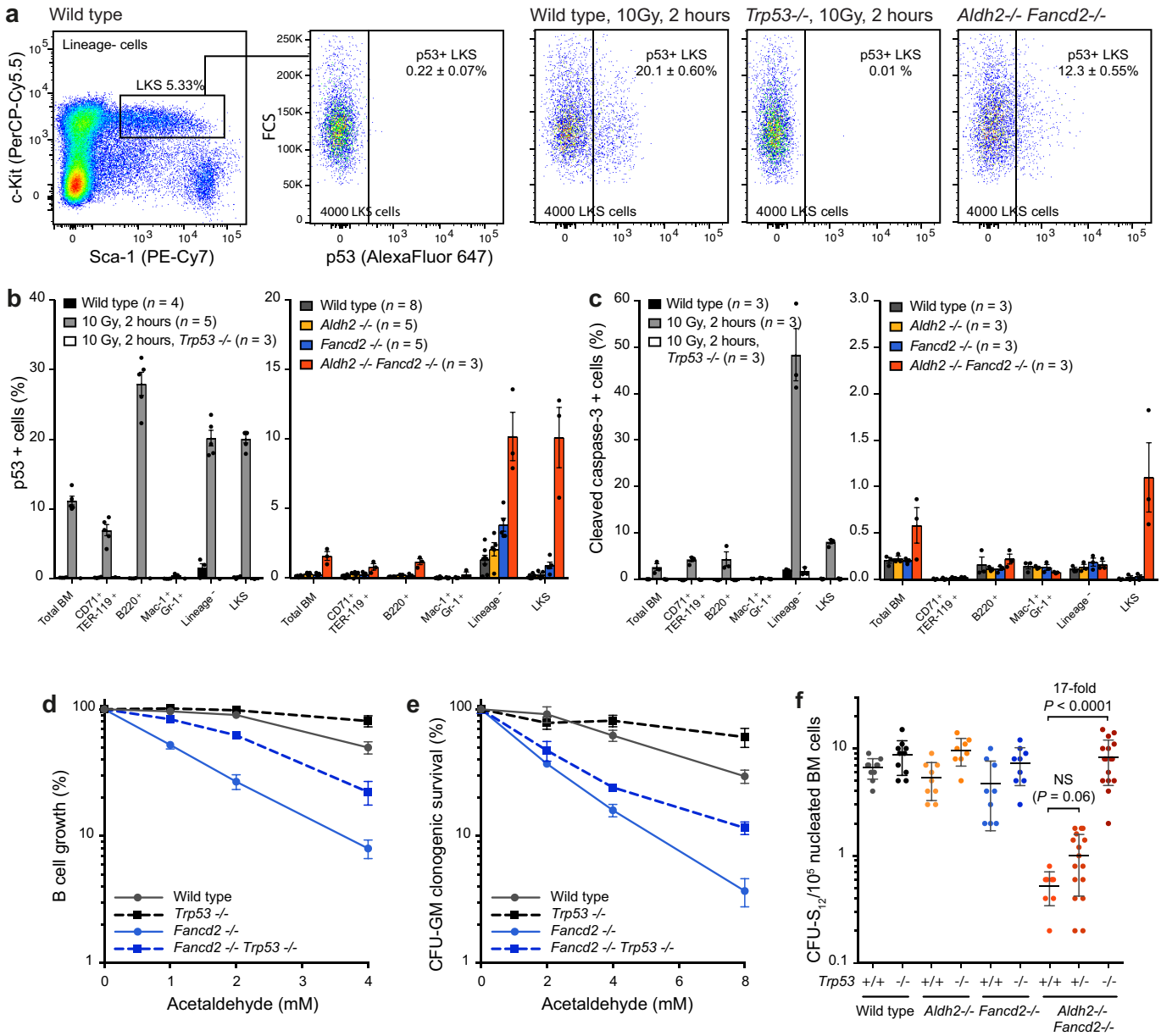

Extended Data Figure 6 | Aldehyde-induced stress elicits a p53 response. a, Representative flow cytometry plots for the quantification of $p53^+$ LKS cells from 8-to-12-week-old $Aldh2^{-/-}Fancd2^{-/-}$ and control mice. Cells were collected from wild-type and $Trp53^{-/-}$ mice 2 h after 10 Gy irradiation as positive and negative controls, respectively, for the assay. **b**, Quantification of the frequency of $p53^+$ cells in different bone-marrow populations. **c**, Quantification of the frequency of cleaved-caspase-3^+ cells in different bone marrow populations by flow cytometry. In **b** and **c**, irradiated wild-type and $Trp53^{-/-}$ mice were used as controls. Owing to the low numbers of LKS $CD48^-$ $CD150^+$ cells in $Aldh2^{-/-}Fancd2^{-/-}$ mice, the number of $p53^+$ or cleaved-caspase-3^+ HSCs could not be determined (data shown as mean and s.e.m.; n = number of mice). **d**, **e**, Survival of B cells and myeloid progenitors (CFU-GM) following exposure to acetaldehyde *in vitro*. Cells were obtained from $Fancd2^{-/-}Trp53^{-/-}$ and control mice. Each point represents the mean of three independent experiments, each carried out in quadruplicate; data shown as mean and s.e.m. **f**, Frequency of CFU-S_{12} in the bone marrow of $Aldh2^{-/-}Fancd2^{-/-}Trp53^{-/-}$ and control mice. Each point represents the number of CFU-S_{12} in the spleen of a single recipient (P calculated by two-sided Mann–Whitney test; data shown as mean and s.e.m.; n = 10–15 mice).