# Supplementary Materials

### Supplementary Tables

**Table S1** Association of Siglec-15 expression with the clinicopathological characteristics of 91 patients with retroperitoneal liposarcoma

| Characteristics | Total | Siglec-15 positive (%) | Siglec-15 negative (%) | *P* value |
|---|---|---|---|---|
| **Gender** | | | | |
| Male | 52 | 41(78.8) | 11(21.2) | 0.078 |
| Female | 39 | 36(92.3) | 3(7.7) | |
| **Age** | | | | |
| ≤60 | 55 | 43(78.2) | 12(21.8) | **0.036** |
| >60 | 36 | 34(94.4) | 2(5.6) | |
| **Tumor size** | | | | |
| ≤15 | 16 | 11(68.8) | 5(31.2) | 0.060 |
| 15-30 | 50 | 42(84.0) | 8(16.0) | |
| >30 | 25 | 24(96.0) | 1(4.0) | |
| **FNCLCC grade** | | | | |
| Low(G1) | 20 | 16(80.0) | 4(20.0) | 0.767 |
| High(G2、G3) | 71 | 61(85.9) | 10(14.1) | |
| **Histology** | | | | |
| DDLPS | 50 | 41(82.0) | 9(18.0) | 0.931 |
| WDLPS | 23 | 20(87.0) | 3(13.0) | |
| PLPS | 7 | 6(85.7) | 1(14.3) | |
| MLPS | 11 | 10(90.9) | 1(9.1) | |
| **Multifocality** | | | | |
| No | 54 | 41(75.9) | 13(24.1) | **0.006** |
| Yes | 37 | 36(97.3) | 1(3.2) | |

| | | | | |
|---|---|---|---|---|
| **Recurrence** | | | | |
| No | 48 | 42(87.5) | 6(12.5) | 0.420 |
| Yes | 43 | 35(81.4) | 8(18.6) | |
| **Necrosis** | | | | |
| No | 60 | 51(85.0) | 9(15.0) | >0.999 |
| Yes | 31 | 26(83.9) | 5(16.1) | |

SD standard deviation, FNCLCC Federation Nationale des Centres de Lutte Contre le Cancer, Siglec-15: sialic acid-binding immunoglobulin-like lectin-15, WDLPS well-differentiated liposarcoma, DDLPS dedifferentiated liposarcoma, PLPS pleomorphic liposarcoma, MLPS myxoid/round cell liposarcoma

**Table S2** Association of PD-L1 expression with the clinicopathologic characteristics of 91 patients with retroperitoneal liposarcoma

| Characteristics | Total | PD-L1 positive (%) | PD-L1 negative (%) | *P* value |
|---|---|---|---|---|
| **Gender** | | | | |
| Male | 52 | 10(19.2) | 42(80.8) | 0.633 |
| Female | 39 | 6(15.4) | 33(84.6) | |
| **Age** | | | | |
| ≤60 | 55 | 11(20.0) | 44(80.0) | 0.454 |
| >60 | 36 | 5(13.9) | 31(86.1) | |
| **Tumor size** | | | | |
| ≤15 | 16 | 7(43.8) | 9(56.3) | **0.012** |
| 15-30 | 50 | 5(10.0) | 45(90.0) | |
| >30 | 25 | 4(16.0) | 21(84.0) | |
| **FNCLCC grade** | | | | |
| Low(G1) | 16 | 4(20.0) | 16(80.0) | >0.999 |
| High(G2、G3) | 71 | 12(16.9) | 59(83.1) | |
| **Histology** | | | | |
| DDLPS | 50 | 12(24.0) | 38(76.0) | 0.439 |
| WDLPS | 23 | 3(13.0) | 20(87.0) | |
| PLPS | 7 | 0(0) | 7(100) | |
| MLPS | 11 | 1(9.1) | 10(90.9) | |
| **Multifocality** | | | | |
| No | 54 | 10(18.5) | 44(81.5) | 0.777 |
| Yes | 37 | 6(16.2) | 31(83.8) | |
| **Recurrence** | | | | |
| No | 48 | 7(14.6) | 41(85.4) | 0.427 |
| Yes | 43 | 9(20.9) | 34(79.1) | |

| | | | | |
|---|---|---|---|---|
| **Necrosis** | | | | |
| No | 60 | 11(18.3) | 49(81.7) | 0.793 |
| Yes | 31 | 5(16.1) | 26(83.9) | |

