Supplemental Table 1. Genes used for immune cell abundance calculation with MCP.

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| https://raw.githubusercontent.com/ebecht/MCPcounter/master/Signatures/genes.txt |
| **HUGO symbols** | **Cell population** | **ENTREZID** | **ENSEMBL ID** |
| CD28 | T cells | 940 | ENSG00000178562 |
| CD3D | T cells | 915 | ENSG00000167286 |
| CD3G | T cells | 917 | ENSG00000160654 |
| CD5 | T cells | 921 | ENSG00000110448 |
| CD6 | T cells | 923 | ENSG00000013725 |
| CHRM3-AS2 | T cells | 100506915 | ENSG00000233355 |
| CTLA4 | T cells | 1493 | ENSG00000163599 |
| FLT3LG | T cells | 2323 | ENSG00000090554 |
| ICOS | T cells | 29851 | ENSG00000163600 |
| MAL | T cells | 4118 | ENSG00000172005 |
| MGC40069 | T cells | 348035 | NA |
| PBX4 | T cells | 80714 | ENSG00000105717 |
| SIRPG | T cells | 55423 | ENSG00000089012 |
| THEMIS | T cells | 387357 | ENSG00000172673 |
| TNFRSF25 | T cells | 8718 | ENSG00000215788 |
| TRAT1 | T cells | 50852 | ENSG00000163519 |
| CD8B | CD8 T cells | 926 | ENSG00000172116 |
| CD8A | Cytotoxic lymphocytes | 925 | ENSG00000153563 |
| EOMES | Cytotoxic lymphocytes | 8320 | ENSG00000163508 |
| FGFBP2 | Cytotoxic lymphocytes | 83888 | ENSG00000137441 |
| GNLY | Cytotoxic lymphocytes | 10578 | ENSG00000115523 |
| KLRC3 | Cytotoxic lymphocytes | 3823 | ENSG00000205810 |
| KLRC4 | Cytotoxic lymphocytes | 8302 | ENSG00000183542 |
| KLRD1 | Cytotoxic lymphocytes | 3824 | ENSG00000134539 |
| BANK1 | B lineage | 55024 | ENSG00000153064 |
| CD19 | B lineage | 930 | ENSG00000177455 |
| CD22 | B lineage | 933 | ENSG00000012124 |
| CD79A | B lineage | 973 | ENSG00000105369 |
| CR2 | B lineage | 1380 | ENSG00000117322 |
| FCRL2 | B lineage | 79368 | ENSG00000132704 |
| IGKC | B lineage | 3514 | ENSG00000211592 |
| MS4A1 | B lineage | 931 | ENSG00000156738 |
| PAX5 | B lineage | 5079 | ENSG00000196092 |
| CD160 | NK cells | 11126 | ENSG00000117281 |
| KIR2DL1 | NK cells | 3802 | ENSG00000125498 |
| KIR2DL3 | NK cells | 3804 | ENSG00000243772 |
| KIR2DL4 | NK cells | 3805 | ENSG00000189013 |
| KIR3DL1 | NK cells | 3811 | ENSG00000167633 |
| KIR3DS1 | NK cells | 3813 | ENSG00000275037 |
| NCR1 | NK cells | 9437 | ENSG00000189430 |
| PTGDR | NK cells | 5729 | ENSG00000168229 |
| SH2D1B | NK cells | 117157 | ENSG00000198574 |
| ADAP2 | Monocytic lineage | 55803 | ENSG00000184060 |
| CSF1R | Monocytic lineage | 1436 | ENSG00000182578 |
| FPR3 | Monocytic lineage | 2359 | ENSG00000187474 |
| KYNU | Monocytic lineage | 8942 | ENSG00000115919 |
| PLA2G7 | Monocytic lineage | 7941 | ENSG00000146070 |
| RASSF4 | Monocytic lineage | 83937 | ENSG00000107551 |
| TFEC | Monocytic lineage | 22797 | ENSG00000105967 |
| CD1A | Myeloid dendritic cells | 909 | ENSG00000158477 |
| CD1B | Myeloid dendritic cells | 910 | ENSG00000158485 |
| CD1E | Myeloid dendritic cells | 913 | ENSG00000158488 |
| CLEC10A | Myeloid dendritic cells | 10462 | ENSG00000132514 |
| CLIC2 | Myeloid dendritic cells | 1193 | ENSG00000155962 |
| WFDC21P | Myeloid dendritic cells | 645638 | ENSG00000261040 |
| CA4 | Neutrophils | 762 | ENSG00000167434 |
| CEACAM3 | Neutrophils | 1084 | ENSG00000170956 |
| CXCR1 | Neutrophils | 3577 | ENSG00000163464 |
| CXCR2 | Neutrophils | 3579 | ENSG00000180871 |
| CYP4F3 | Neutrophils | 4051 | ENSG00000186529 |
| FCGR3B | Neutrophils | 2215 | ENSG00000162747 |
| HAL | Neutrophils | 3034 | ENSG00000084110 |
| KCNJ15 | Neutrophils | 3772 | ENSG00000157551 |
| MEGF9 | Neutrophils | 1955 | ENSG00000106780 |
| SLC25A37 | Neutrophils | 51312 | ENSG00000147454 |
| STEAP4 | Neutrophils | 79689 | ENSG00000127954 |
| TECPR2 | Neutrophils | 9895 | ENSG00000196663 |
| TLE3 | Neutrophils | 7090 | ENSG00000140332 |
| TNFRSF10C | Neutrophils | 8794 | ENSG00000173535 |
| VNN3 | Neutrophils | 55350 | ENSG00000093134 |
| ACVRL1 | Endothelial cells | 94 | ENSG00000139567 |
| APLN | Endothelial cells | 8862 | ENSG00000171388 |
| BCL6B | Endothelial cells | 255877 | ENSG00000161940 |
| BMP6 | Endothelial cells | 654 | ENSG00000153162 |
| BMX | Endothelial cells | 660 | ENSG00000102010 |
| CDH5 | Endothelial cells | 1003 | ENSG00000179776 |
| CLEC14A | Endothelial cells | 161198 | ENSG00000176435 |
| DIPK2B | Endothelial cells | 79742 | ENSG00000147113 |
| EDN1 | Endothelial cells | 1906 | ENSG00000078401 |
| ADGRL4 | Endothelial cells | 64123 | ENSG00000162618 |
| EMCN | Endothelial cells | 51705 | ENSG00000164035 |
| ESAM | Endothelial cells | 90952 | ENSG00000149564 |
| ESM1 | Endothelial cells | 11082 | ENSG00000164283 |
| FAM124B | Endothelial cells | 79843 | ENSG00000124019 |
| HECW2 | Endothelial cells | 57520 | ENSG00000138411 |
| HHIP | Endothelial cells | 64399 | ENSG00000164161 |
| KDR | Endothelial cells | 3791 | ENSG00000128052 |
| MMRN1 | Endothelial cells | 22915 | ENSG00000138722 |
| MMRN2 | Endothelial cells | 79812 | ENSG00000173269 |
| MYCT1 | Endothelial cells | 80177 | ENSG00000120279 |
| PALMD | Endothelial cells | 54873 | ENSG00000099260 |
| PEAR1 | Endothelial cells | 375033 | ENSG00000187800 |
| PGF | Endothelial cells | 5228 | ENSG00000119630 |
| PLXNA2 | Endothelial cells | 5362 | ENSG00000076356 |
| PTPRB | Endothelial cells | 5787 | ENSG00000127329 |
| ROBO4 | Endothelial cells | 54538 | ENSG00000154133 |
| C | Endothelial cells | 8436 | ENSG00000168497 |
| SHANK3 | Endothelial cells | 85358 | ENSG00000251322 |
| SHE | Endothelial cells | 126669 | ENSG00000169291 |
| TEK | Endothelial cells | 7010 | ENSG00000120156 |
| TIE1 | Endothelial cells | 7075 | ENSG00000066056 |
| VEPH1 | Endothelial cells | 79674 | ENSG00000197415 |
| VWF | Endothelial cells | 7450 | ENSG00000110799 |
| COL1A1 | Fibroblasts | 1277 | ENSG00000108821 |
| COL3A1 | Fibroblasts | 1281 | ENSG00000168542 |
| COL6A1 | Fibroblasts | 1291 | ENSG00000142156 |
| COL6A2 | Fibroblasts | 1292 | ENSG00000142173 |
| DCN | Fibroblasts | 1634 | ENSG00000011465 |
| GREM1 | Fibroblasts | 26585 | ENSG00000166923 |
| PAMR1 | Fibroblasts | 25891 | ENSG00000149090 |
| TAGLN | Fibroblasts | 6876 | ENSG00000149591 |

