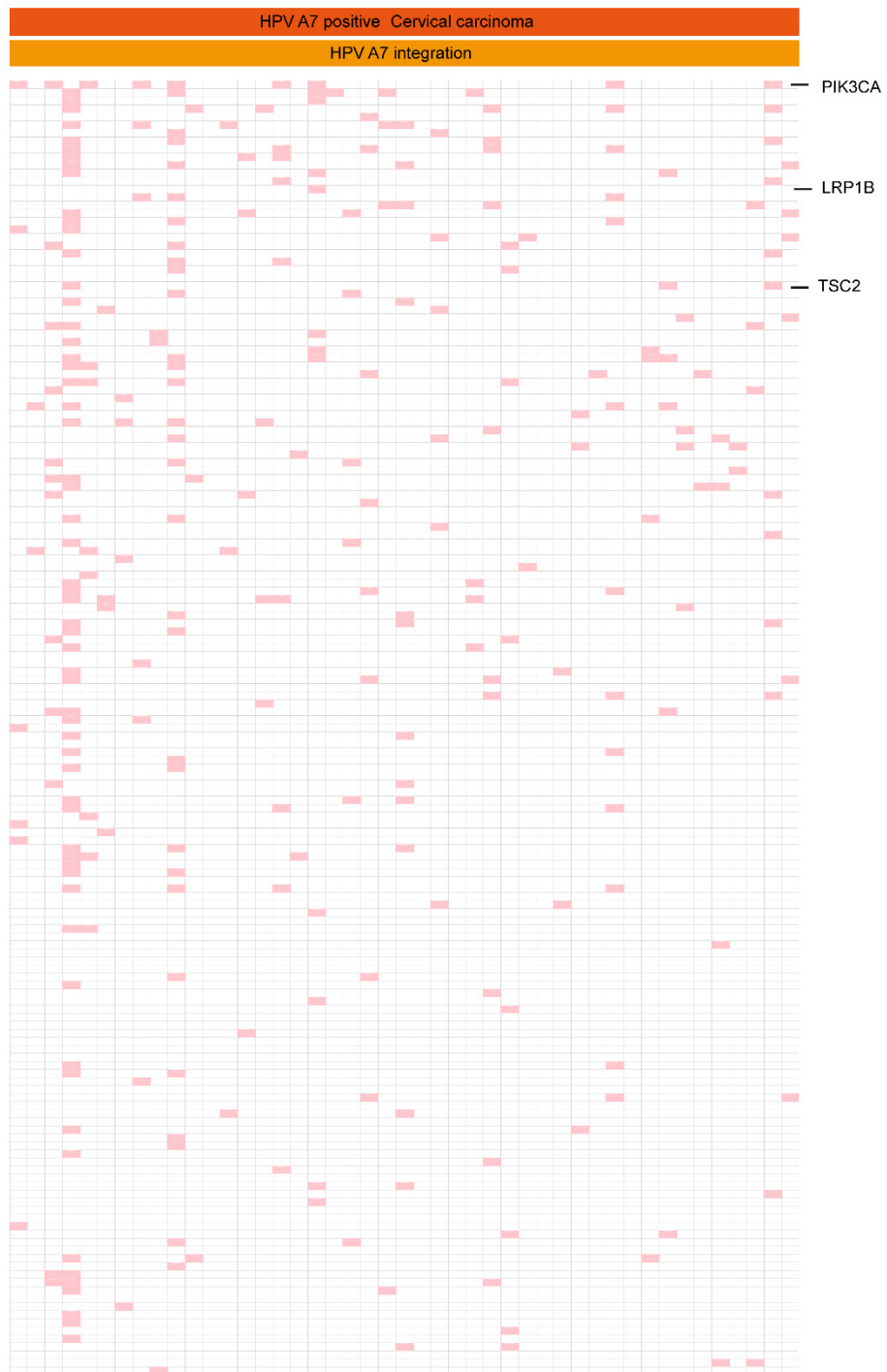
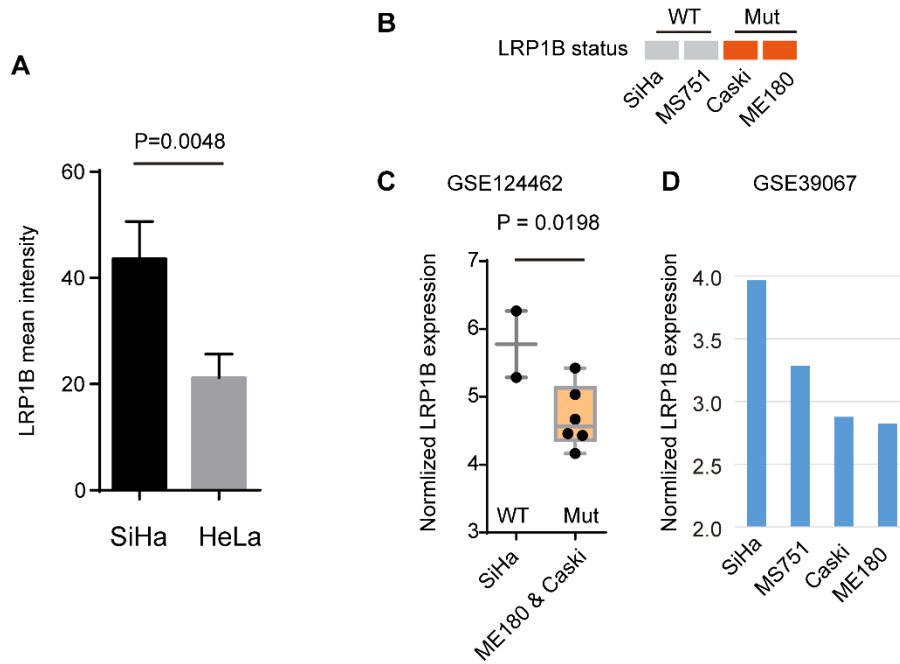


