

Supplementary Table 2: List of differentially expressed genes between HIV^r and HIV^{exp} in every cluster from the integrated dataset of HIV-infected mature monocytes without ART-treatment (Cluster X HIV^r vs Cluster X HIV^{exp}).

| Gene.ID | Avg. Diff. ¹ | Pct.1 ² | Pct.2 ³ | P.Value.Adj | Cluster.ID | Comments |
|---------|-------------------------|--------------------|--------------------|-------------|------------|--|
| TMSB4X | 11.1144285 | 1 | 0.999 | 1.15E-14 | 0 | |
| CTSB | 7.049561559 | 0.988 | 0.991 | 8.45E-05 | 0 | |
| B2M | 6.184487622 | 1 | 1 | 2.34E-07 | 0 | |
| MT-CO2 | 4.614835097 | 0.974 | 0.978 | 4.22E-12 | 0 | |
| APOE | 3.13683342 | 0.798 | 0.745 | 2.63E-06 | 0 | |
| HIV-B | 2.720394737 | 0.617 | 0 | 1.71E-68 | 0 | Shared with clusters 0, 1, 2, 3, 4, 5, and 6 |
| CST3 | 2.388406298 | 0.933 | 0.856 | 3.09E-10 | 0 | |
| CTSS | 2.354135649 | 0.99 | 0.989 | 0.003862474 | 0 | |
| RPS12 | 2.258222392 | 1 | 1 | 0.004373775 | 0 | |
| MT-CO3 | 1.876522474 | 0.992 | 0.991 | 0.000250267 | 0 | |
| ARL4C | 1.796760879 | 0.724 | 0.508 | 4.61E-05 | 0 | |
| TGFB1 | 1.701596969 | 0.735 | 0.528 | 5.02E-05 | 0 | |
| CD74 | 1.679335767 | 0.768 | 0.62 | 0.003431825 | 0 | |
| HIV-E | 1.417763158 | 0.215 | 0 | 1.42E-21 | 0 | Shared with clusters 0, 1, 2, 3, and 4 |
| STAB1 | 0.943294705 | 0.479 | 0.249 | 7.56E-05 | 0 | |
| RPSA | 0.875490345 | 0.993 | 0.989 | 0.006221981 | 0 | |
| CXCL16 | 0.835601018 | 0.928 | 0.834 | 9.53E-05 | 0 | |
| HIV-A | 0.675986842 | 0.072 | 0 | 2.71E-05 | 0 | Shared with clusters 0, 1, and 3 |
| LAMP1 | 0.619859519 | 0.709 | 0.498 | 0.007567526 | 0 | |
| HIV-D | 0.550986842 | 0.169 | 0 | 6.12E-17 | 0 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| CD4 | 0.539252938 | 0.551 | 0.356 | 0.003137077 | 0 | Shared with clusters 0 and 3 |
| HIV-C | 0.529605263 | 0.186 | 0 | 1.47E-19 | 0 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| DOCK4 | 0.439336015 | 0.562 | 0.398 | 0.006655337 | 0 | |
| MT-ND5 | 0.358303453 | 0.891 | 0.917 | 0.000507561 | 0 | |
| CYB5A | 0.300106961 | 0.414 | 0.248 | 0.000421329 | 0 | |
| MT-ND4 | -0.238983649 | 0.995 | 0.996 | 0.001462902 | 0 | |
| CD9 | -0.54575615 | 0.969 | 0.973 | 0.000682287 | 0 | Shared with clusters 0 and 4 |
| ANXA5 | -0.576140485 | 0.9 | 0.922 | 0.00019041 | 0 | |
