**Table S1. Antiboides used in this study.**

| Antibody (and related reagent) | Clone | Supplier |
|---|---|---|
| FITC-anti-mouse CD3ε | 145-2C11 | Biolegend |
| PE/Cy7-anti-mouse CD3 | 17A2 | |
| AlexaFluor700-anti-mouse CD8α<br>APC-anti-mouse CD8α | 53-6.7 | |
| PE/Cy7-anti-mouse/human CD11b | M1/70 | |
| APC-anti-mouse CD11c<br>PE/Cy7-anti-mouse CD11c | N418 | |
| APC-anti-mouse/human CD44 | IM7 | |
| AlexaFluor700-anti-mouse CD45.2 | 104 | |
| APC/Cy7-anti-mouse CD45.2 | 30-F11 | |
| FITC-anti-mouse CD62L | MEL-14 | |
| APC-anti-mouse F4/80<br>FITC-anti-mouse F4/80 | BM8 | |
| APC-anti-mouse Ly6G/Ly6C (Gr-1) | RB6-8C5 | |
| PE-anti-mouse TNF-α | MP6-XT22 | |
| Purified anti-mouse CD16/32 *used in Fc blocking | 93 | |
| PE-Rat IgG1, κ *Isotype control of PE-anti-mouse TNF-α | BM2a | eBioscience |
| T-select H-2Kb OVA Tetramer-SIINFEKL-PE | | MBL |
| ViaProbe *used for excluding dead cells | | BD Bioscience |

**Table S2. Primers for RT-qPCR used in this study.**

| | Forward | Reverse |
|---|---|---|
| *Ccl3* | 5'-TTGAAACCAGCAGCCTTTGC-3' | 5'-CTTTGGAGTCAGCGCAGATCT-3' |
| *Ccl4* | 5'-GCCCTCTCTCTCCTCTTGCT-3' | 5'-GGAGGGTCAGAGCCCATT-3' |
| *Ccl5* | 5'-TGCCCACGTCAAGGAGTATTT-3' | 5'-TCGAGTGACAAACACGACTGC-3' |
| *Cxcl9* | 5'-GATAAGGAATGCACGATGCTC-3' | 5'-TCTCCGTTCTTCAGTGTAGCAA-3' |
| *Cxcl10* | 5'-GTGTTGAGATCATTGCCACGA-3' | 5'-GCGTGGCTTCACTCCAGTTAA-3' |
| *Cxcl11* | 5'-GGCTGCGACAAAGTTGAAGTGA-3' | 5'-TCCTGGCACAGAGTTCTTATTGGAG-3' |
| *Fasl* | 5'-TTTCAGAGGGTGTACTGGGG-3' | 5'-TGGTTGGAATGGGATTAGGA-3' |
| *Gapdh* | 5'-GCCTGGAGAAACCTGCCA-3' | 5'-CCCTCAGATGCCTGCTTCA-3' |
| *Gzmb* | 5'-GCCTGGAGAAACCTGCCA-3' | 5'-CCCTCAGATGCCTGCTTCA-3' |
| *Ifnb* | 5'-CCAGCTCCAAGAAAGGACGA-3' | 5'-CGCCCTGTAGGTGAGGTTGAT-3' |
| *Ifng* | 5'-GATATCTGGAGGAACTGGCAAAAG-3' | 5'-AGAGATAATCTGGCTCTGCAGGAT-3' |
| *Prf1* | 5'-CAAGGTAGCCAATTTTGCAGC-3' | 5'-GGCGAAAACTGTACATGCGAC-3' |
| *Tbx21* | 5'-CAACCAGCACCAGACAGAGA-3' | 5'-CCACATCCACAAACATCCTG-3' |