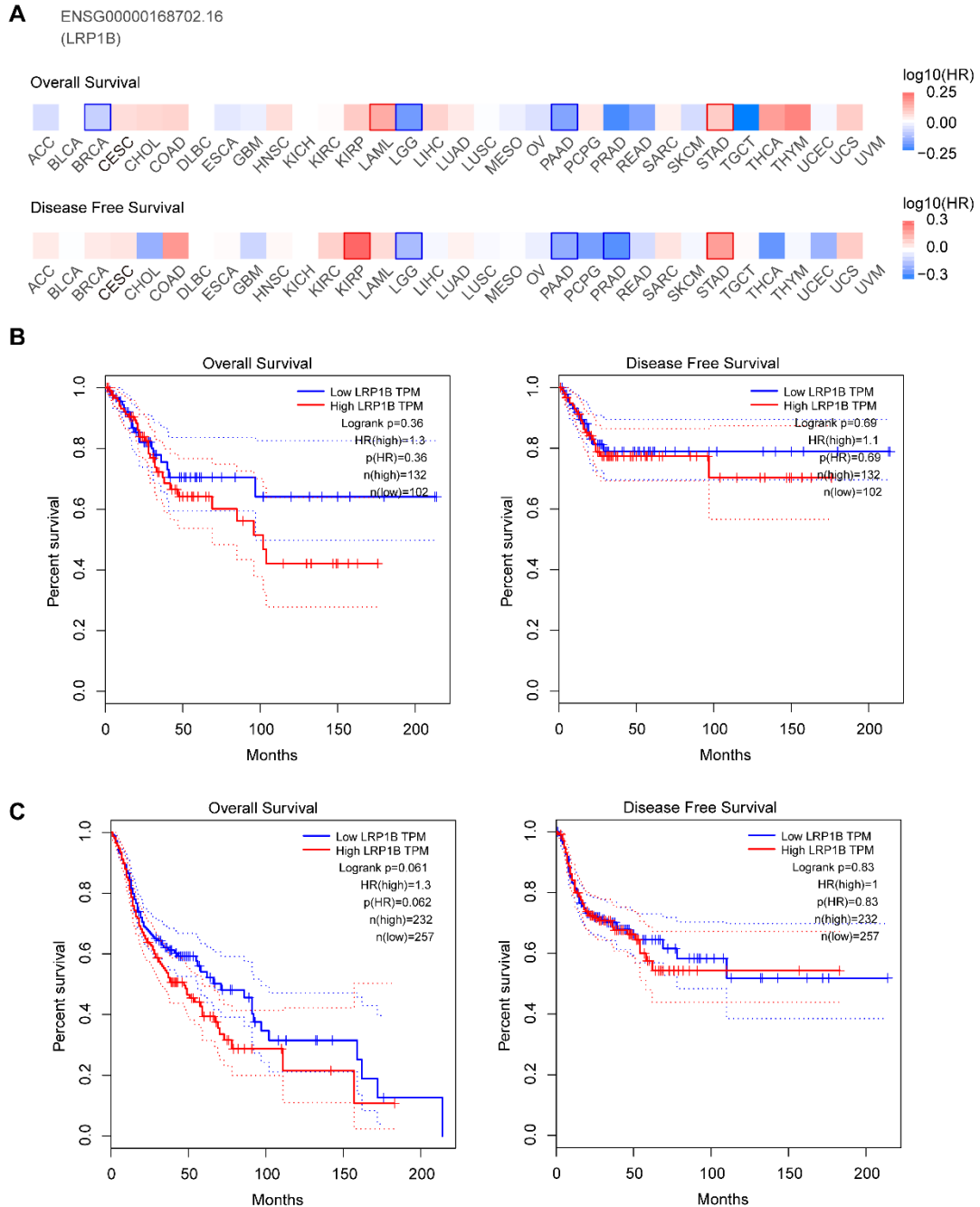
### Supplementary Figure 1: Mutation status in HPV A7 CC.



**Supplementary Figure 2: Expression of *LRP1B* in cell lines with different *LRP1B* status.** (A) Statistical analysis of immunofluorescence staining. (B) Mutation status of *LRP1B* in cell lines. *LRP1B* expression in cell lines from GSE124462 (C) and GSE39067 (D)



**Supplementary Figure 3: Survival analysis in CC and HNSCC.** Survival analysis in 33 cancer types (A), in CC (B), and HNSCC (C), all results were performed by GEPIA <sup>40</sup>.



**Supplementary Table 1: Mutation genes of HeLa cells.**

**Supplementary Table 2: Mutation genes of Caski cells.**

**Supplementary Table 3: Mutation genes of Me180 cells.**

**Supplementary Table 4: Samples information of CC cohort 1.**

**Supplementary Table 5: Description of 289 genes.**

**Supplementary Table 6: Molecular analyses of 289 co-occurrence mutation genes.**