Supplementary Material For:

Quantifying the relative amount of mouse and human DNA in cancer xenografts using species-specific variation in gene length

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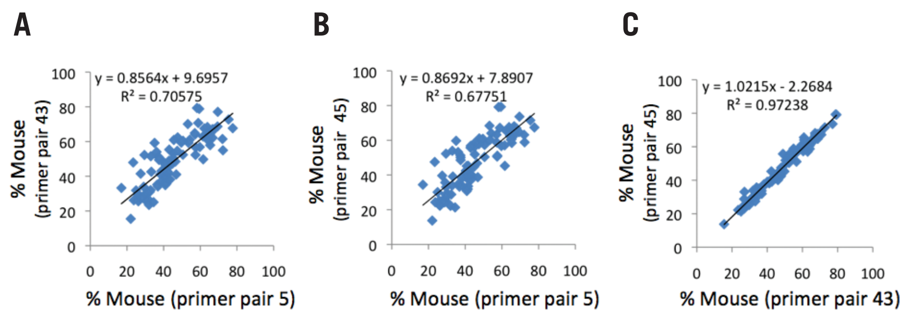

Figure S1. Correlation of the percentage of mouse DNA measured by length variation using primer pair 5 (located on chromosome 10) and primer pairs 43 and 45 (located on chromosome 10). (A) Primer 5 versus primer 43. (B) Primer 5 versus primer 45. (C) Primer 43 versus primer 45.

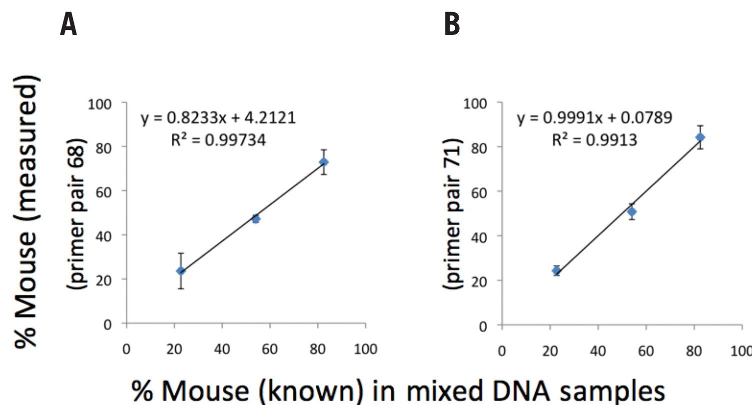

Figure S2. Relationship between the known percentage of mouse genome of the mixed DNA samples (*x* axis) and the % mouse genome measured by direct sequencing (*y* axis). (A) Direct sequencing using primer pair 68 (F: 5′-TCAGTCAAGCCTGCCAT-3′, R: 5′-ACACATTTTAAGCCAATGAC-3′) located near primer pair 5 on chromosomes 10p13 and (B) primer pair 71 (F: 5′-ATATAACAATCATGTTCCTG-3′, R: 5′-CATGGCCAGTGCTCCCCATC-3′) located near primer pair 45 on chromosomes 9q34. The PCR and sequencing were performed as described in the "Materials and methods" section except that the annealing temperature for the PCR was 54°C. The mouse component was calculated by dividing the peak height of the mouse-specific bases by the sum of peak heights of human-specific and mouse-specific bases. The peak high was measured according to the electropherogram of the Sanger's sequencing. Six nucleotide variations between human and mouse genomes were selected for amplicons from primer pair 68 and 3 nucleotide changes were selected for amplicons from primer pair 71 to obtain an average for each measurement. Assays were done in triplicate for each data point.

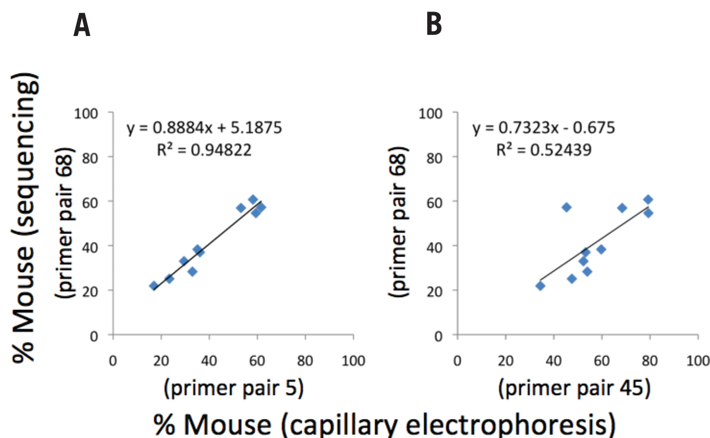

Figure S3. Relationship between the percentage of mouse genome measured by capillary electrophoresis of length variants (*x* axis) and the percentage measured by direct sequencing of base differences (*y* axis). (A) Primer pairs 5 and 68 located on the same chromosome. (B) Primer pairs 68 and 45 located on different chromosomes. Note that the correlation coefficient of the markers on the same chromosome (A) is substantially better than those on different chromosomes (B).

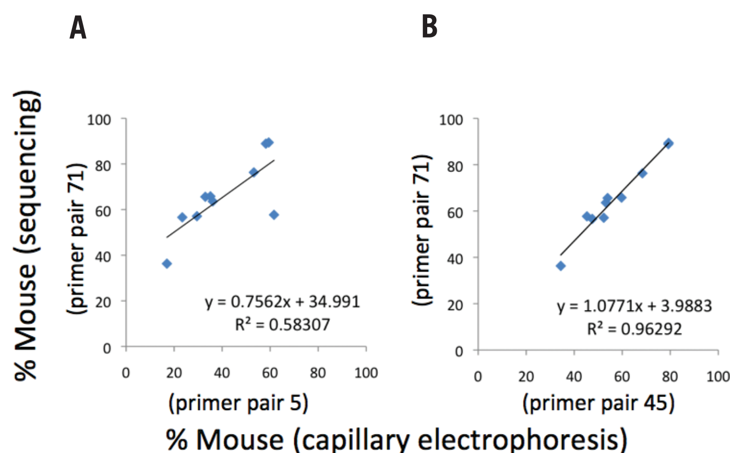

Figure S4. Relationship between the percentage of mouse genome measured by capillary electrophoresis length variants (*x* axis) and the percentage measured by direct sequencing of base differences (*y* axis) . (A) Primer pairs 71 and 5, located on different chromosomes. (B) Primer pairs 71 and 45, located on the same chromosome. Note that the correlation coefficient of the markers on the same chromosome (B) is substantially better than those on different chromosomes (A).