SD standard deviation, FNCLCC Federation Nationale des Centres de Lutte Contre le Cancer, PD-L1 programmed death ligand 1, WDLPS well-differentiated liposarcoma, DDLPS dedifferentiated liposarcoma, PLPS pleomorphic liposarcoma, MLPS myxoid/round cell liposarcoma

## Supplementary Figures

**FigureS1** Prognosis value and functional enrichment analysis of DEG in sarcoma samples collected from TCGA with low and high-expressed Siglec-15. (a) Survival curve of differential Siglec-15 expression were analyzed in 259 sarcoma patients. (b) Representative heatmap of DEG between Siglec-15 high and low expression groups. |log FC|>2 and DEG with FDR<0.05 were used as screening criteria. (c) Bubble plot for GO enrichment analysis of DEG between high and low Siglec-15 expression in TCGA-SARC patients. (d) Bar plot for KEGG enrichment analysis of DEG between high and low Siglec-15 expression in TCGA-SARC patients. (e) Siglec-15 related DEG's PPI network and the most important network core genes. DEG's PPI network is constructed using String. A PPI pair with a minimum interaction score of 0.9 was chosen by this study to construct a PPI network. (f) Bar plot for network core genes with the greatest number of adjacent nodes.

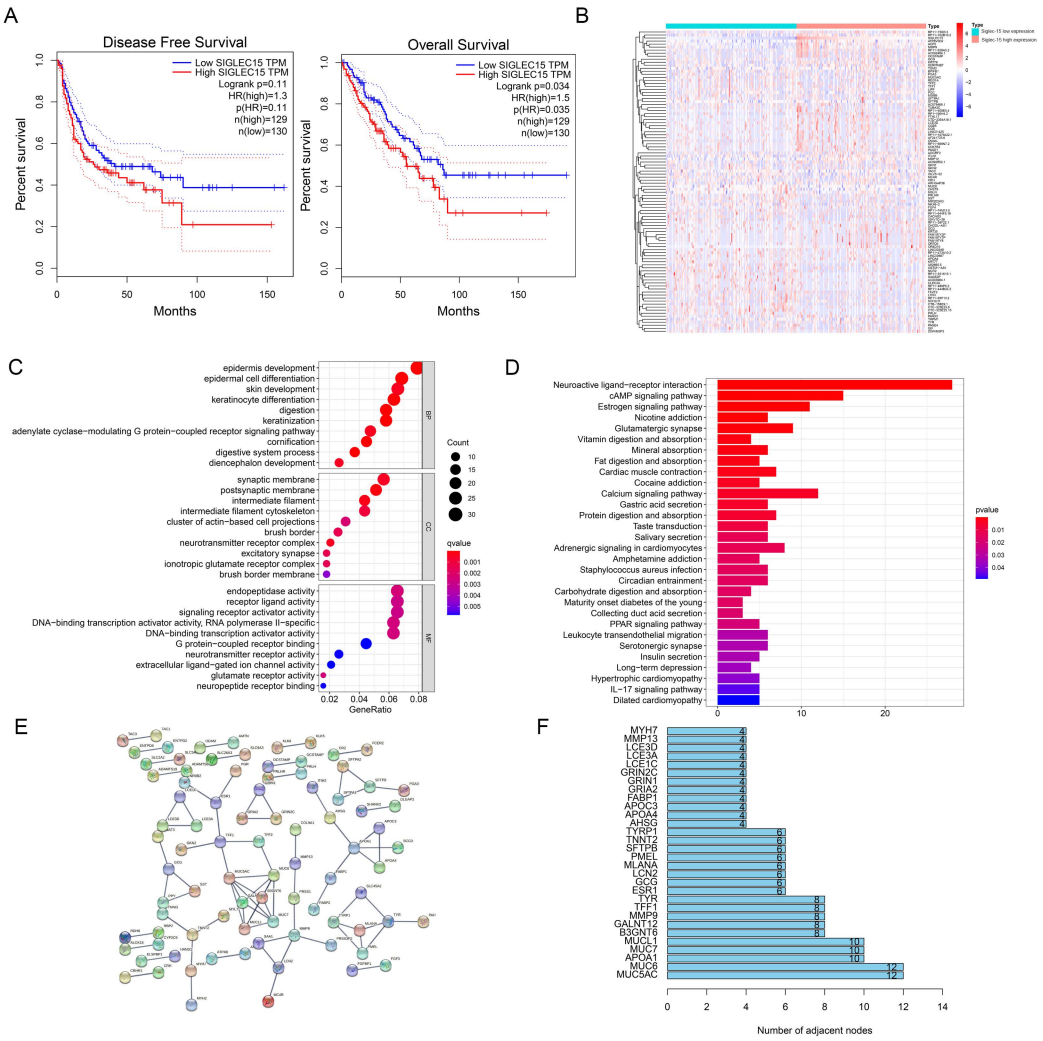

**Figure S2** Low Siglec-15 expression was associated with necrosis in RLPS patients (P=0.035).

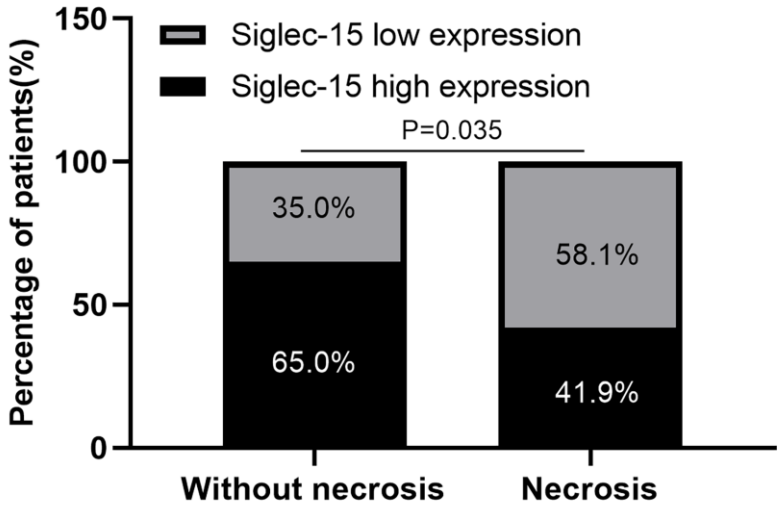


**Figure S3** High PD-L1 expression was associated with recurrence in RLPS patients (P=0.049).

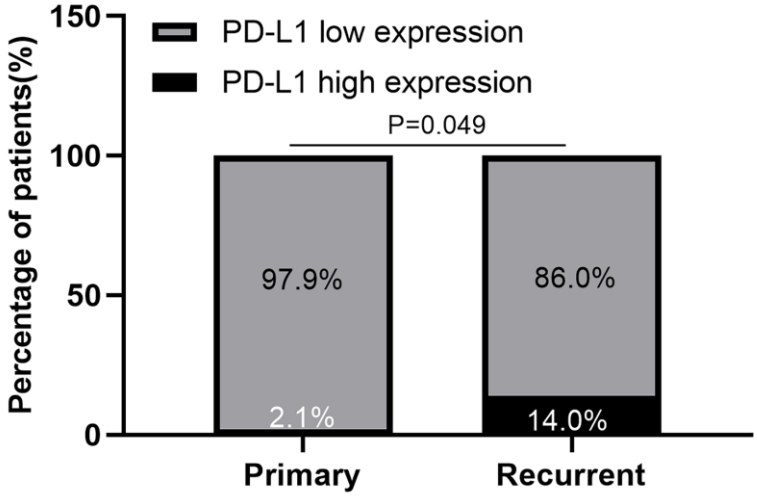

**Figure S4** Correlation of PD-L1 and Siglec-15 expression with prognosis of patients with retroperitoneal liposarcoma. Kaplan–Meier survival curves for (a) disease-free survival (DFS) and (b) overall survival (OS) between patients with positive and negative Siglec-15 expression. Kaplan–Meier survival curves for (c) DFS and (d) OS between patients with positive and negative PD-L1 expression.