|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | TIMER |  |  |  |  |  | GEPIA |  |
|  |  | None |  | Purity |  | Age |  | Tumor |  |
| Cell type | Gene markers | COR | *P* | COR | *P* | COR | *P* | COR | *P* |
| B cell | CD19 | 0.041 | 3.50E-01 | 0.043 | 3.46E-01 | 0.049 | 2.82E-01 | -0.075 | 1.00E-01 |
|  | CD79A | 0.000 | 1.00E+00 | -0.005 | 9.06E-01 | 0.003 | 9.49E-01 | -0.130 | **5.40E-03** |
|  | FCRL2 | 0.029 | 5.07E-01 | 0.036 | 4.30E-01 | 0.036 | 4.27E-01 | -0.005 | 2.60E-01 |
| CD8+T Cell | CD8A | 0.206 | **2.55E-06** | 0.198 | **8.92E-06** | 0.203 | **7.42E-06** | 0.061 | 1.80E-01 |
|  | CD8B | 0.153 | **4.91E-04** | 0.148 | **9.46E-04** | 0.151 | **9.04E-04** | 0.037 | 4.20E-01 |
|  | CEACAM3 | 0.104 | **1.80E-02** | 0.129 | **4.22E-03** | 0.097 | **3.22E-02** | 0.320 | **1.30E-12** |
| Tfh | CXCR3 | 0.204 | **3.00E-06** | 0.201 | **6.75E-06** | 0.210 | **3.30E-06** | 0.025 | 5.90E-01 |
|  | IL21 | 0.147 | **8.08E-04** | 0.140 | **1.84E-03** | 0.159 | **4.58E-04** | 0.076 | 9.70E-02 |
|  | ICOS | 0.226 | **2.24E-07** | 0.230 | **2.24E-07** | 0.228 | **3.98E-07** | 0.095 | **3.60E-02** |
| Th1 | STAT1 | 0.514 | **3.97E-36** | 0.512 | **2.60E-34** | 0.512 | **0.00E+00** | 0.360 | **0.00E+00** |
|  | TNF | 0.234 | **7.50E-08** | 0.229 | **2.79E-07** | 0.237 | **1.47E-07** | -0.006 | 8.90E-01 |
|  | CCR5 | 0.241 | **3.28E-08** | 0.242 | **5.13E-08** | 0.240 | **1.03E-07** | 0.089 | 5.10E-02 |
| Th2 | STAT6 | 0.168 | **1.31E-04** | 0.175 | **9.28E-05** | 0.168 | **2.06E-04** | 0.150 | **1.10E-03** |
|  | CCR8 | 0.216 | **2.37E-12** | 0.222 | **1.90E-12** | 0.207 | **7.27E-11** | 0.110 | **1.20E-02** |
|  | HAVCR1 | 0.204 | **2.96E-06** | 0.201 | **6.82E-06** | 0.213 | **2.15E-06** | 0.280 | **7.50E-10** |
| Th17 | IL21R | 0.202 | **3.93E-06** | 0.201 | **6.46E-06** | 0.198 | **1.22E-05** | 0.087 | 5.60E-02 |
|  | STAT3 | 0.093 | **3.43E-02** | 0.091 | **4.31E-02** | 0.080 | 7.74E-02 | 0.140 | **2.10E-03** |
|  | IL23R | 0.149 | **7.17E-04** | 0.159 | **3.78E-04** | 0.158 | **5.04E-04** | 0.100 | **2.50E-02** |
| Treg | CCR8 | 0.035 | 4.23E-01 | 0.038 | 4.05E-01 | 0.041 | 3.71E-01 | 0.110 | **1.20E-02** |
|  | TGFB1 | 0.138 | **1.64E-03** | 0.139 | **2.03E-03** | 0.154 | **7.03E-04** | -0.039 | 4.00E-01 |
|  | IL7R | 0.208 | **1.96E-06** | 0.210 | **2.37E-06** | 0.204 | **6.05E-06** | -0.019 | 6.80E-01 |
| T cell exhaustion | PDCD1 | 0.257 | **3.22E-09** | 0.255 | **8.55E-09** | 0.254 | **1.61E-08** | 0.060 | 1.90E-01 |
