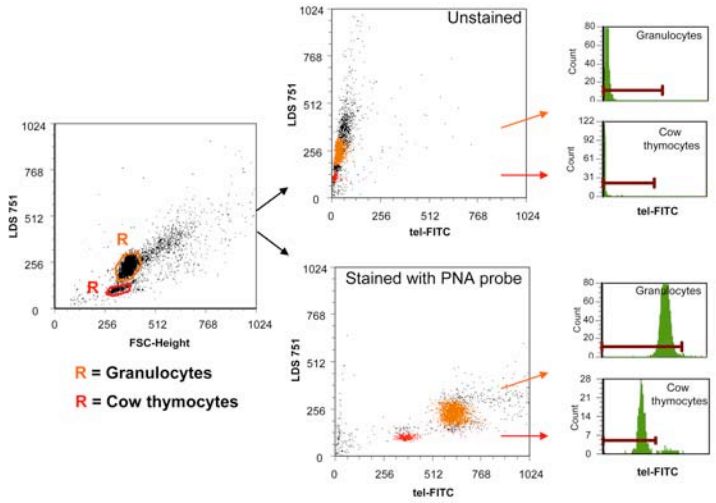
Figure S1. *NA10hd* effect on telomere length of wild-type and *Tert*$^{-/-}$ bm cells during *in vitro* culture. Presented are telomere lengths of fresh (Day 0) wild-type and *Tert*$^{-/-}$ bm cells (granulocytes), or following *GFP* and *NA10hd* infection and additional 6- (Day 10) or 20-day (Day 24) culture.

Figure S2

A



B



C

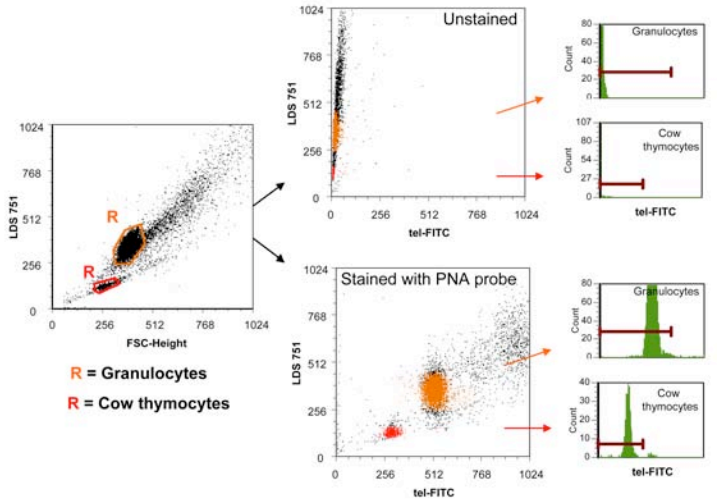
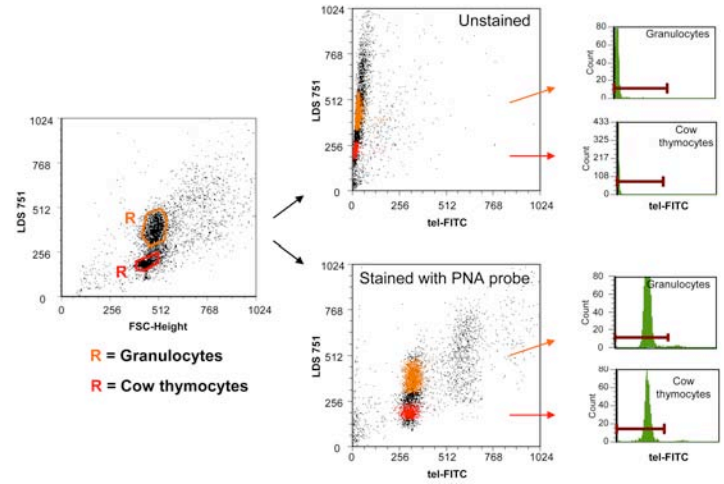


