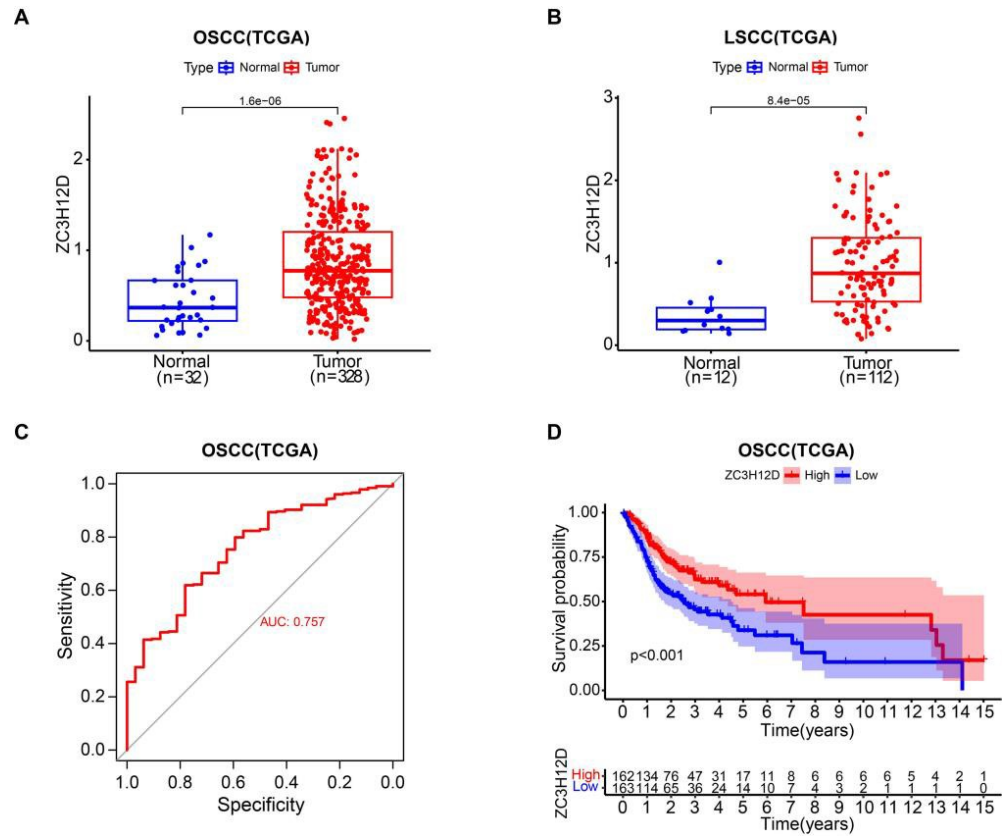
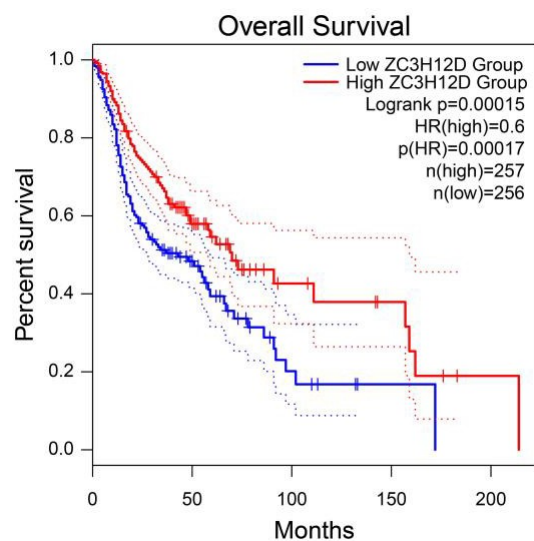


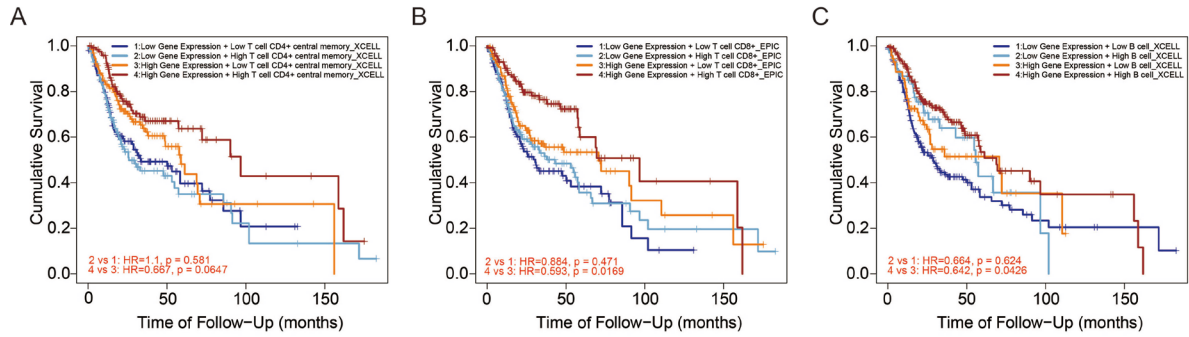
**Figure S1. A**, Expression of ZC3H12D in normal and oral squamous cell carcinoma (OSCC) samples based on data from TCGA. **B**, Expression of ZC3H12D in normal and laryngeal squamous cell carcinoma (LSCC) samples based on data from TCGA. **C**, ROC curve analysis of ZC3H12D for the diagnosis of OSCC patients based on data from TCGA. **D**, The Kaplan-Meier overall survival analysis of OSCC patients from TCGA. Data are reported as median and IQR. Wilcoxon rank-sum test.



**Figure S2.** Overall survival curves of TCGA patients by GEPIA2.



**Figure S3. A–C**, Kaplan-Meier survival curves based on the levels of CD4+ and CD8+ T cell infiltration and B cell infiltration in head and neck squamous cell carcinoma patients with high and low ZC3H12D expression.



**Figure S4.** Analysis of the correlation between checkpoint-related genes and ZC3H12D expression in pan-cancer (A). Correlations of ZC3H12D expression with the main immune checkpoints in head and neck squamous cell carcinoma (HNSCC) (B). Comparison of immune checkpoints expression between the groups with high and low ZC3H12D expression in HNSCC patients (C). Data are reported as median and IQR. \*\*\* $P < 0.001$ , Wilcoxon rank-sum test.

