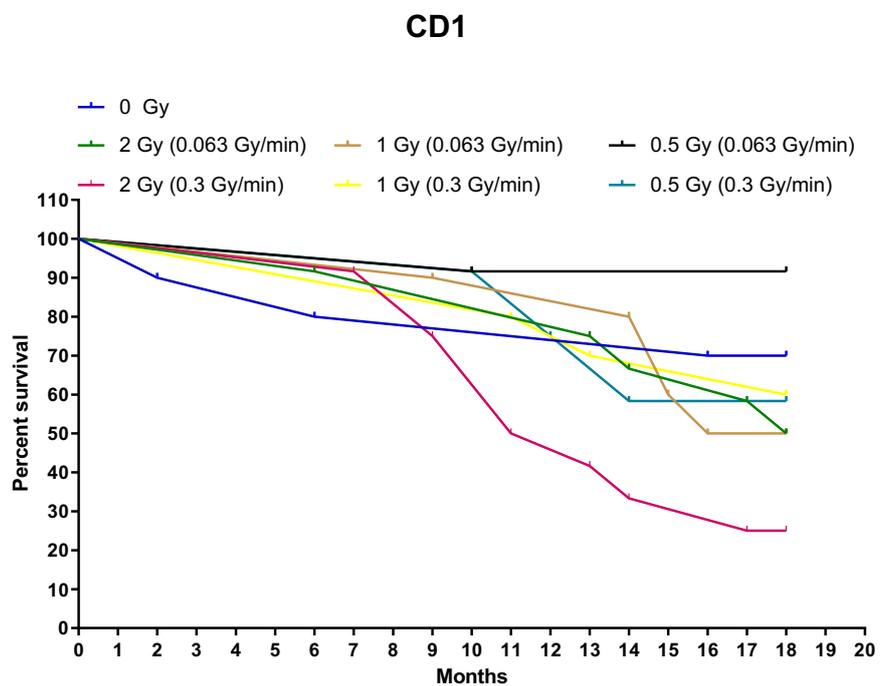
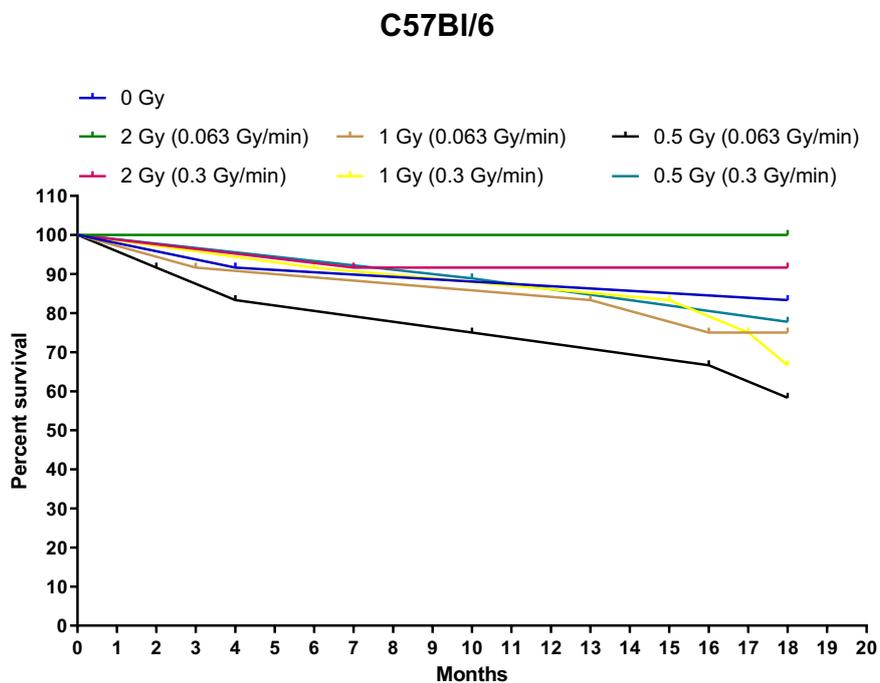


Supplementary Survival Data from all institutes:

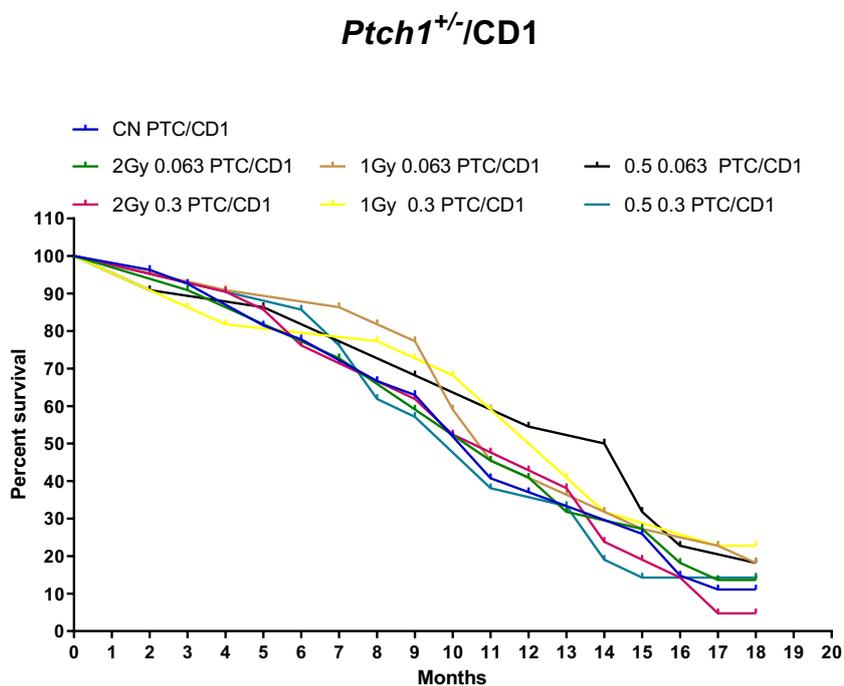
**Figure S1: Kaplan Meier survival plots from the CD1 wildtype mice at ENEA**



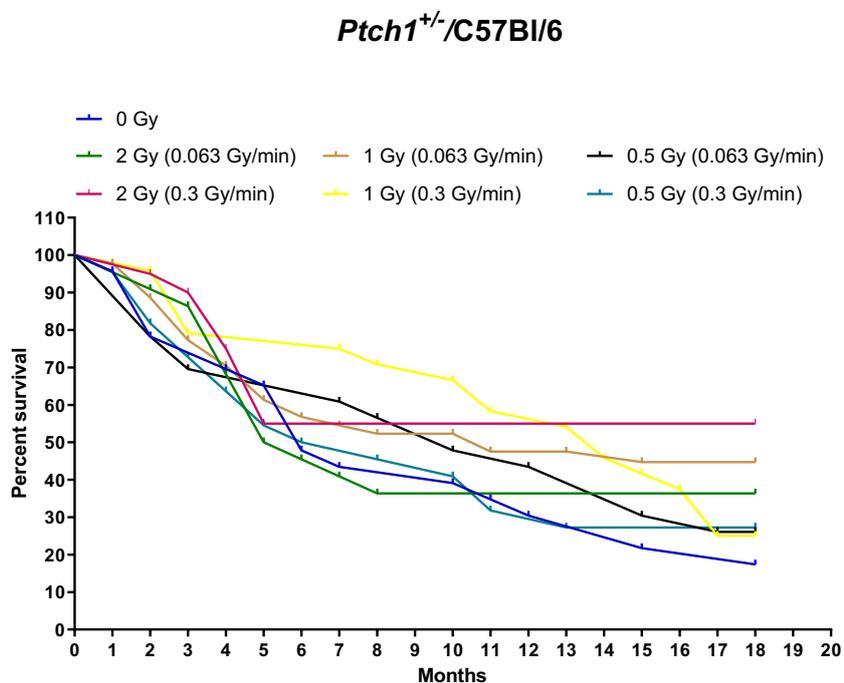
**Figure S2: Kaplan Meier survival plots from the C57BL/6 wildtype mice at ENEA**



