

## **Supplementary Materials**

### **Immune-related LncRNAs to Construct a Prognosis**

### **Risk-Assessment Model for Gastric Cancer**

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**Table S1.** Correlation between risk score and abundance of immune cells.

| <b>Immune Cells and Algorithms</b>       | <b>The Correlation Coefficient</b> | <b><i>p</i> Value</b> |
|--|------------------------------------|-----------------------|
| T cell CD8+_TIMER                        | 0.176                              | 0.002                 |
| Neutrophil_TIMER                         | 0.191                              | <0.001                |
| Macrophage_TIMER                         | 0.361                              | <0.001                |
| Myeloid dendritic cell_TIMER             | 0.168                              | 0.003                 |
| T cell follicular helper_CIBERSORT       | -0.216                             | <0.001                |
| NK cell activated_CIBERSORT              | -0.131                             | 0.019                 |
| Monocyte_CIBERSORT                       | 0.199                              | <0.001                |
| B cell naive_CIBERSORT-ABS               | 0.134                              | 0.017                 |
| T cell CD4+ memory resting_CIBERSORT-ABS | 0.234                              | <0.001                |
| Monocyte_CIBERSORT-ABS                   | 0.251                              | <0.001                |
| Macrophage M2_CIBERSORT-ABS              | 0.234                              | <0.001                |
| Mast cell resting_CIBERSORT-ABS          | 0.122                              | 0.029                 |
| B cell_QUANTISEQ                         | 0.141                              | 0.012                 |
| Macrophage M2_QUANTISEQ                  | 0.277                              | <0.001                |
| T cell CD4+ (non-regulatory)_QUANTISEQ   | 0.132                              | 0.019                 |
| NK cell_MCPCOUNTER                       | 0.139                              | 0.014                 |
| Monocyte_MCPCOUNTER                      | 0.227                              | <0.001                |
| Macrophage/Monocyte_MCPCOUNTER           | 0.227                              | <0.001                |
| Myeloid dendritic cell_MCPCOUNTER        | 0.265                              | <0.001                |
| Endothelial cell_MCPCOUNTER              | 0.318                              | <0.001                |
| Cancer associated fibroblast_MCPCOUNTER  | 0.271                              | <0.001                |
| Myeloid dendritic cell activated_XCELL   | 0.113                              | 0.044                 |
| Myeloid dendritic cell_XCELL             | 0.151                              | 0.007                 |
| Endothelial cell_XCELL                   | 0.318                              | <0.001                |
| Cancer associated fibroblast_XCELL       | 0.195                              | <0.001                |
| Granulocyte-monocyte progenitor_XCELL    | 0.205                              | <0.001                |
| Hematopoietic stem cell_XCELL            | 0.306                              | <0.001                |
| Monocyte_XCELL                           | 0.212                              | <0.001                |
| T cell CD4+ Th1_XCELL                    | -0.245                             | <0.001                |
| stroma score_XCELL                       | 0.258                              | <0.001                |
| microenvironment score_XCELL             | 0.190                              | <0.001                |
| Cancer associated fibroblast_EPIC        | 0.232                              | <0.001                |
| T cell CD4+_EPIC                         | 0.198                              | <0.001                |
| Endothelial cell_EPIC                    | 0.322                              | <0.001                |
| Macrophage_EPIC                          | 0.177                              | 0.002                 |
| uncharacterized cell_EPIC                | -0.329                             | <0.001                |

