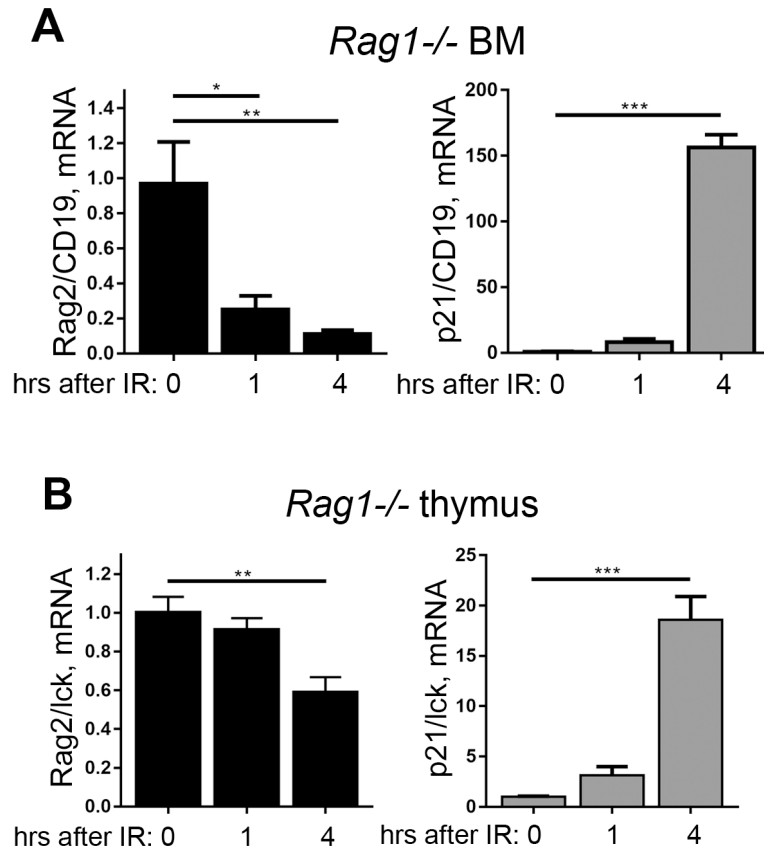
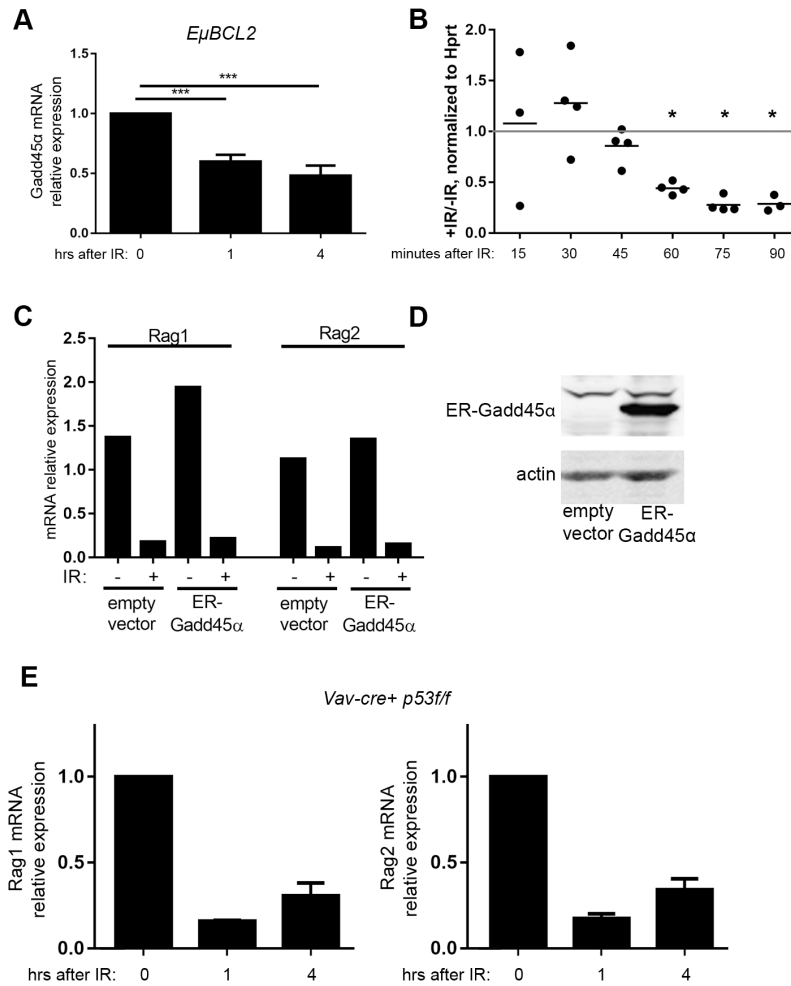