| OPN3 | -0.661790098 | 0.526 | 0.625 | 2.19E-06 | 0 | |
| BZW1 | -0.681177986 | 0.836 | 0.886 | 0.001793812 | 0 | Shared with clusters 0 and 7 |
| RGCC | -1.519501363 | 0.724 | 0.826 | 2.64E-07 | 0 | |
| PLIN2 | -7.27084755 | 1 | 1 | 1.59E-09 | 0 | |
| HIV-B | 2.10663199 | 0.628 | 0 | 2.08E-78 | 1 | Shared with clusters 0, 1, 2, 3, 4, 5, and 6 |
| C1QA | 1.005827456 | 0.586 | 0.431 | 0.003076753 | 1 | |
| HIV-E | 0.77503251 | 0.218 | 0 | 1.45E-26 | 1 | Shared with clusters 0, 1, 2, 3, and 4 |
| HIV-A | 0.486345904 | 0.079 | 0 | 1.67E-07 | 1 | Shared with clusters 0, 1, and 3 |
| HIV-D | 0.461638492 | 0.183 | 0 | 1.64E-22 | 1 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| HIV-C | 0.317295189 | 0.168 | 0 | 2.86E-20 | 1 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| JUNB | -1.012443099 | 0.995 | 0.992 | 2.80E-06 | 1 | |
| NFKBIA | -3.893012207 | 0.87 | 0.92 | 0.001695477 | 1 | |
| IL8 | -12.67445183 | 0.935 | 0.962 | 0.00031458 | 1 | |
| HIV-B | 8.45014245 | 0.567 | 0 | 1.22E-37 | 2 | Shared with clusters 0, 1, 2, 3, 4, 5, and 6 |
| HIV-E | 3.96011396 | 0.202 | 0 | 2.79E-11 | 2 | Shared with clusters 0, 1, 2, 3, and 4 |
| HIV-D | 1.715099715 | 0.168 | 0 | 8.99E-09 | 2 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| HIV-C | 1.393162393 | 0.174 | 0 | 1.43E-09 | 2 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| FAM101B | -0.127126622 | 0.071 | 0.165 | 7.17E-05 | 2 | Shared with clusters 2 and 7 |
| HIV-B | 4.781395349 | 0.451 | 0 | 3.84E-40 | 3 | Shared with clusters 0, 1, 2, 3, 4, 5, and 6 |
| LGALS1 | 3.5088376 | 0.997 | 0.998 | 0.000495701 | 3 | |
| HIV-E | 2.724031008 | 0.175 | 0 | 2.58E-14 | 3 | Shared with clusters 0, 1, 2, 3, and 4 |
| RPS8 | 1.774520141 | 1 | 0.999 | 0.000416713 | 3 | |
| HIV-A | 1.421705426 | 0.085 | 0 | 7.29E-07 | 3 | Shared with clusters 0, 1, and 3 |
| HIV-D | 1.029457364 | 0.158 | 0 | 2.46E-14 | 3 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| HIV-C | 0.849612403 | 0.16 | 0 | 2.86E-14 | 3 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| PLTP | 0.832233027 | 0.668 | 0.532 | 9.06E-07 | 3 | |
| CD4 | 0.366900494 | 0.611 | 0.473 | 1.39E-05 | 3 | Shared with clusters 0 and 3 |
| FCGR2A | -0.212590065 | 0.398 | 0.423 | 0.008505055 | 3 | |
| PLD3 | -0.852577471 | 0.991 | 0.994 | 2.81E-05 | 3 | |