|  | GZMB | 0.301 | **2.79E-12** | 0.295 | **2.42E-11** | 0.299 | **1.90E-11** | 0.130 | **5.30E-03** |
|  | HAVCR2 | 0.195 | **8.06E-06** | 0.189 | **2.30E-05** | 0.193 | **1.96E-05** | 0.086 | 6.00E-02 |
| M1 Macrophage | NOS2 | 0.243 | **2.25E-08** | 0.253 | **1.13E-08** | 0.242 | **7.76E-08** | 0.065 | 1.60E-01 |
|  | IRF5 | 0.030 | 4.97E-01 | 0.034 | 4.57E-01 | 0.020 | 6.54E-01 | 0.075 | 1.00E-01 |
|  | PTGS2 | 0.213 | **1.13E-06** | 0.212 | **1.94E-06** | 0.213 | **2.41E-06** | -0.026 | 5.70E-01 |
| M2 Macrophage | CD163 | 0.077 | 7.98E-02 | 0.076 | 9.06E-02 | 0.072 | 1.14E-01 | 0.041 | 3.70E-01 |
|  | CD209 | 0.177 | **5.36E-05** | 0.177 | **7.64E-05** | 0.171 | **1.58E-04** | 0.041 | 3.70E-01 |
|  | MS4A4A | 0.175 | **6.65E-05** | 0.171 | **1.33E-04** | 0.173 | **1.33E-04** | 0.031 | 4.90E-01 |
| TAM | CCL2 | 0.223 | **3.19E-07** | 0.220 | **8.10E-07** | 0.216 | **1.64E-06** | 0.055 | 2.30E-01 |
|  | CD86 | 0.300 | **3.72E-12** | 0.296 | **1.88E-11** | 0.304 | **1.06E-11** | 0.075 | 1.00E-01 |
|  | CD68 | 0.177 | **5.36E-05** | 0.178 | **6.67E-05** | 0.170 | **1.69E-04** | 0.170 | **2.00E-04** |
| Monocyte | CD14 | 0.128 | **3.59E-03** | 0.127 | **4.62E-03** | 0.131 | **3.89E-03** | 0.047 | 3.00E-01 |
|  | CD33 | 0.160 | **2.27E-07** | 0.159 | **5.24E-07** | 0.165 | **2.64E-07** | -0.020 | 6.60E-01 |
|  | CSF1R | 0.223 | **3.26E-07** | 0.224 | **4.95E-07** | 0.222 | **7.77E-07** | -0.044 | 3.40E-01 |
| Natural killer cell | NCR1 | 0.145 | **9.72E-04** | 0.157 | **4.47E-04** | 0.144 | **1.47E-03** | 0.110 | **1.20E-02** |
|  | KIR2DS4 | 0.098 | **2.56E-02** | 0.115 | **1.05E-02** | 0.114 | **1.24E-02** | -0.010 | 8.30E-01 |
|  | CD7 | 0.256 | **3.77E-09** | 0.251 | **1.64E-08** | 0.245 | **5.17E-08** | 0.200 | **7.60E-06** |
| Neutrophil | CD55 | 0.181 | **4.45E-09** | 0.181 | **9.81E-09** | 0.182 | **1.21E-08** | 0.056 | 2.20E-01 |
|  | ITGAM | 0.146 | **9.24E-04** | 0.149 | **8.76E-04** | 0.149 | **1.05E-03** | 0.005 | 9.20E-01 |
|  | S100A12 | 0.236 | **6.15E-08** | 0.236 | **1.16E-07** | 0.233 | **2.05E-07** | 0.000 | 9.90E-01 |
| Dendritic cell | CD1C | 0.060 | 1.74E-01 | 0.068 | 1.33E-01 | 0.045 | 3.22E-01 | -0.094 | **3.90E-02** |
|  | CD209 | 0.079 | 7.46E-02 | 0.071 | 1.14E-01 | 0.082 | 7.05E-02 | 0.041 | 3.70E-01 |
|  | HLA-DPB1 | 0.088 | **4.61E-02** | 0.084 | 6.17E-02 | 0.093 | **4.08E-02** | -0.054 | 2.40E-01 |