SUPPLEMENTAL MATERIAL

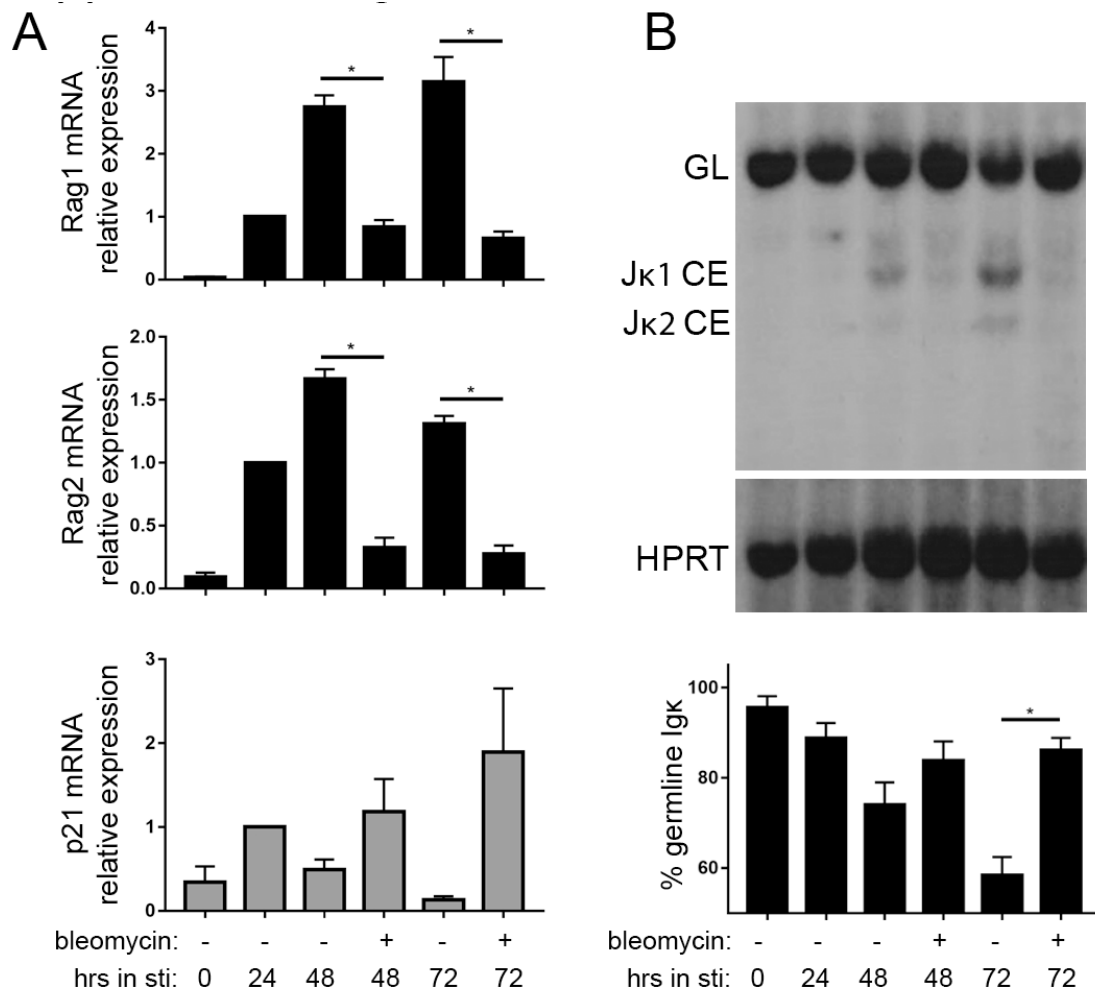
Supplementary Table 1: qPCR primers	
18S F	CGCGGTTCTATTTTGTGGT
18S R	AGTCGGCATCGTTTATGGTC
β actin F	TCATCACTATTGGCAACGAGCGGTTC
β actin R	TACCACCAGACAGCACTGTGTTGGCA
CD19 F	ACCAGTACGGGAATGTGCTC
cD19 R	TTCATAGGCCTCCCCTTCTT
Gadd45 α F	CCGAAAGGATGGACACGGTG
Gadd45 α R	TTATCGGGGTCTACGTTGAGC
Hprt F	CTGGTGAAAAGGACCTCTCG
Hprt R	TGAAGTACTCATTGTAGTCAAGGGCA
Lck F	CCTTCGGGATCTTGCTTACA
Lck R	GTTGTCAGGTCTCACCATGC
p21 F	GACATTCAGAGCCACAGGCAC
p21 R	GTCAAAGTCCACCGTTCTCG
Rag1 F	TGGGAATCGTTTCAAGAGTGAC
Rag1 R	CATCTGCCTTCACGTCGATCC
Rag2 F	ACACCAAACAATGAGCTTTCCG
Rag2 R	CCGTATCTGGGTTCAAGGAC
Wasp F	GCTCCCTCCTACTCCAGTGTC
Wasp R	AGGGCACCTACTAGGCCTTC



