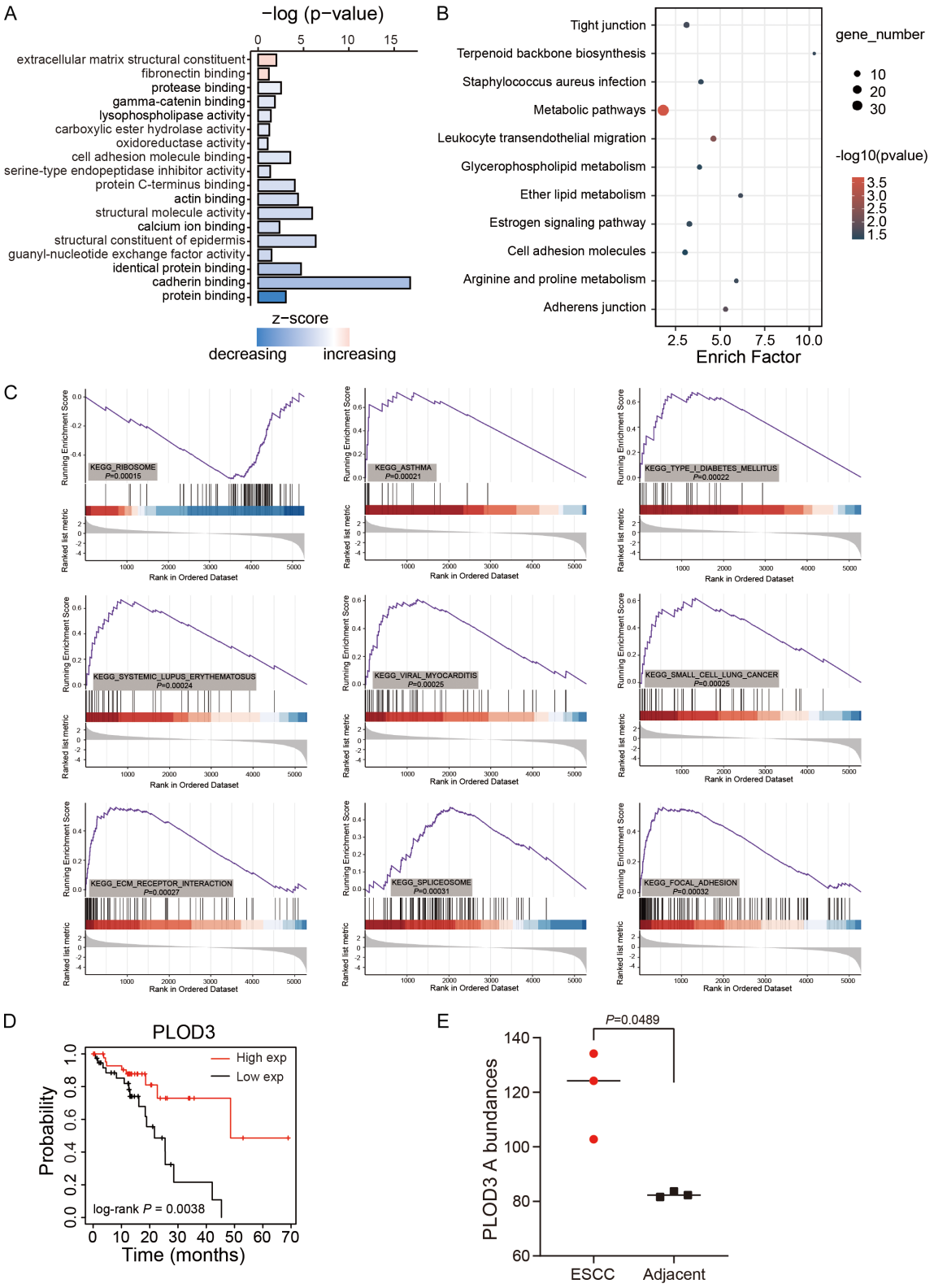
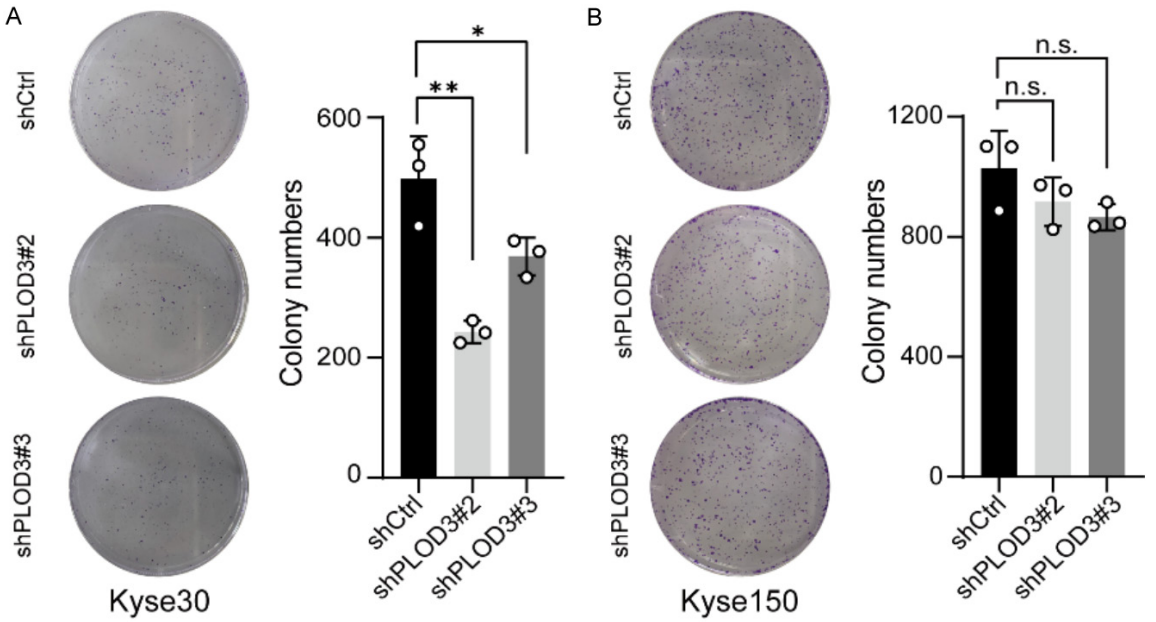
**Supplementary Table 1.** Summary of clinical characteristics of the 19 esophageal squamous cell carcinoma patients