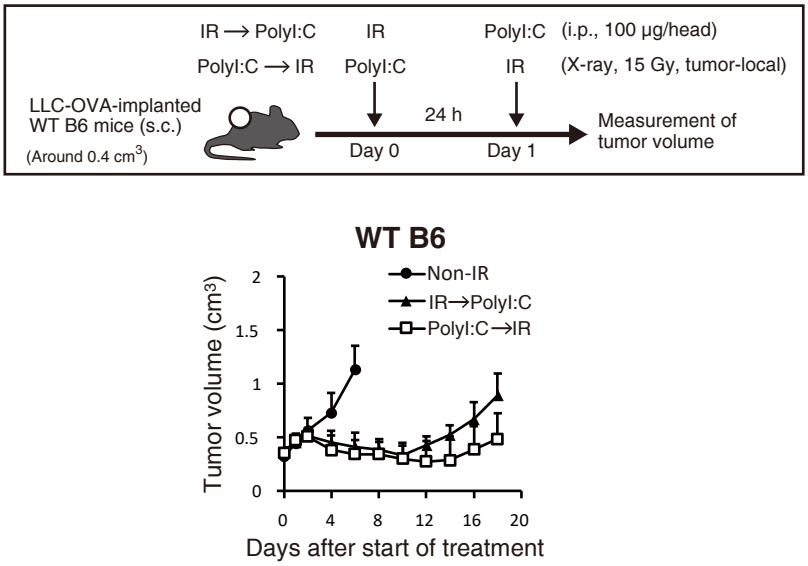


**Figure S1. Pre-treatment of polyI:C with IR was more efficient than post-treatment in tumor regression.** LLC-OVA-implanted WT B6 mice were intraperitoneally injected with polyI:C (100 μg/head) or performed 15 Gy of ionizing radiation (IR) when tumor volume reached around 0.4 $cm^3$. After 24 h, polyI:C administration or IR was performed following the time table in this figure. *n* = 3-4 mice per group. Data are shown as average (SD) tumor size.

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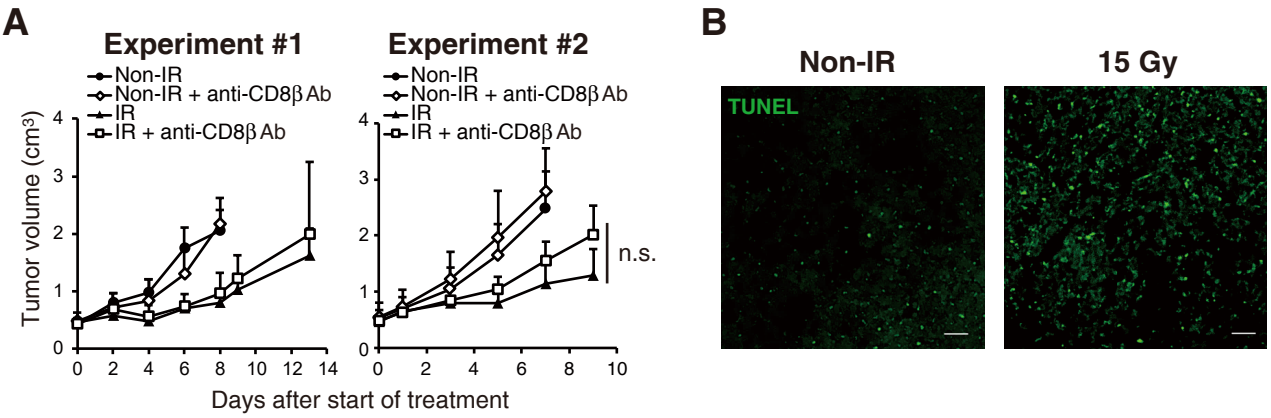


**Figure S2. IR damaged tumor cells and suppressed tumor growth independent of CTLs.** (A) Growth of LLC-OVA tumor on WT B6 mice with or without anti-CD8β antibody (Ab) treatment. Anti-CD8β Ab was injected into tumor-bearing mice 24-48 h before 15 Gy of ionizing radiation (IR). Additional Ab injection was performed on 5-6 days after irradiation. Similar two experiments were performed. Data are shown as average (SD) tumor size. n.s., not significant. In experiment #1, $n$ = 3 mice per group. In experiment #2, $n$ = 3-5 mice per group. (B) LLC-OVA-implanted mice were locally irradiated with 15 Gy of X-ray on tumor site. After 48 h, tumors were harvested, fixed with 10% neutralized buffered formalin at 4 °C for 3 h. Then, samples were equilibrated with 15% and 30% sucrose/PBS, mounted in O.C.T. compound (Sakura Finetek Japan), and flozen. Blocks were sliced and stained with the In Situ Cell Death Detection Kit, Fluorescein (Roche). Specimens were analyzed using BZ-9000 (KEYENCE). Scale bars, 50 μm. The pictures are representative of two independent experiments.