**Table S2.** P value of comparison of immune cells in the two risk groups.

| Immune cell                                | p Value | Immune Cell                                    | p value |
|--|---------|--|---------|
| B cell_TIMER                               | 0.016   | T cell CD4+ memory activated_CIBERSORT-ABS     | 0.854   |
| T cell CD4+_TIMER                          | 0.004   | T cell follicular helper_CIBERSORT-ABS         | 0.67    |
| T cell CD8+_TIMER                          | <0.001  | T cell regulatory (Tregs)_CIBERSORT-ABS        | 0.239   |
| Neutrophil_TIMER                           | 0.002   | T cell gamma delta_CIBERSORT-ABS               | 0.421   |
| Macrophage_TIMER                           | <0.001  | NK cell resting_CIBERSORT-ABS                  | 0.856   |
| Myeloid dendritic cell_TIMER               | <0.001  | NK cell activated_CIBERSORT-ABS                | 0.716   |
| B cell naive_CIBERSORT                     | 0.416   | Monocyte_CIBERSORT-ABS                         | <0.001  |
| B cell memory_CIBERSORT                    | 0.284   | Macrophage M0_CIBERSORT-ABS                    | 0.946   |
| B cell plasma_CIBERSORT                    | 0.628   | Macrophage M1_CIBERSORT-ABS                    | 0.02    |
| T cell CD8+_CIBERSORT                      | 0.749   | Macrophage M2_CIBERSORT-ABS                    | <0.001  |
| T cell CD4+ naive_CIBERSORT                | 0.331   | Myeloid dendritic cell resting_CIBERSORT-ABS   | 0.527   |
| T cell CD4+ memory resting_CIBERSORT       | 0.276   | Myeloid dendritic cell activated_CIBERSORT-ABS | 0.129   |
| T cell CD4+ memory activated_CIBERSORT     | 0.927   | Mast cell activated_CIBERSORT-ABS              | 0.009   |
| T cell follicular helper_CIBERSORT         | 0.011   | Mast cell resting_CIBERSORT-ABS                | 0.548   |
| T cell regulatory (Tregs)_CIBERSORT        | 0.267   | Eosinophil_CIBERSORT-ABS                       | 0.301   |
| T cell gamma delta_CIBERSORT               | 0.42    | Neutrophil_CIBERSORT-ABS                       | 0.951   |
| NK cell resting_CIBERSORT                  | 0.668   | B cell_QUANTISEQ                               | 0.001   |
| NK cell activated_CIBERSORT                | 0.228   | Macrophage M1_QUANTISEQ                        | 0.555   |
| Monocyte_CIBERSORT                         | 0.001   | Macrophage M2_QUANTISEQ                        | <0.001  |
| Macrophage M0_CIBERSORT                    | 0.084   | Monocyte_QUANTISEQ                             | 0.137   |
| Macrophage M1_CIBERSORT                    | 0.807   | Neutrophil_QUANTISEQ                           | 0.809   |
| Macrophage M2_CIBERSORT                    | 0.209   | NK cell_QUANTISEQ                              | 0.985   |
| Myeloid dendritic cell resting_CIBERSORT   | 0.913   | T cell CD4+ (non-regulatory)_QUANTISEQ         | 0.005   |
| Myeloid dendritic cell activated_CIBERSORT | 0.322   | T cell CD8+_QUANTISEQ                          | 0.14    |
| Mast cell activated_CIBERSORT              | 0.078   | T cell regulatory (Tregs)_QUANTISEQ            | 0.009   |
| Mast cell resting_CIBERSORT                | 0.787   | Myeloid dendritic cell_QUANTISEQ               | 0.273   |
| Eosinophil_CIBERSORT                       | 0.307   | uncharacterized cell_QUANTISEQ                 | 0.007   |
| Neutrophil_CIBERSORT                       | 0.703   | T cell_MCPCOUNTER                              | 0.227   |
| B cell naive_CIBERSORT-ABS                 | 0.004   | T cell CD8+_MCPCOUNTER                         | 0.068   |
| B cell memory_CIBERSORT-ABS                | 0.211   | cytotoxicity score_MCPCOUNTER                  | 0.066   |
| B cell plasma_CIBERSORT-ABS                | 0.558   | NK cell_MCPCOUNTER                             | 0.071   |
| T cell CD8+_CIBERSORT-ABS                  | 0.027   | B cell_MCPCOUNTER                              | 0.021   |
| T cell CD4+ naive_CIBERSORT-ABS            | 0.331   | Monocyte_MCPCOUNTER                            | <0.001  |
| T cell CD4+ memory resting_CIBERSORT-ABS   | <0.001  | Macrophage/Monocyte_MCPCOUNTER                 | <0.001  |
| Myeloid dendritic cell_MCPCOUNTER          | <0.001  | Macrophage M2_XCELL                            | 0.424   |
| Neutrophil_MCPCOUNTER                      | 0.993   | Mast cell_XCELL                                | 0.254   |
| Endothelial cell_MCPCOUNTER                | <0.001  | B cell memory_XCELL                            | 0.438   |
| Cancer associated fibroblast_MCPCOUNTER    | <0.001  | Monocyte_XCELL                                 | 0.001   |