| | | | | | | |
|--------------|--------------|-------|-------|-------------|---|--|
| CTSD | -2.585266924 | 0.998 | 0.999 | 7.04E-06 | 3 | |
| HIV-B | 1.5 | 0.612 | 0 | 2.45E-20 | 4 | Shared with clusters 0, 1, 2, 3, 4, 5, and 6 |
| HIV-E | 0.49375 | 0.244 | 0 | 2.18E-06 | 4 | Shared with clusters 0, 1, 2, 3, and 4 |
| HIV-D | 0.36875 | 0.175 | 0 | 0.001269966 | 4 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| HIV-C | 0.31875 | 0.175 | 0 | 0.001114827 | 4 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| LGALS2 | 0.29748193 | 0.625 | 0.379 | 3.88E-05 | 4 | |
| C16orf98 | -0.04336895 | 0 | 0.03 | 2.39E-06 | 4 | |
| GNB5 | -0.057196732 | 0 | 0.029 | 6.39E-08 | 4 | |
| PM20D2 | -0.095014928 | 0.012 | 0.055 | 0.002003789 | 4 | |
| MME | -0.153680861 | 0.038 | 0.089 | 0.002734286 | 4 | |
| TUBA4A | -0.284785512 | 0.188 | 0.262 | 0.008212208 | 4 | |
| CD63 | -1.245266342 | 0.988 | 1 | 0.006273682 | 4 | |
| CD9 | -1.583764142 | 0.988 | 0.994 | 0.001909262 | 4 | Shared with clusters 0 and 4 |
| SDC2 | -2.111348994 | 0.981 | 0.992 | 4.12E-05 | 4 | |
| HILPDA | -2.31105044 | 0.956 | 0.97 | 0.002130011 | 4 | |
| SRGN | -4.019374607 | 0.994 | 1 | 0.002098447 | 4 | |
| RPL30 | -4.592791483 | 1 | 1 | 0.002909382 | 4 | |
| MT2A | -7.044512099 | 0.994 | 0.98 | 0.003708604 | 4 | |
| HIV-B | 9.952941176 | 0.694 | 0 | 5.40E-07 | 5 | Shared with clusters 0, 1, 2, 3, 4, 5, and 6 |
| FCGR1A | -0.045304778 | 0 | 0.033 | 4.06E-05 | 5 | |
| TJP2 | -0.046952224 | 0 | 0.038 | 2.48E-06 | 5 | |
| EBLN2 | -0.049423394 | 0 | 0.036 | 2.25E-11 | 5 | |
| THBD | -0.076141099 | 0.024 | 0.044 | 4.30E-05 | 5 | |
| ARHGAP26 | -0.100281035 | 0.082 | 0.128 | 0.003908121 | 5 | |
| SLC25A37 | -0.119604613 | 0.165 | 0.157 | 0.003139514 | 5 | |
| HIV-B | 4.617486339 | 0.705 | 0 | 5.68E-26 | 6 | Shared with clusters 0, 1, 2, 3, 4, 5, and 6 |
| HIV-C | 0.699453552 | 0.208 | 0 | 4.64E-05 | 6 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| HIV-D | 0.590163934 | 0.213 | 0 | 3.68E-05 | 6 | Shared with clusters 0, 1, 2, 3, 4, and 6 |
| LTA | -0.046956522 | 0 | 0.038 | 0.008554923 | 7 | |
| HAPLN3 | -0.048695652 | 0 | 0.042 | 0.002535767 | 7 | |
| ZNF445 | -0.052173913 | 0 | 0.037 | 0.004260847 | 7 | |
| LRIG1 | -0.053913043 | 0 | 0.045 | 0.000918545 | 7 | |
| RP11-284N8.3 | -0.055652174 | 0 | 0.049 | 0.00026238 | 7 | |
| LMOD3 | -0.057391304 | 0 | 0.04 | 0.007758803 | 7 | |
| CD200R1 | -0.064347826 | 0 | 0.05 | 0.000138572 | 7 | |
| EPB41L2 | -0.066086957 | 0 | 0.038 | 0.006524215 | 7 | |
| SIDT1 | -0.066086957 | 0 | 0.049 | 0.000326458 | 7 | |
| UBE2O | -0.066086957 | 0 | 0.042 | 0.002050051 | 7 | |
| KLHL15 | -0.067826087 | 0 | 0.04 | 0.006582756 | 7 | |
| MPP6 | -0.069565217 | 0 | 0.042 | 0.004412425 | 7 | |
| ATP8A1 | -0.073043478 | 0 | 0.043 | 0.003008923 | 7 | |
| MAD2L1 | -0.073043478 | 0 | 0.047 | 0.001691633 | 7 | |
| AC132872.2 | -0.076521739 | 0 | 0.045 | 0.002291322 | 7 | |
| FAM84B | -0.076521739 | 0 | 0.056 | 3.50E-05 | 7 | |
| LAG3 | -0.07826087 | 0 | 0.045 | 0.00120386 | 7 | |
| OTUD7B | -0.083478261 | 0 | 0.049 | 0.000871689 | 7 | |
| METTL2B | -0.085217391 | 0 | 0.052 | 0.007220328 | 7 | |
| TSPYL4 | -0.088695652 | 0 | 0.054 | 0.000410937 | 7 | |
| HSPA1B | -0.093913043 | 0 | 0.052 | 0.003911148 | 7 | |
| FEZ1 | -0.097391304 | 0 | 0.052 | 0.000108894 | 7 | |
| HIC1 | -0.099130435 | 0 | 0.056 | 3.76E-05 | 7 | |
| KIAA0922 | -0.102608696 | 0 | 0.059 | 1.35E-05 | 7 | |
| RPS6KA5 | -0.106086957 | 0 | 0.059 | 4.07E-05 | 7 | |
| EOMES | -0.107826087 | 0 | 0.056 | 3.40E-05 | 7 | |
| POLG2 | -0.107826087 | 0 | 0.059 | 2.29E-05 | 7 | |
| GSAP | -0.113043478 | 0 | 0.057 | 0.000171158 | 7 | |
| SLFN11 | -0.11826087 | 0 | 0.064 | 1.57E-06 | 7 | |
| TMEM138 | -0.123478261 | 0 | 0.064 | 6.27E-08 | 7 | |
| DDI2 | -0.132173913 | 0 | 0.068 | 0.006631303 | 7 | |
| CD8B | -0.140869565 | 0 | 0.07 | 5.47E-07 | 7 | |
| VPS13D | -0.142608696 | 0 | 0.083 | 2.64E-08 | 7 | |

