



Supporting Information Figure 7: Absence of luciferase signal in two SCLC tumors is caused by failure to recombine the *invCAG-Luc* transgene.

Four *invCag-Luc;Rb1^{F/F};Trp53^{F/F}* mice, 1 out of 10 chimeras and 3 out of 12 F1's, developed SCLC without a Luciferase signal. Genomic DNA was extracted from two of these tumors (from chimera 962975 and F1 1005677), and a PCR was performed with three primers that distinguish the recombined *invCag-Luc* transgene from the non-recombined. Three primers were used: a forward primer on Lox66 5' -GGCCGGCCATAACTTCGTATAATG-3' and two antisense primers: one located in the vector backbone: 5' -CTGCGTTATCCCCTGATTCTGTGG-3' to detect the non-recombined allele (product size: 897 bp) and one in the Hygromycin-B gene 5' -CCTACATCGAAGCTGAAAGCACGAG-3' to identify the recombined allele (product size: 1054 bp). The PCR was performed with 1x Phusion Flash high-fidelity PCR mix (Thermo Scientific) at annealing and extension temperature of 72°C.