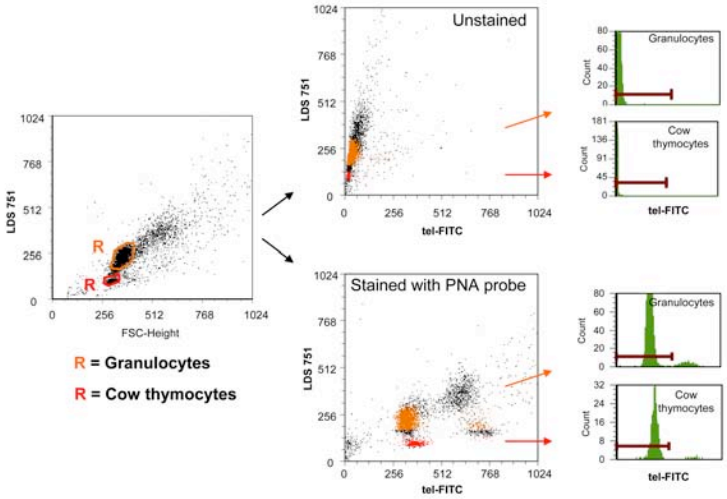
Figure S2. Example of flow FISH data analysis of granulocyte telomere lengths of a representative wild-type bm sample. Donor-derived wild-type bm cells, previously transduced with *NUP98-HOXA10hd* and expanded *in vitro*, were analyzed 3 **(A)** and 6 **(B)** months post primary transplantation and 3 months **(C)** post secondary transplantation. Before each analysis sample was mixed with fixed cow thymocytes and stained with DNA dye LDS 751 to visually separate the granulocytes, which are labelled more brightly by LDS751, from the cow thymocytes (plots on the left). Sample was split in half, thus two samples were analyzed: one stained with a FITC labelled telomere-PNA probe (plots on the right - bottom) and one unstained (without the PNA probe) (plots on the right - top), required for measuring the level of autofluorescence in cells of interest. Fluorescence histograms of the indicated cell populations were used for calculating the telomere length, by comparing the FITC signal intensity of the mouse granulocytes with that of the cow thymocytes of a known telomere length. Granulocyte telomere lengths of this representative bm sample, analyzed as described, were calculated to be 34 kb (A), 33.2 kb (B) and 35.5 kb (C).

Figure S3

A



B



C

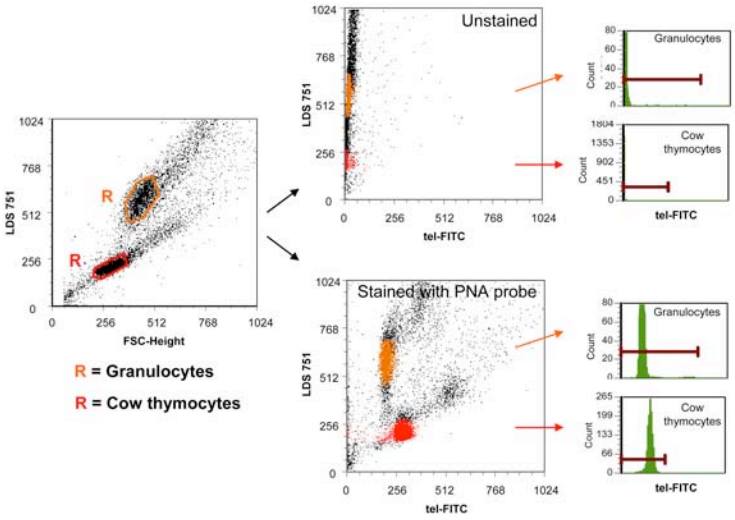


Figure S3. Example of flow FISH data analysis of granulocyte telomere lengths of a representative *Tert*$^{-/-}$ bm sample. Donor-derived *Tert*$^{-/-}$ bm cells, previously transduced with *NUP98-HOXA10hd* and expanded *in vitro*, were analyzed 3 **(A)** and 6 **(B)** months post primary transplantation and 3 months **(C)** post secondary transplantation. Granulocyte telomere lengths of this representative bm sample, analyzed as described in figure legend S2, were calculated to be 20.6kb (A), 16.7kb (B) and 13.3kb (C).