|   |        |                                   |        |
|---|--------|-----------------------------------|--------|
| Myeloid dendritic cell<br>activated_XCELL | 0.006  | B cell naive_XCELL                | 0.313  |
| B cell_XCELL                              | 0.428  | Neutrophil_XCELL                  | 0.775  |
| T cell CD4+ memory_XCELL                  | 0.383  | NK cell_XCELL                     | 0.566  |
| T cell CD4+ naive_XCELL                   | 0.039  | T cell NK_XCELL                   | 0.606  |
| T cell CD4+ (non-<br>regulatory)_XCELL    | 0.275  | Plasmacytoid dendritic cell_XCELL | 0.385  |
| T cell CD4+ central<br>memory_XCELL       | 0.13   | B cell plasma_XCELL               | 0.271  |
| T cell CD4+ effector<br>memory_XCELL      | 0.946  | T cell gamma delta_XCELL          | 0.076  |
| T cell CD8+ naive_XCELL                   | 0.798  | T cell CD4+ Th1_XCELL             | <0.001 |
| T cell CD8+_XCELL                         | 0.273  | T cell CD4+ Th2_XCELL             | 0.403  |
| T cell CD8+ central<br>memory_XCELL       | 0.149  | T cell regulatory (Tregs)_XCELL   | 0.283  |
| T cell CD8+ effector<br>memory_XCELL      | 0.494  | immune score_XCELL                | 0.041  |
| Class-switched memory B<br>cell_XCELL     | 0.609  | stroma score_XCELL                | <0.001 |
| Common lymphoid<br>progenitor_XCELL       | 0.135  | microenvironment score_XCELL      | <0.001 |
| Common myeloid<br>progenitor_XCELL        | 0.485  | B cell_EPIC                       | 0.075  |
| Myeloid dendritic cell_XCELL              | 0.004  | Cancer associated fibroblast_EPIC | <0.001 |
| Endothelial cell_XCELL                    | <0.001 | T cell CD4+_EPIC                  | 0.001  |
| Eosinophil_XCELL                          | 0.018  | T cell CD8+_EPIC                  | 0.253  |
| Cancer associated<br>fibroblast_XCELL     | <0.001 | Endothelial cell_EPIC             | <0.001 |
| Granulocyte-monocyte<br>progenitor_XCELL  | <0.001 | Macrophage_EPIC                   | 0.006  |
| Hematopoietic stem cell_XCELL             | <0.001 | NK cell_EPIC                      | 0.437  |
| Macrophage_XCELL                          | 0.174  | uncharacterized cell_EPIC         | <0.001 |
| Macrophage M1_XCELL                       | 0.387  |                                   |        |

**Table S3.** Relationship between the risk groups and clinical characteristics.

| Clinical Signature | <i>p</i> Value |
|--------------------|----------------|
| Gender             | 0.565          |
| T                  | 0.117          |
| N                  | 0.110          |
| M                  | 0.027          |
| Stage              | 0.017          |
| Grade              | 0.721          |

