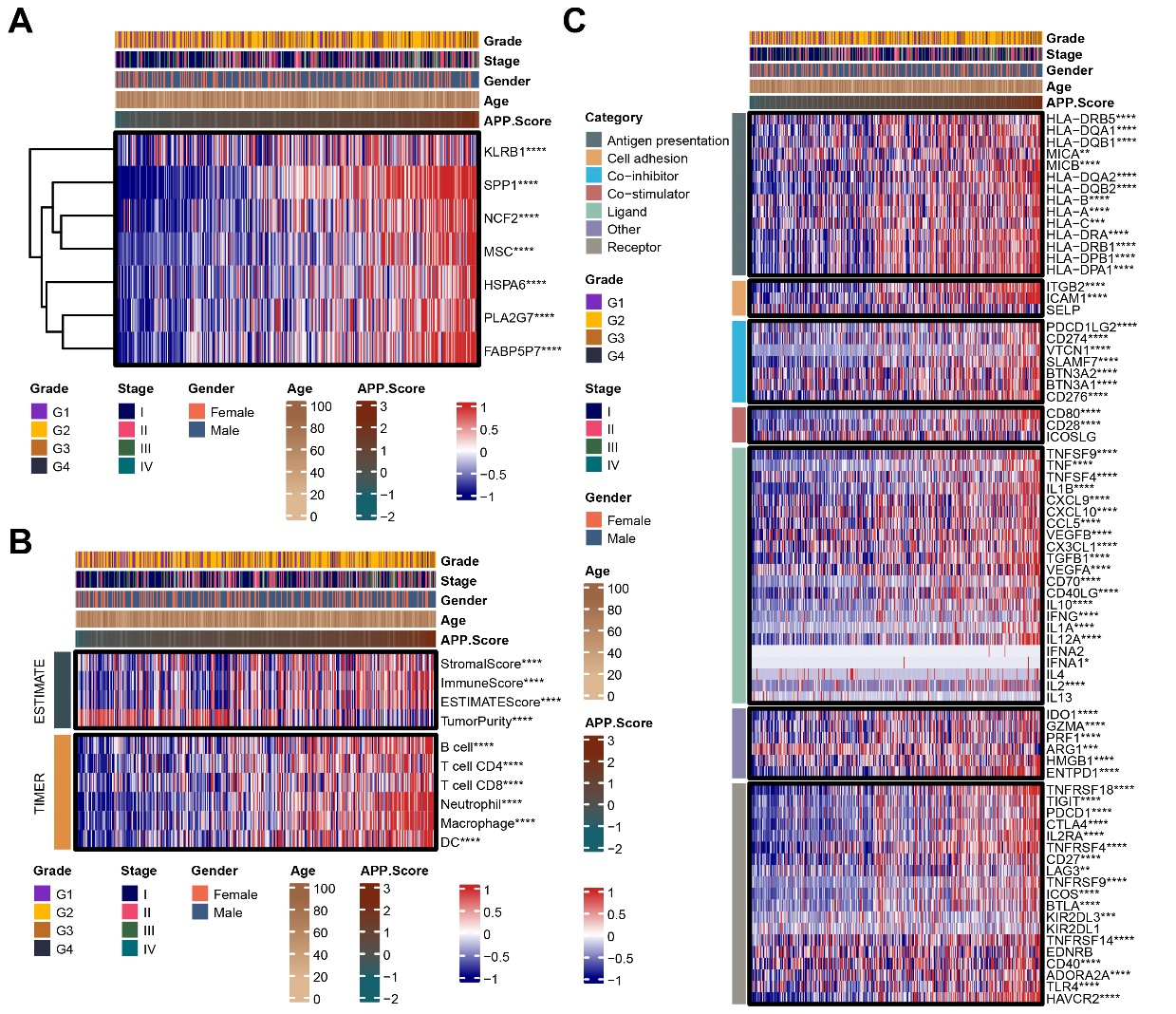
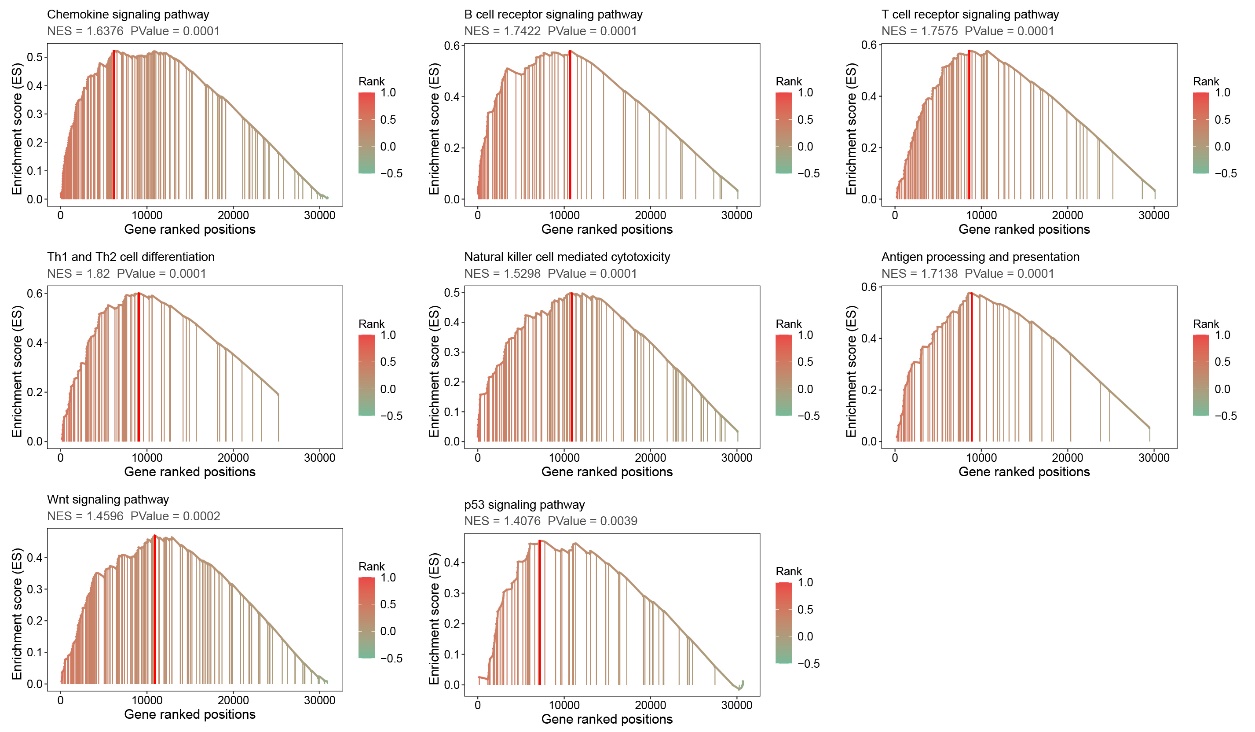


**Supplementary Fig. 1. Flow chart.**



**Supplementary Fig. 2. Immune cell infiltration and immune checkpoint analysis.** (A) Heatmap of the expression of 7 genes; (B) Analysis of immune cell infiltration; (C) Analysis of immune checkpoint. \**p* < 0.05; \*\**p* < 0.01; \*\*\**p* < 0.001; \*\*\*\**p* < 0.0001; vs. the low APP. Score.



**Supplementary Fig. 3. GSEA. GSEA for APP.Score.**