

Figure S1. Decreasing viability with increasing CreER^{T2} activation only in B-cell lymphoma with two floxed *Dicer* alleles. A *p53* deleted *Dicer*^{fl/fl}/E μ -myc lymphoma cell line (DC1020) and two *p53* deleted *Dicer*^{+/fl}/E μ -myc lymphoma cell lines (DC2385 and DC2423) were infected with a retrovirus encoding CreER^{T2}. Cells were incubated with vehicle control (EtOH) or the indicated concentrations of 4-OHT to activate CreER^{T2}. After 72 hours, cells were counted in the presence of Trypan Blue Dye to distinguish dead and dying cells and viability was calculated.

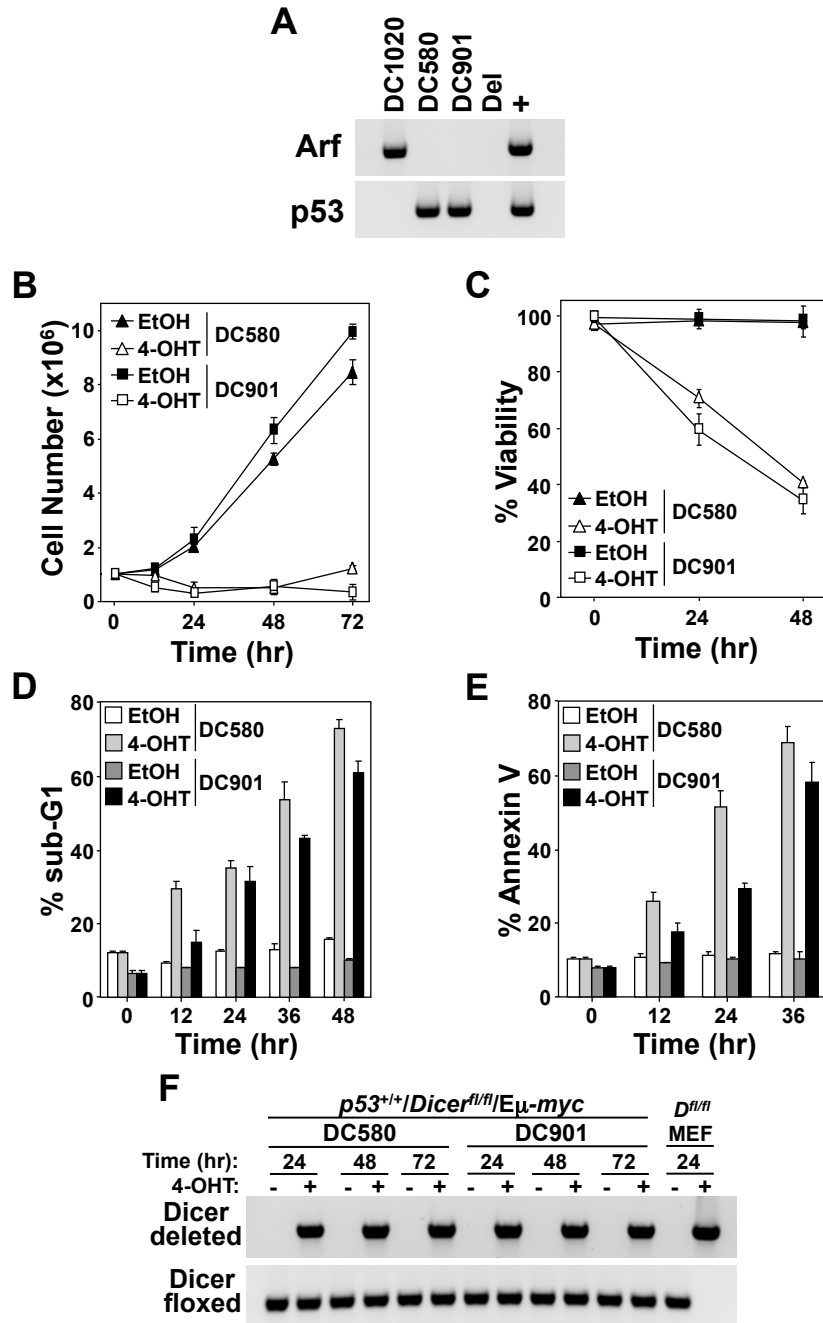


Figure S2. *Dicer* deletion in *p53* wild-type, *Arf* deleted lymphomas induces apoptosis. (A) Genomic DNA from *p53* wild-type, *Arf* deleted *Dicer^{fl/fl}/E μ -myc* lymphoma cell lines (DC580 and DC901) and the *p53* deleted *Dicer^{fl/fl}/E μ -myc* lymphoma cell line (DC1020) was subjected to PCR for *Arf* and *p53*. Genomic DNA isolated from tail clips from mice that contain (+) or have deleted (Del) *Arf* and *p53* were controls for the PCR. (B-E) Lymphomas were infected with a 4-OHT-inducible CreER^{T2} retrovirus. Cell number (B), viability (C), sub-G1 (apoptotic) DNA content (D), and Annexin V positivity (E) were