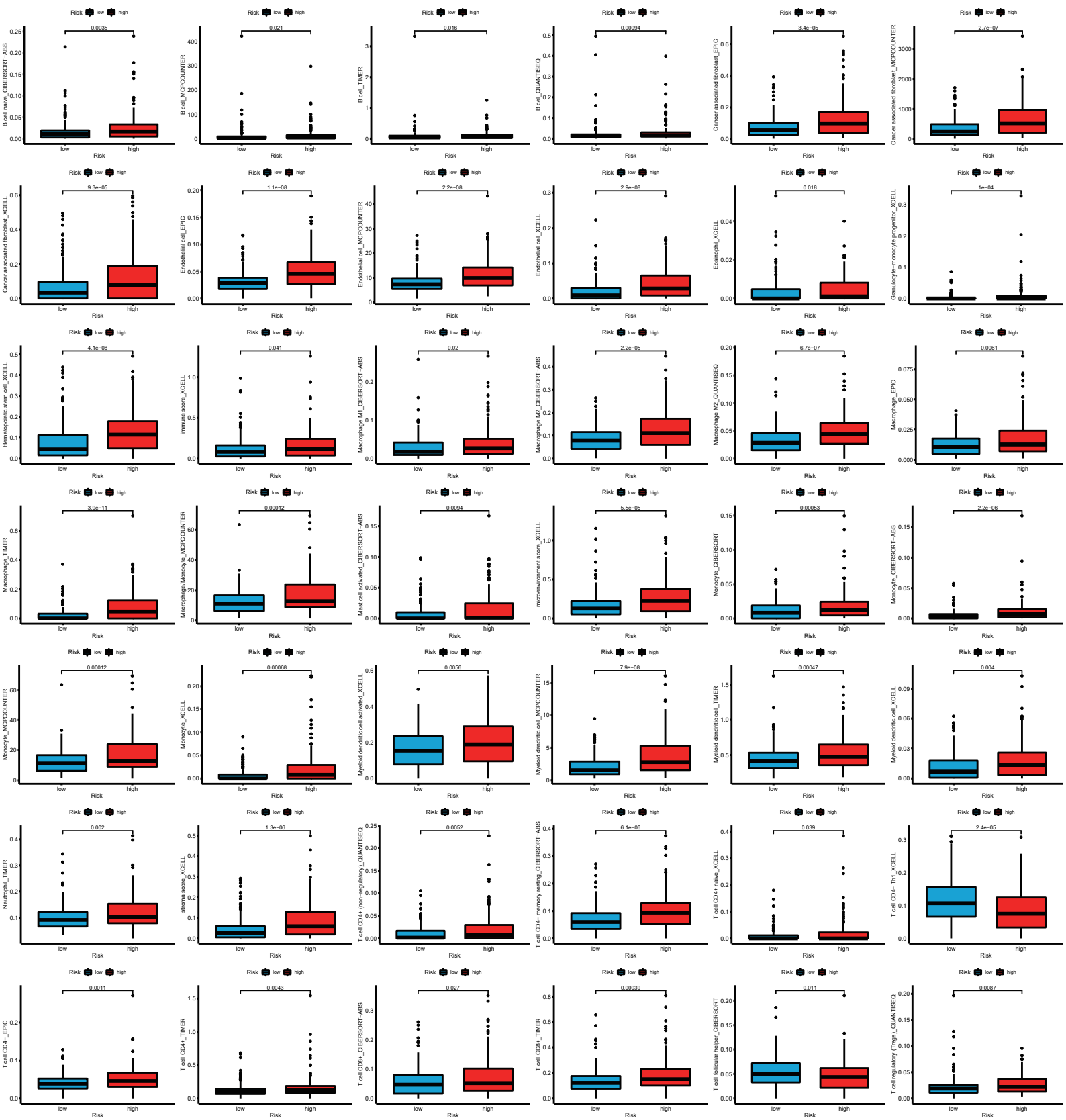


Figure S1. The result of the comparison of immune-infiltrating cells in the two risk group.