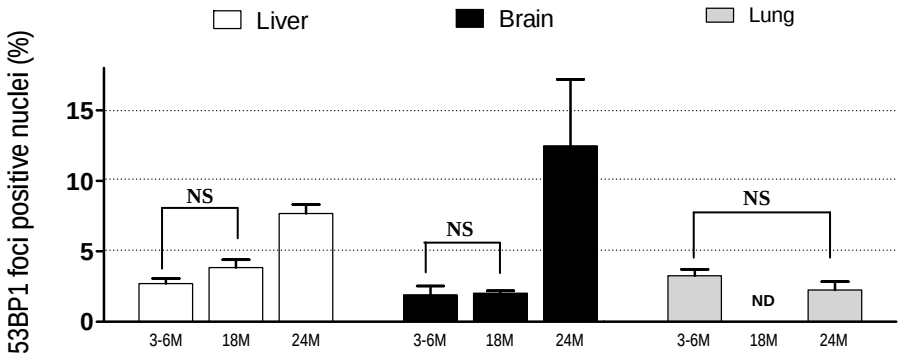
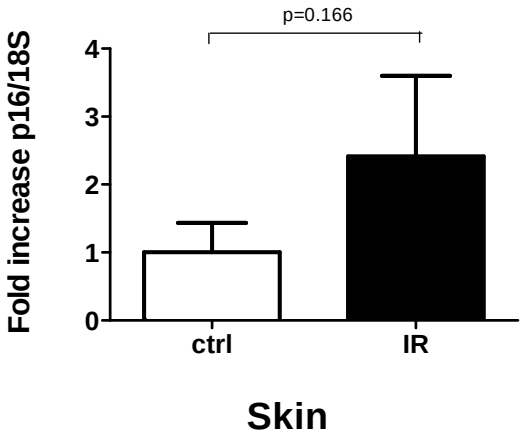
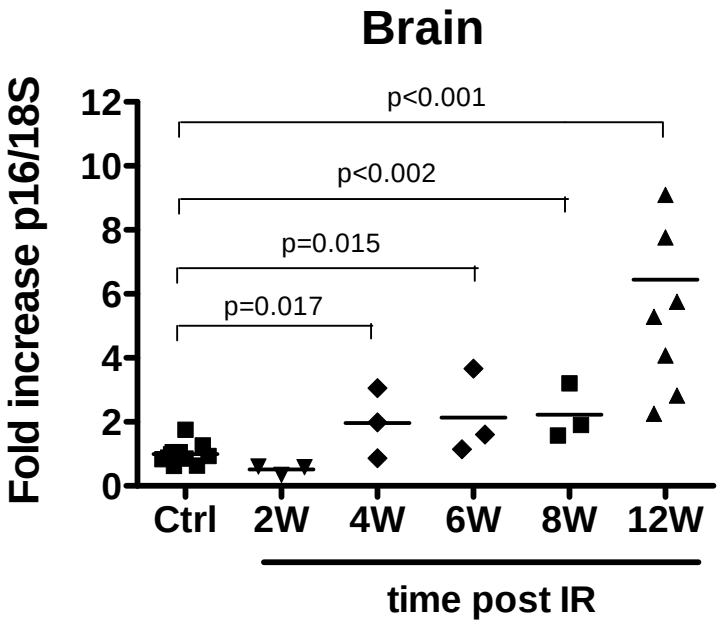