measured at the indicated intervals following administration of vehicle control (EtOH) or 4-OHT to activate CreER^{T2}. (F) *Dicer* gene rearrangement was evaluated at the indicated intervals following vehicle control (-) or 4-OHT (+) addition by PCR. CreER^{T2} expressing *Dicer^{fl/fl}* (*D^{fl/fl}*) MEFs were controls.

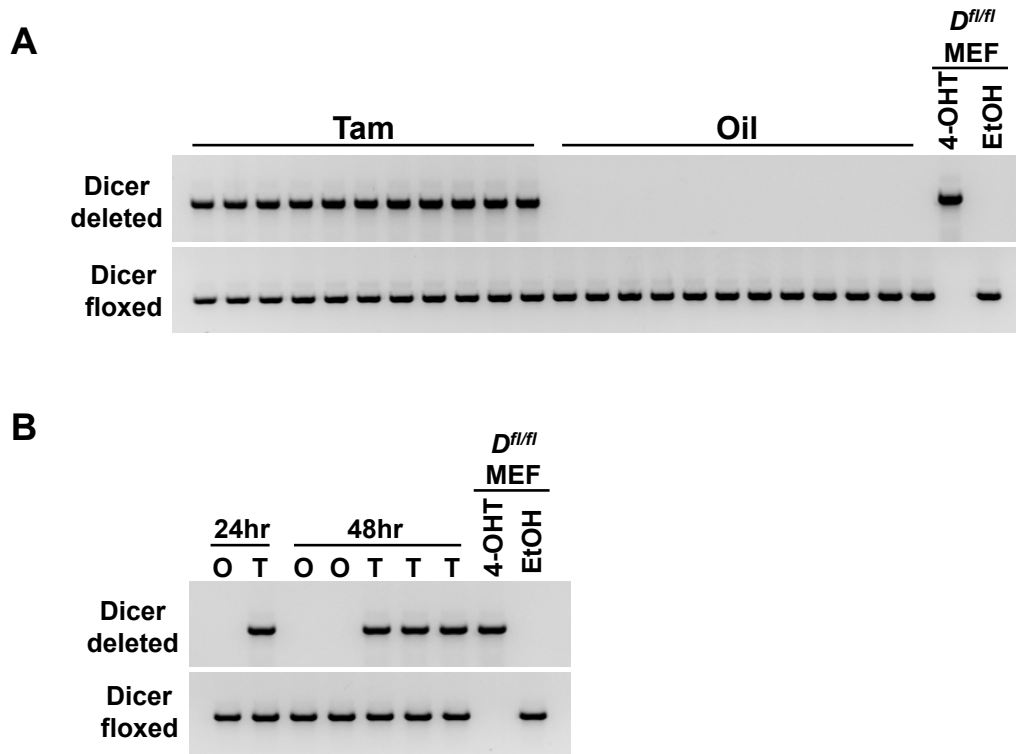


Figure S3. One allele of *Dicer* is retained in lymphomas induced to delete *Dicer in vivo*. (A, B) PCR analysis for conditional deleted and floxed (not deleted) *Dicer* alleles from *p53* deleted *Dicer^{fl/fl}/E μ -myc* (DC1020) lymphoma cells expressing an inducible CreER^{T2} that were injected subcutaneously into nude mice. (A) Lymphomas isolated at humane endpoints from mice that received tamoxifen (Tam) to induce CreER^{T2} (n=11) or corn oil (Oil) vehicle control (n=12) beginning the same day as lymphoma injection (mice from Fig. 6A). (B) Tamoxifen (T) or corn oil (O) vehicle control were administered once lymphomas were 90-150 mm³ (mice from Figs. 6E-G). Hours post tamoxifen or corn oil administration are indicated. DNA from *Dicer^{fl/fl}* (*D^{fl/fl}*) MEFs expressing an inducible CreER^{T2} treated with 4-OHT or vehicle control (EtOH) were controls (A and B) .