SUPPLEMENTAL FIGURE 1. Pro-B and pro-T cells suppress *Rag2* expression in response to ionizing radiation. (A-B) qRT-PCR quantification of *Rag2* and *p21* mRNA in BM (A) or thymuses (B) from non-irradiated *Rag1*^{-/-} mice or *Rag1*^{-/-} mice at indicated times after exposure to 10 Gy IR. Data in each graph are from 3 or more independent experiments with a total of 4-6 mice per timepoint. Data averages are shown with error bars indicating SEM. p-values calculated using Dunnett's post-test after ANOVA. *p<0.05, **p<0.01, ***p<0.001.



SUPPLEMENTAL FIGURE 2. Neither p53 activity nor downregulation of Gadd45α mRNA levels is required for suppression of *Rag1* and *Rag2* transcription in response to IR. **(A)** qRT-PCR quantification of Gadd45α mRNA in non-irradiated *EμBCL2* pre-B cells or irradiated *EμBCL2* pre-B cells at indicated times after exposure to 4 Gy IR. Data are from 11 independent experiments. Data are normalized to 1.0 for non-irradiated cells. For irradiated cells, data averages are shown with error bars indicating SEM. p-values calculated using Dunnett's post-test after ANOVA. ***p<0.001. **(B)** qRT-PCR quantification of EU-labeled Gadd45α mRNA levels relative to EU-labeled Hprt mRNA levels in non-irradiated *EμBCL2* pre-B cells and irradiated *EμBCL2* pre-B cells at indicated times after addition of EU and exposure to 4 Gy of IR. Data are presented as the ratio of relative levels of each mRNA in irradiated cells compared to non-irradiated cells. The dotted line represents a value of 1, which would indicate that IR had no effect on the transcription rate of an assayed gene. Data are from 4 independent experiments. p-values were determined using one-tailed T test with Bonferroni's correction for multiple testing. ***p<0.001. **(C)** qRT-PCR quantification of *Rag1* and *Rag2* mRNA in non-irradiated and irradiated *Rag1^{D708A}* Abl pre-B cells transduced with an empty retroviral vector or the same retroviral vector containing an ER-Gadd45α cDNA. For 2 hours before harvesting non-irradiated cells or exposing to IR the irradiated cells, all cells were treated with tamoxifen to induce nuclear translocation of ER-Gadd45α. Data are from one representative experiment. **(D)** Western blot showing ER-Gadd45α and actin expression in *Rag1^{D708A}* Abl pre-B cells transduced with an empty retroviral vector or the same retroviral vector containing an ER-Gadd45α cDNA. Data are from one representative experiment. **(E)** qRT-PCR quantification of *Rag1* and *Rag2* mRNA in non-irradiated *VavCre⁺Tp53^{fl/fl}* pre-B cells or irradiated *VavCre⁺Tp53^{fl/fl}* pre-B cells at indicated times after exposure to 4 Gy IR. Data are from 2 independent experiments. Data are normalized to 1.0 for non-irradiated cells harvested one hour following IR exposure of irradiated samples. For other samples, data averages are shown with error bars indicating SEM.



SUPPLEMENTAL FIGURE 3. Bleomycin treatment inhibits recombination of endogenous *Igκ* loci. (A) qRT-PCR quantification of Rag1, Rag2, and p21 mRNA in *Artemis^{-/-}EμBCL2* Abl cells untreated or treated with STI571 or STI571 and bleomycin for the indicated amounts of time. Data are from 6 independent experiments. (B) Representative Southern blot analysis and graphical quantification of *Jκ* cleavage in *Artemis^{-/-}EμBCL2* Abl cells untreated or treated with STI571 or STI571 and bleomycin for the indicated amounts of time. Data are from 3 independent experiments.