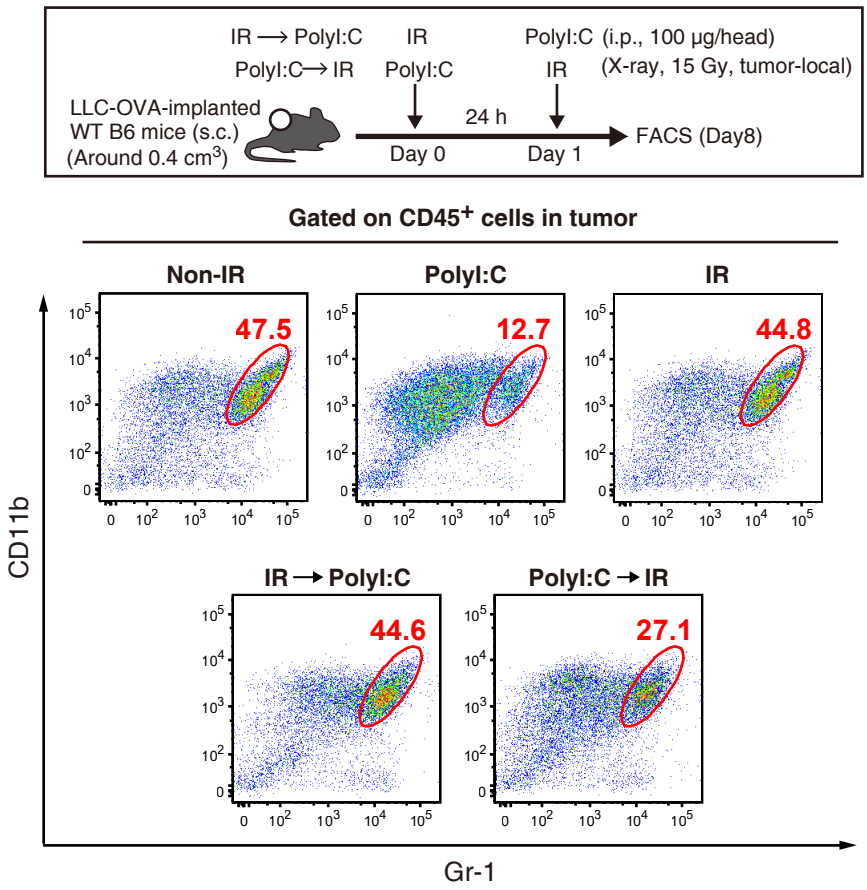


**Figure S3. Frequency of intratumor CD11b$^+$ Gr-1$^+$ cells was different in pre- or post- polyI:C injection with radiation.** LLC-OVA-implanted WT B6 mice were treated with polyI:C and IR following the time table in this figure. Tumors were harvested on day 8 after the start of treatment and FACS analysis was performed. Plots are representative results of two with similar outcomes.

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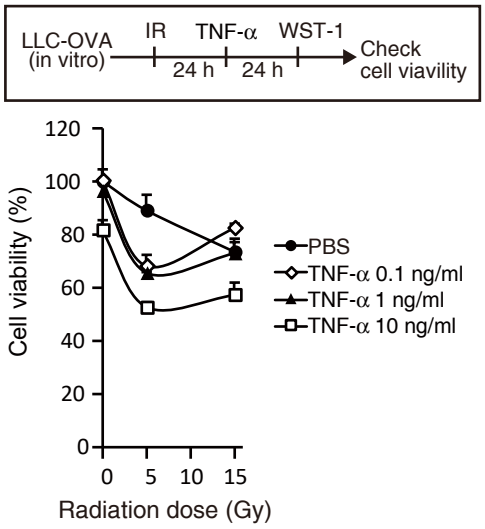


**Figure S4. TNF-α post-treatment decreased LLC-OVA cell viability combinatry with IR.** LLC-OVA cells were subjected to 15 Gy of IR and 24 h later, TNF-α was treated . After 24 h culture, cell viability was assessed by WST-1 assay. *n* = 3. Data represent the means (SD).