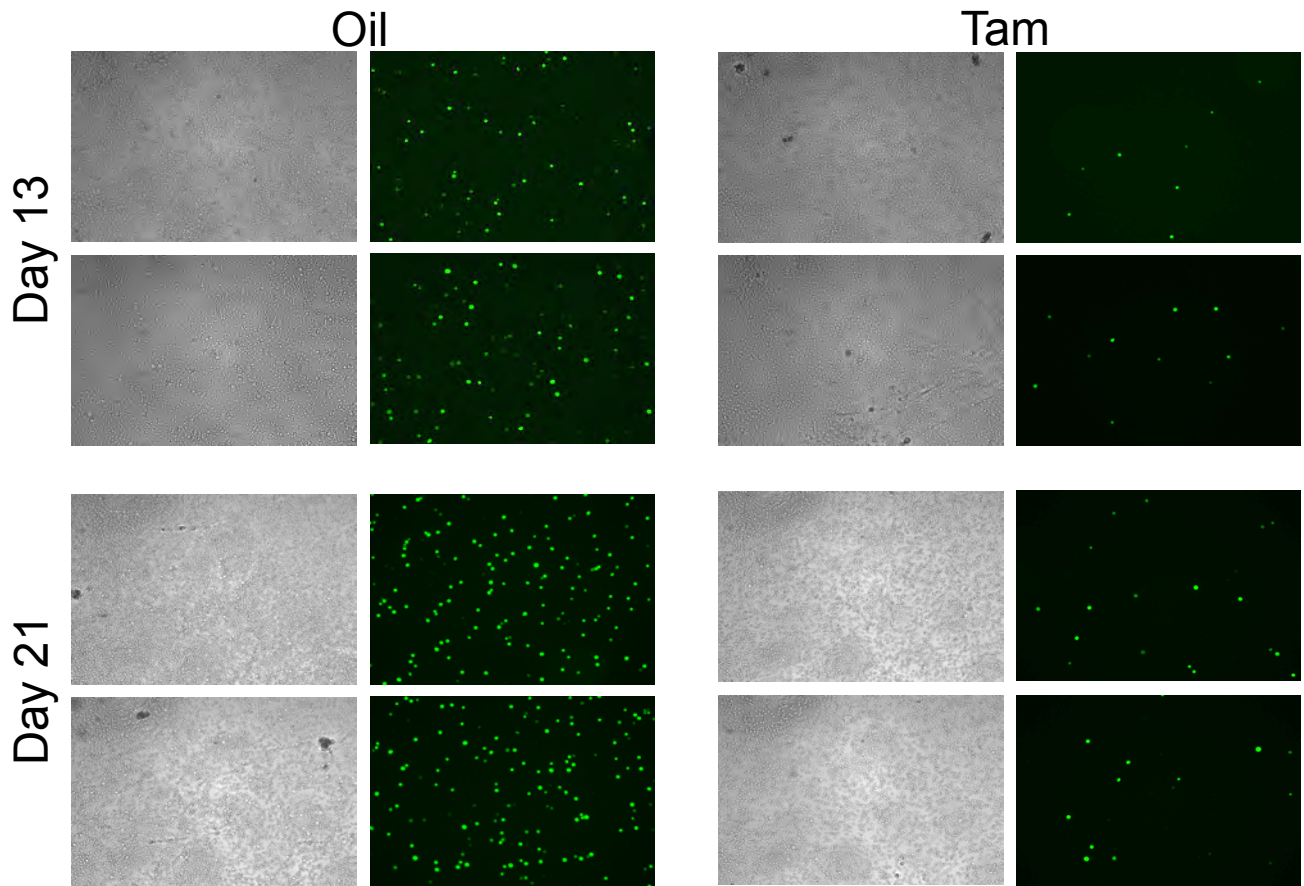


Figure S4. *In vivo Dicer* deletion significantly reduces lymphoma burden in the blood of mice. *p53* deleted *Dicer^{fl/fl}/E μ -myc* lymphoma cells (DC1020) expressing CreER^{T2} and GFP were injected intravenously into nude mice; administration of tamoxifen (Tam) or corn oil (Oil) vehicle control began the same day. Representative microscopic images (white light left and GFP fluorescence right) of blood with GFP⁺ lymphoma cells in the same four mice 13 and 21 days post lymphoma injection.