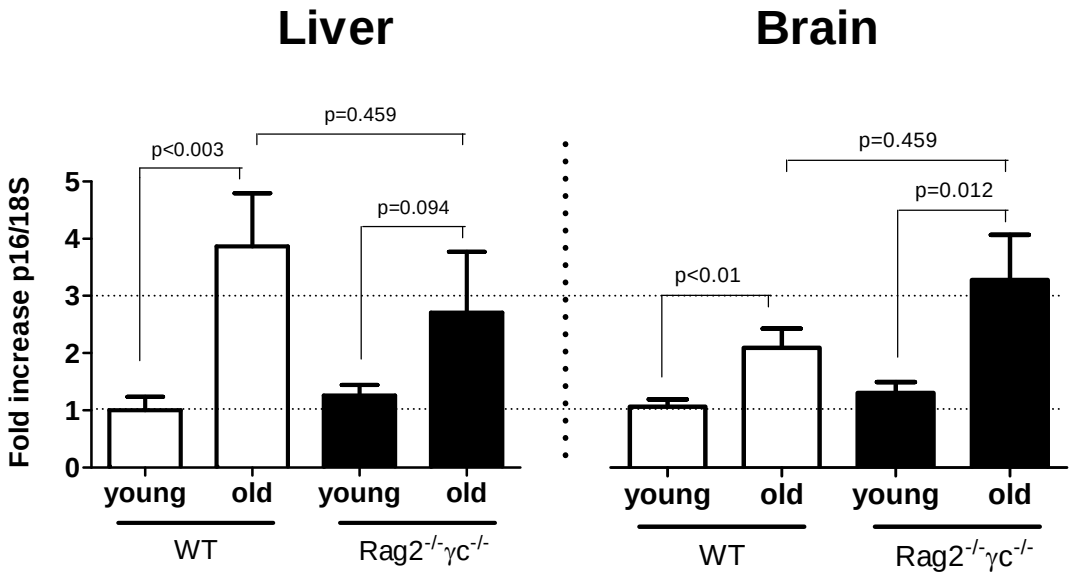
Le et al. Figure S1



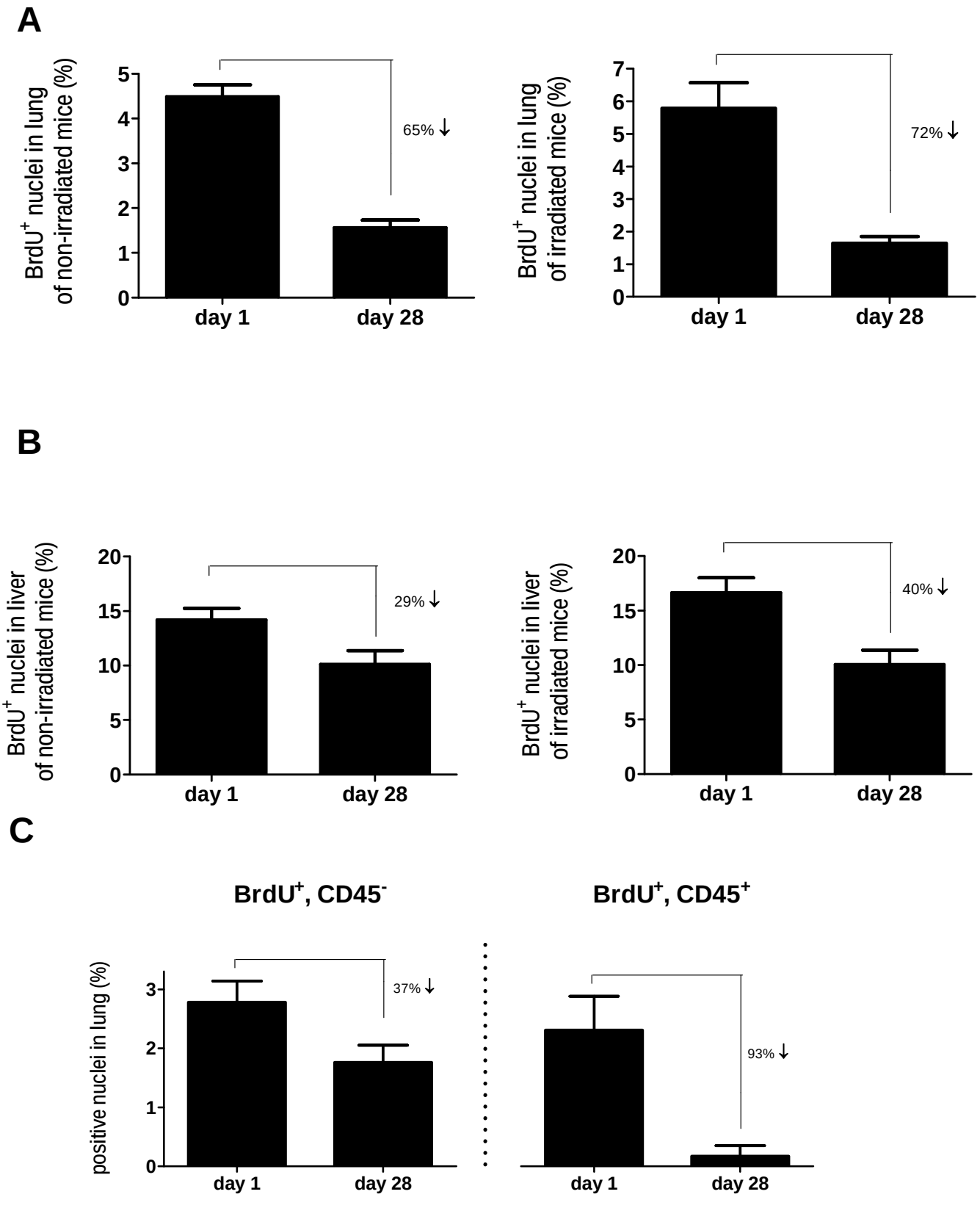
Le et al. Figure S2



Le et al. Figure S3

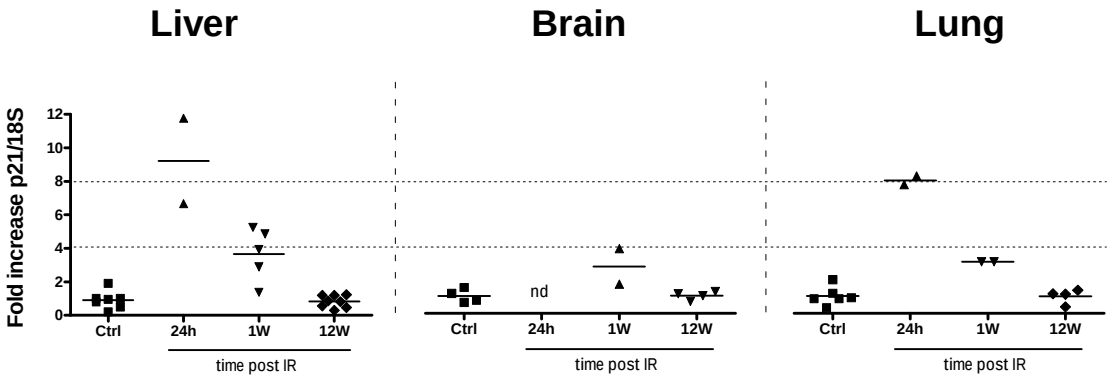


Le et al. Figure S4



Le et al. Figure S5

A)



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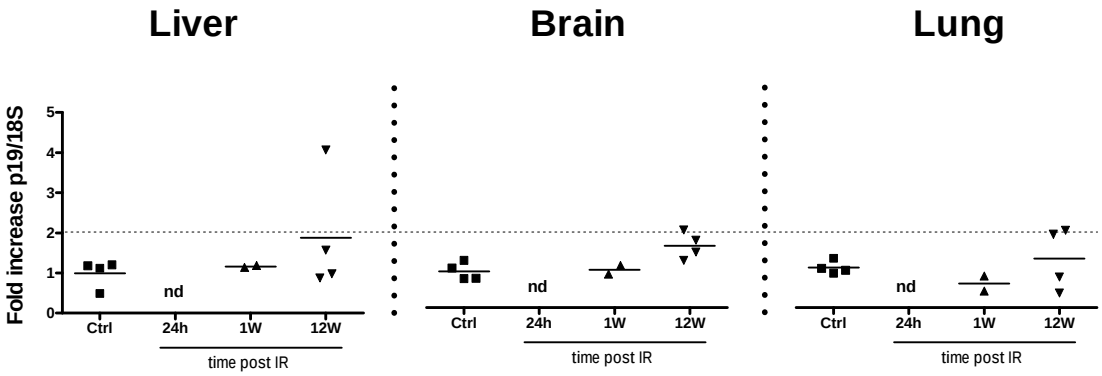

Le et al. Figure S6

Supplementary figures

Figure S1. 53BP1 DNA damage positive-cells in tissues of C57BL/6 mice with age. Fraction of cells containing 53BP1 DNA damage foci in liver, brain and lung tissues collected from control non-irradiated C57BL/6 mice sacrificed at the indicated age in months (M). Data are mean values ± s.e.m (n= 4-7).

Figure S2. $p16^{INK4a}$ expression in mouse skin post exposure to IR. Expression of $p16^{INK4a}$ was determined by quantitative real-time PCR using RNA isolated from homogenized full thickness skin biopsies collected from C57BL/6 mice sacrificed 12 weeks post exposure or not to 8 Gy TBI (n = 9 mice per group). p values were obtained by performing a Student's t-test relative to control.

Figure S3. Time course induction of $p16^{INK4a}$ expression post exposure to IR. Expression of $p16^{INK4a}$ was determined by quantitative real-time PCR using RNA isolated from homogenized brain tissue collected from C57BL/6 mice exposed or not to 8 Gy TBI and sacrificed at the indicated time post exposure to IR (n = 3-12, each symbol representing an individual mouse). p values were obtained by performing a Student's t-test relative to control.

