**Supplementary Figure Legends:**

**Supplementary Figure 1. Comparison of the average JAK/STAT3 pathway score across different mutation groups within the TCGA-PRAD cohort.** The groups analyzed included WTP53, p.R248Q, and other TP53 mutations, as well as a subgroup analysis of p.R248Q mutations in combination with other mutations.

**Supplementary Figure 2. Correlation analysis of SHP1 expression levels with immune-related factors in prostate cancer patients derived from the GSE25136 dataset (unpaired t test).**