Figure S1

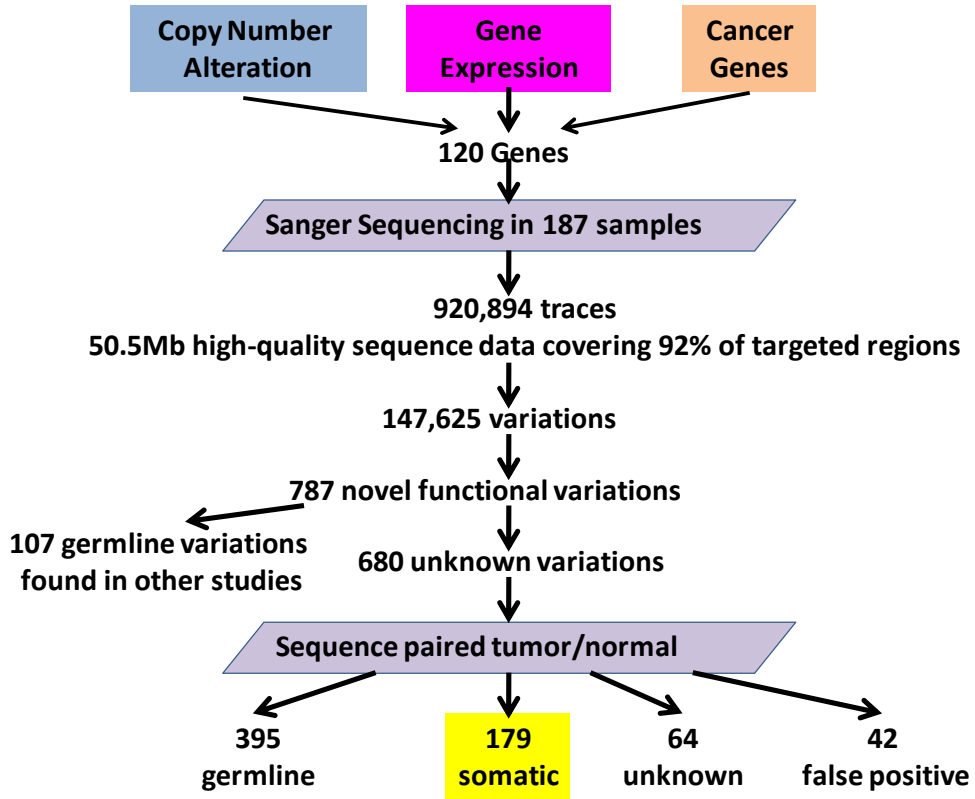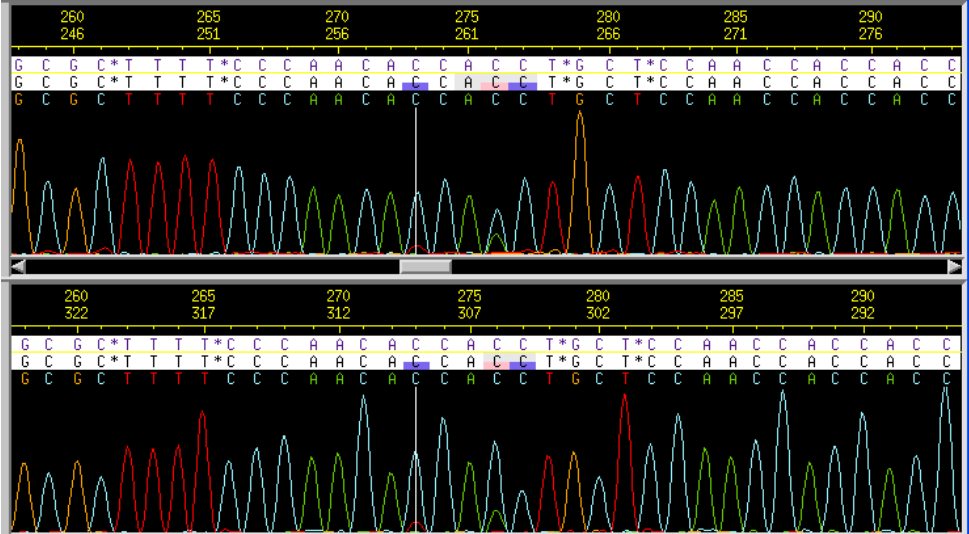Data analysis process for identifying and validating somatic mutations in 187 cases of HR-ALL

Figure S2. Double-mutants in NRAS and KRAS

A) KRAS G12D and G13D double-mutation in case 9906_215. B) NRAS G12V and G13D double-mutation in case 9906_106
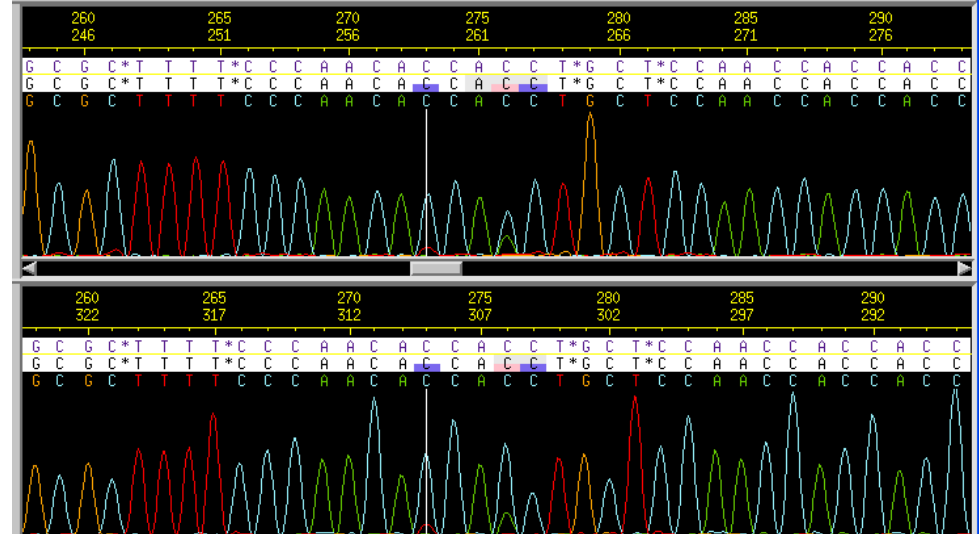
A)

B)

Figure S3. *IKZF1* **deletion pattern in R8 (top), R7 (middle) and R6 (bottom)**

The blue bars indicate the location of the deletion for each sample. The green vertical bars indicate somatic sequence mutation.

Figure S4

There was no significant association between the presence or number mutations affecting Ras signaling and outcome in this study.