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|--------------|--------------|-------|-------|-------------|---|------------------------------|
| RP11-356I2.4 | -0.146086957 | 0 | 0.078 | 2.78E-07 | 7 | |
| CEP78 | -0.15826087 | 0 | 0.08 | 4.63E-07 | 7 | |
| FAM101B | -0.166956522 | 0 | 0.083 | 0.000696751 | 7 | Shared with clusters 2 and 7 |
| TET2 | -0.170434783 | 0 | 0.083 | 7.43E-05 | 7 | |
| MTMR4 | -0.172173913 | 0 | 0.099 | 2.38E-09 | 7 | |
| ITGA5 | -0.175652174 | 0 | 0.085 | 0.000327337 | 7 | |
| TNRC6C | -0.253175231 | 0.03 | 0.155 | 0.000845618 | 7 | |
| GLIPR2 | -0.265349144 | 0.03 | 0.146 | 6.06E-07 | 7 | |
| UBE2E3 | -0.269565217 | 0 | 0.144 | 2.34E-15 | 7 | |
| CTSW | -0.365480896 | 0.03 | 0.193 | 0.006837956 | 7 | |
| BZW1 | -0.520737813 | 0.909 | 0.906 | 0.000361489 | 7 | Shared with clusters 0 and 7 |
| TSHZ3 | -0.139240506 | 0 | 0.139 | 8.30E-05 | 8 | |

Footnotes:

1- Value refers to average differential expression within one subset of scaled pearsons residuals. Positive values represent increased gene expression in HIV+ cells from that cluster. Negative values represent increased gene expression in HIVexp cells from that cluster.

2- Percentage of cells, within the cluster ID for which the gene is a marker, that detect the gene

3- Percentage of all the other cells, excluding the cluster ID for which the gene is a marker, that detect the gene