

Supplementary Table 3. Effect allele frequency differences between sc-eQTL instruments and the East Asian GWAS outcome dataset

| Gene-cell type pair | SNP | Effect allele | Other allele | EAF in sc-eQTL exposure | EAF in East Asian GWAS | Absolute EAF difference | F-statistic |
|--|-------------|---------------|--------------|-------------------------|------------------------|-------------------------|-------------|
| cd8nc CD8 Naive/Central memory T cell PARP14 | rs13071069 | T | C | 0.071 | 0.558 | 0.487 | 22.364 |
| cd4nc CD4 Naive/Central memory T cell TNFSF13B | rs9514831 | A | G | 0.230 | 0.554 | 0.324 | 102.775 |
| bin Naive/Immature B Cell EBPL | rs6561557 | A | G | 0.431 | 0.121 | 0.309 | 22.547 |
| nk Natural Killer Cell EIF2A | rs1568585 | T | G | 0.264 | 0.545 | 0.281 | 37.779 |
| cd4et CD4 Effector memory/TEMRA TMEM258 | rs59200224 | G | A | 0.130 | 0.395 | 0.265 | 23.820 |
| cd8et CD8 Effector memory SLC25A29 | rs1951486 | C | T | 0.614 | 0.383 | 0.231 | 24.669 |
| dc Dendritic Cell AGER | rs2524084 | G | A | 0.355 | 0.577 | 0.222 | 35.464 |
| cd8et CD8 Effector memory HLA-DQA1 | rs9272785 | A | G | 0.198 | 0.412 | 0.214 | 345.700 |
| nkr Natural Killer Recruiting Cell HLA-DQA2 | rs34763586 | C | T | 0.200 | 0.411 | 0.212 | 108.119 |
| bin Naive/Immature B Cell HLA-DQA2 | rs9272461 | A | G | 0.203 | 0.413 | 0.210 | 1634.336 |
| cd8s100b CD8 S100B T cell ZBTB9 | rs9275212 | T | G | 0.602 | 0.806 | 0.204 | 64.378 |
| nk Natural Killer Cell SLC25A29 | rs10134767 | T | G | 0.336 | 0.159 | 0.177 | 700.913 |
| cd8et CD8 Effector memory SLC25A29 | rs1059264 | T | C | 0.332 | 0.162 | 0.170 | 716.649 |
| nk Natural Killer Cell SLC25A29 | rs726514 | A | G | 0.535 | 0.374 | 0.161 | 29.892 |
| bin Naive/Immature B Cell WARS | rs34203872 | T | C | 0.291 | 0.442 | 0.152 | 28.686 |
| cd4sox4 CD4 SOX4 T cell HLA-DRB5 | rs9270664 | A | G | 0.630 | 0.489 | 0.141 | 37.342 |
| dc Dendritic Cell APOM | rs3094210 | A | G | 0.427 | 0.301 | 0.126 | 35.574 |
| cd8et CD8 Effector memory FBXO2 | rs2233004 | T | C | 0.766 | 0.891 | 0.125 | 38.775 |
| bin Naive/Immature B Cell HLA-DQA2 | rs78496075 | G | A | 0.061 | 0.181 | 0.120 | 30.827 |
| bin Naive/Immature B Cell HLA-DQA2 | rs454875 | A | G | 0.052 | 0.172 | 0.120 | 35.134 |
| nk Natural Killer Cell EIF2A | rs6790971 | G | A | 0.805 | 0.922 | 0.118 | 23.386 |
| dc Dendritic Cell APOM | rs9272546 | C | T | 0.661 | 0.543 | 0.117 | 22.955 |
| dc Dendritic Cell AGER | rs9272546 | C | T | 0.661 | 0.543 | 0.117 | 59.939 |
| dc Dendritic Cell APOM | rs2394886 | A | G | 0.256 | 0.138 | 0.117 | 71.197 |
| cd8s100b CD8 S100B T cell ZBTB9 | rs9271348 | A | G | 0.705 | 0.815 | 0.110 | 82.314 |
| cd4nc CD4 Naive/Central memory T cell MAST4 | rs1818068 | T | C | 0.297 | 0.187 | 0.109 | 27.747 |
| dc Dendritic Cell APOM | rs3130304 | A | G | 0.210 | 0.114 | 0.096 | 61.243 |
| nkr Natural Killer Recruiting Cell HLA-DQA2 | rs2857103 | A | C | 0.321 | 0.413 | 0.092 | 51.632 |
| nkr Natural Killer Recruiting Cell HLA-DQA2 | rs430916 | T | C | 0.250 | 0.163 | 0.087 | 54.566 |
| cd4et CD4 Effector memory/TEMRA TMEM258 | rs174538 | A | G | 0.304 | 0.388 | 0.084 | 54.600 |
| cd8et CD8 Effector memory FBXO2 | rs116001018 | A | G | 0.147 | 0.066 | 0.081 | 22.751 |
| cd8nc CD8 Naive/Central memory T cell PARP14 | rs16833393 | C | T | 0.101 | 0.167 | 0.066 | 23.963 |

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|----------|---------------------------------|----------|------------|---|---|-------|-------|-------|---------|
| cd4nc | CD4 Naive/Central memory T cell | POLR1D | rs2232669 | T | C | 0.129 | 0.071 | 0.059 | 573.505 |
| cd4nc | CD4 Naive/Central memory T cell | TNFSF13B | rs78679073 | T | A | 0.182 | 0.134 | 0.049 | 21.357 |
| dc | Dendritic Cell | APOM | rs2223636 | A | T | 0.363 | 0.320 | 0.043 | 25.099 |
| cd8s100b | CD8 S100B T cell | ZBTB9 | rs35144104 | T | C | 0.271 | 0.232 | 0.039 | 26.001 |
| cd8et | CD8 Effector memory | HLA-DQA1 | rs9501398 | T | G | 0.086 | 0.048 | 0.037 | 21.809 |
| cd4nc | CD4 Naive/Central memory T cell | POLR1D | rs554226 | C | T | 0.343 | 0.308 | 0.035 | 24.230 |
| cd4sox4 | CD4 SOX4 T cell | HLA-DRB5 | rs2734573 | A | C | 0.555 | 0.586 | 0.031 | 35.588 |
| cd8et | CD8 Effector memory | HLA-DQA1 | rs1042337 | A | G | 0.722 | 0.693 | 0.030 | 21.708 |
| bin | Naive/Immature B Cell | HLA-DQA2 | rs28746955 | C | A | 0.238 | 0.265 | 0.028 | 50.861 |
| cd8et | CD8 Effector memory | HLA-DQA1 | rs9270902 | G | A | 0.726 | 0.750 | 0.024 | 31.628 |
| bin | Naive/Immature B Cell | EBPL | rs9562915 | C | T | 0.223 | 0.241 | 0.017 | 64.766 |
| bin | Naive/Immature B Cell | HLA-DQA2 | rs909267 | C | T | 0.064 | 0.080 | 0.016 | 45.736 |
| cd4nc | CD4 Naive/Central memory T cell | MAST4 | rs468325 | G | A | 0.144 | 0.151 | 0.007 | 40.328 |
| bin | Naive/Immature B Cell | HLA-DQA2 | rs28366293 | C | T | 0.143 | 0.148 | 0.005 | 26.367 |
| bin | Naive/Immature B Cell | WARS | rs8015259 | C | G | 0.259 | 0.262 | 0.004 | 287.871 |