| Variables | All cases (N=19; %) |
|---|---|
| Gender | |
| Male | 17 (89.5) |
| Female | 2 (10.5) |
| Age (year) | |
| < 65 | 6 (31.6) |
| ≥ 65 | 13 (68.4) |
| Size (cm) | |
| < 4 | 3 (15.8) |
| ≥ 4 | 16 (84.2) |
| Grade | |
| Poor | 4 (21.1) |
| Moderate | 10 (52.6) |
| Well | 5 (26.3) |
| Lymph node status | |
| 0 | 12 (63.2) |
| ≥ 1 | 7 (36.8) |

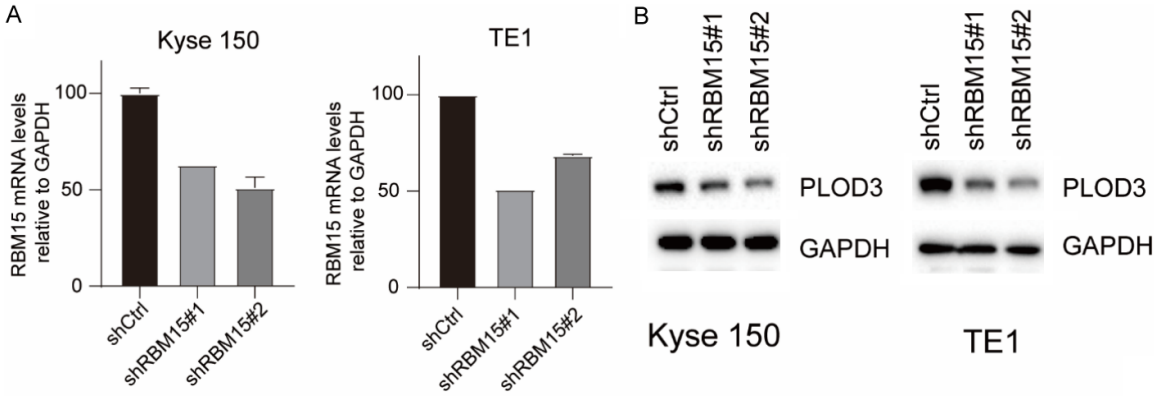
NOTE: The numbers in parentheses indicate the percentages of tumors with a special clinical.




**Supplementary Figure 1.** Analysis of signaling pathways. (A-C) GO (A), KEGG (B) and GSEA (C) analysis of differential proteins in ESCC. (D) The overall survival (OS) curve of high- and low-PLOD3 groups in KM-plotter ESCC data set. (E) PLOD3 abundances in ESCC tumor and adjacent tissue which was used in LC-MS/MS. Paired, two-tailed Student's t-test.




**Supplementary Figure 2.** PLOD3 has no effect on clone formation in ESCC cells. (A, B) Colony formation assay in Kyse30 (A) and Kyse150 (B) cells. Representative images and statistical plots are shown; Mean ± s.d. are given for three independent experiments. One-way ANOVA; $*P < 0.05$, $**P < 0.01$, n.s.-no significant difference.




**Supplementary Figure 3.** RBM15 regulates PLOD3 expression in ESCC cells. A. Efficient knockdown of RBM15 by shRNA in Kyse150 and TE1 cells was verified by quantitative realtime PCR. B. PLOD3 expression was determined by Western blot.