**Figure S3: Kaplan Meier survival plots from the  $Ptch1^{+/-}/CD1$  heterozygous mice at ENEA**



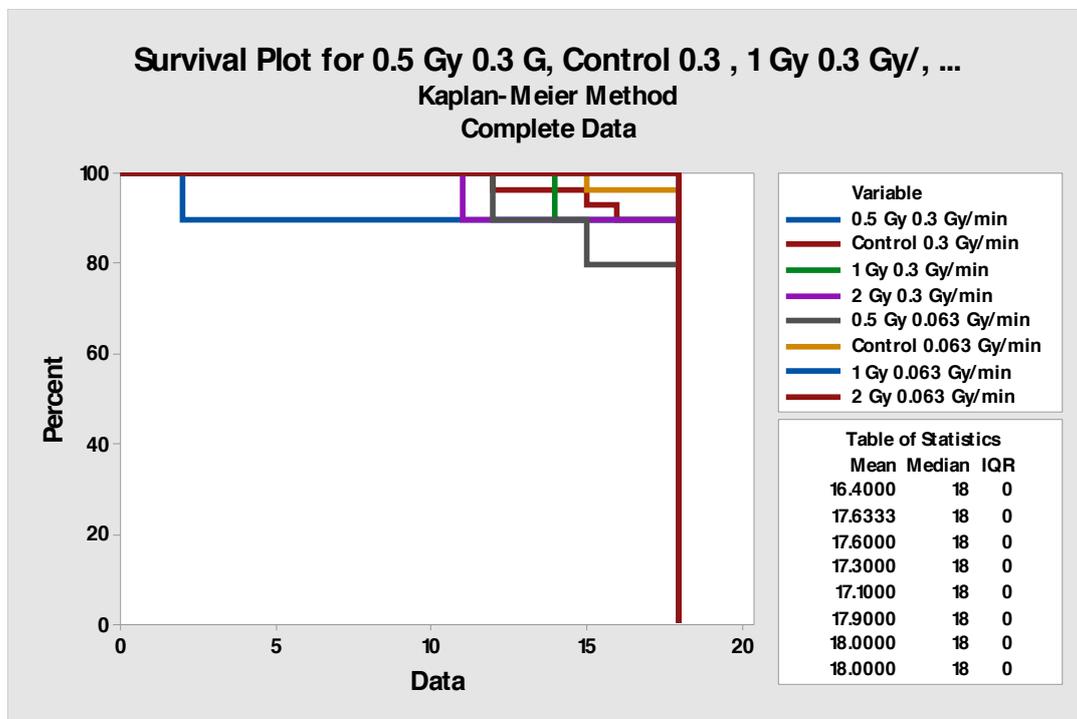
**Figure S4: Kaplan Meier survival plot from the  $Ptch1^{+/-}/C57BL6$  heterozygous mice at ENEA**



Figures S1-S4: Similar considerations can be extrapolated by survival data of mouse colonies enrolled at ENEA. No significant differences were found in survival of unirradiated WT mice, with 70% of CD1 and 77.7% of C57BL/6 mice that survived to 18-month. Survivals of all WT mice, irradiated with 0.5, 1 or 2 Gy, were not significantly different from those of their unirradiated counterparts. In mutant mice ( $Ptch1^{+/-}$  maintained on both genetic backgrounds) survivals declined in all groups, confirming that

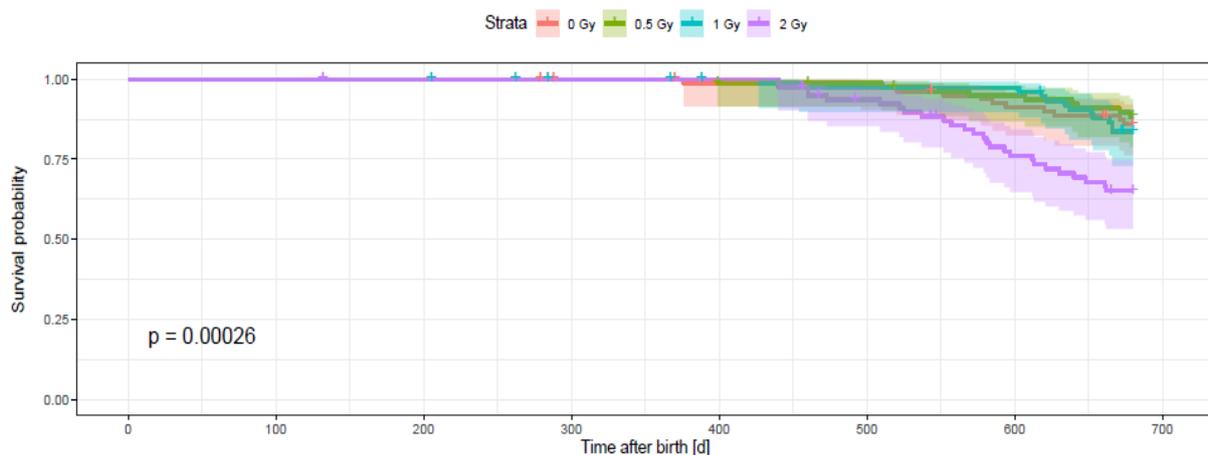
*Shh-dependent pathologies occurred in this mouse model (doi: 10.1016/j.canlet.2005.03.047.). However, no significant differences were found after irradiation with all delivered doses with respect to unirradiated group.*

**Figure S5: Kaplan-Meier survival plot of mouse survival under all exposure conditions for C57BL6 mice at PHE.**



*Figure S5: Kaplan-Meier survival plot of mouse survival under all exposure conditions, including sham irradiated controls. Note were all mice sacrificed at 18 months.*

**Figure S6: 18 month Kaplan Meier survival plots for Ercc2 mutated and wild type mice from HMGU**



*Figure S6: Survival probabilities of long-term cohorts (Kaplan-Meier plot) beginning at birth (Irradiation at P70). 95 % confidence interval as coloured coat of every stratum. Event-free deceased animals marked with little perpendicular bars. Note that numbers at risk were also reduced by non-eventual dead.*