Supplemental Table 2. Genes included for TGF-β gene signature and 18-gene IFN-γ immune signature.

|  |  |
| --- | --- |
| **IFN**-γ **\_Gene** | **TGF**-β**\_Gene** |
| CD3D | TGFB1 |
| CIITA | TGFB2 |
| CD3E | TGFB3 |
| CCL5 | TGFBR1 |
| GZMK | TGFBR2 |
| CD2 | TGFBR3 |
| CXCL13 |  |
| IL2RG |  |
| NKG7 |  |
| HLA-E |  |
| CXCL6 |  |
| LAG3 |  |
| TAGAP |  |
| GZMB |  |
| IDO1 |  |
| CXCL10 |  |
| HLA-DRA |  |
| STAT1 |  |

Supplemental Table 3. Cut-off values selected for Kaplan-Meier curve.

|  |  |
| --- | --- |
|  | Median Cut off |
| Cytotoxic.lymphocytes | 0.977 |
| Myeloid.dendritic.cells | 0.874 |
| Monocytic.lineage | 7.315 |
| NK.cells | 1.452 |
| Endothelial.cells | 9.792 |
| IFN-γ (0 centered)\* | 0 |
| TGF-β (0-centered)\* | 0 |

\* For IFN-γ and TGF-β signature score, quantile normalization was first applied and followed by log10 transformation, and signature scores were calculated by averaging of the included genes for the IFN-γ (18-gene) and TGF-β (6-gene) signatures. Both scores for each single sample were then scaled and 0-centered.