Figure S4. Increased $p16^{INK4a}$ expression with age is independent of T, B and NK cell functions. Expression of $p16^{INK4a}$ was determined by quantitative real-time PCR on liver and brain tissues collected from young (3 months) and old (18 months) wild type (WT) or $Rag2^{-/-}\gamma C^{-}$

$^{/-}$ immune deficient mice (n = 3-6 mice per group). p values were obtained by performing a Student's t-test.

Figure S5. Clearance of BrdU^{+} cells post IR exposure. A-B) Loss of BrdU signal as detected by immunofluorescence on lung and liver tissues collected at day 1 or 28 post exposure or not to 8 Gy TBI. Indicated is the proportion of cells that have lost BrdU signal during the 28 days period post IR. **C)** Loss of BrdU signal from CD45 (pan-leukocyte marker) positive and CD45 negative cells identified by immunofluorescence in lung**.** n = 4 in each group. Indicated is the proportion of cells that have lost BrdU signal during the 28 days period post IR.

Figure S6. Expression of p21 and p19 in mice tissues exposed to IR. Expression of p21 and p19 genes was determined by quantitative real-time PCR using RNA isolated from homogenized liver, brain and lung tissues collected from young (ctrl, 3-6 months), old (24 months) or from young (3 months) animals exposed to 8 Gy total body IR and sacrificed at the indicated time (hours or weeks) post IR. Data are mean values ± s.e.m. n = 2-8 mice per group with each symbol representing an individual mouse.