

Supplementary Data

Table S1. A summary of the datasets used in this study.

Figure S1. Logistic regression analyses of the *KALRN* mutation and the Rho GTPase gene mutation in predicting the immunotherapy response and immune signature scores. The *KALRN* mutation is a significant positive predictor for the immunotherapy response in three of the five cancer cohorts (**A**) and a significant positive predictor for the immune signature scores in TCGA pan-cancer (**B**) after correcting for the Rho GTPase gene mutation.

Figure S2. The association between the Rho GTPase gene mutation and survival in the *KALRN*-wildtype cancer subset and in all cancers with the immune checkpoint blockade therapy. Kaplan-Meier survival curves showing the survival time differences and the log-rank test *P* values showing the significance of survival time differences.