

Extended Data 7. Blood factors that decreased significantly only after resistance training

| Blood factor                | Unit            | All (n = 56)    |                 |         | AT (n = 26)     |                 |         | RT (n = 30)    |                |         | Change (Δ)     |                |                      |
|-----------------------------|-----------------|-----------------|-----------------|---------|-----------------|-----------------|---------|----------------|----------------|---------|----------------|----------------|----------------------|
|                             |                 | Before          | After           | p value | Before          | After           | p value | Before         | After          | p value | AT             | RT             | p value <sup>a</sup> |
| MCP-3                       | FI <sup>b</sup> | -3.34 ± 0.55    | -3.62 ± 0.56    | 0.11    | -2.48 ± 0.76    | -2.63 ± 0.74    | 0.64    | -4.09 ± 0.79   | -4.47 ± 0.82   | < 0.10  | -0.15 ± 0.32   | -0.39 ± 0.32   | 0.60                 |
| MIG                         | pg/mL           | 185.63 ± 61.71  | 117.34 ± 9.35   | 0.25    | 254.77 ± 132.52 | 130.6 ± 18.32   | 0.34    | 125.71 ± 9.80  | 105.85 ± 6.98  | < 0.05  | -124.18 ± 7.54 | -19.86 ± 7.54  | 0.38                 |
| ENA-78/CXCL5                | ng/mL           | 1.08 ± 0.39     | 1.20 ± 0.52     | 0.51    | 1.46 ± 0.85     | 1.76 ± 1.16     | 0.39    | 0.77 ± 0.09    | 0.73 ± 0.09    | < 0.10  | +0.21 ± 0.03   | -0.07 ± 0.03   | 0.23                 |
| Eotaxin-2/CCL24             | pg/mL           | 63.51 ± 3.36    | 61.49 ± 3.36    | 0.34    | 63.92 ± 5.83    | 65.09 ± 5.91    | 0.73    | 63.16 ± 3.82   | 58.37 ± 3.64   | < 0.10  | +1.16 ± 2.63   | -4.79 ± 2.63   | 0.16                 |
| I-TAC/CXCL11                | pg/mL           | 15.79 ± 2.37    | 11.44 ± 1.00    | < 0.10  | 17.83 ± 4.73    | 11.52 ± 1.54    | 0.21    | 14.01 ± 1.71   | 11.37 ± 1.33   | < 0.05  | -6.31 ± 1.07   | -2.64 ± 1.07   | 0.44                 |
| MCP-2/CCL8                  | pg/mL           | 66.76 ± 11.99   | 48.70 ± 2.99    | 0.11    | 81.22 ± 24.51   | 52.41 ± 3.81    | 0.23    | 54.24 ± 6.95   | 45.49 ± 4.47   | < 0.10  | -28.81 ± 4.87  | -8.75 ± 4.87   | 0.37                 |
| MIP-1d/CCL15                | ng/mL           | 4.45 ± 0.36     | 4.00 ± 0.28     | < 0.10  | 4.50 ± 0.49     | 3.94 ± 0.33     | 0.45    | 4.39 ± 0.54    | 4.05 ± 0.45    | < 0.05  | -0.69 ± 0.43   | -0.17 ± 0.43   | 0.45                 |
| MIP-3b/CCL19                | pg/mL           | 44.80 ± 2.65    | 40.50 ± 1.54    | < 0.10  | 48.42 ± 5.08    | 41.69 ± 2.27    | 0.14    | 41.65 ± 2.20   | 39.47 ± 2.12   | < 0.10  | -6.73 ± 1.27   | -2.19 ± 1.27   | 0.30                 |
| IL-17F                      | FI <sup>b</sup> | 3.63 ± 0.71     | 3.49 ± 0.72     | 0.13    | 2.52 ± 1.06     | 2.48 ± 1.11     | 0.61    | 4.59 ± 0.93    | 4.36 ± 0.91    | < 0.10  | -0.04 ± 0.13   | -0.23 ± 0.13   | 0.47                 |
| IL-23                       | FI <sup>b</sup> | -1.25 ± 0.14    | -1.46 ± 0.14    | 0.15    | -1.33 ± 0.21    | -1.17 ± 0.19    | 0.45    | -1.18 ± 0.20   | -1.70 ± 0.20   | < 0.01  | +0.15 ± 0.19   | -0.52 ± 0.19   | < 0.05               |
| IL-31                       | FI <sup>b</sup> | 4.63 ± 0.76     | 4.46 ± 0.77     | 0.15    | 3.10 ± 1.09     | 3.19 ± 1.10     | 0.82    | 5.97 ± 1.00    | 5.57 ± 1.05    | < 0.05  | +0.10 ± 0.20   | -0.40 ± 0.20   | < 0.10               |
| CD40LG                      | pg/mL           | 245.03 ± 11.38  | 191.94 ± 13.42  | < 0.001 | 224.73 ± 15.42  | 200.08 ± 22.75  | 0.19    | 261.95 ± 16.02 | 184.87 ± 15.71 | < 0.001 | -16.00 ± 21.05 | -77.07 ± 21.05 | < 0.05               |
| FGF21                       | FI <sup>b</sup> | -269.30 ± 12.32 | -280.74 ± 10.92 | < 0.001 | -253.92 ± 25.00 | -260.98 ± 22.46 | 0.20    | -282.63 ± 7.59 | -297.87 ± 4.82 | < 0.001 | -7.06 ± 5.52   | -15.23 ± 5.52  | 0.34                 |
| CCL28                       | pg/mL           | 145.99 ± 9.40   | 128.75 ± 9.73   | < 0.10  | 132.45 ± 6.87   | 132.88 ± 16.68  | 0.98    | 157.71 ± 16.36 | 125.17 ± 11.22 | < 0.05  | +0.43 ± 12.61  | -32.54 ± 12.61 | < 0.10               |
| ANGPTL3                     | ng/mL           | 45.71 ± 2.61    | 43.46 ± 2.71    | 0.14    | 45.47 ± 4.15    | 44.08 ± 4.50    | 0.59    | 45.91 ± 3.35   | 42.92 ± 3.31   | < 0.10  | -1.38 ± 1.74   | -3.00 ± 1.74   | 0.60                 |
| GDNF                        | pg/mL           | 4.36 ± 0.20     | 4.11 ± 0.19     | < 0.05  | 4.38 ± 0.34     | 4.19 ± 0.29     | 0.23    | 4.34 ± 0.23    | 4.04 ± 0.24    | < 0.10  | -0.19 ± 0.16   | -0.30 ± 0.16   | 0.62                 |
| D-Dimer + FDPs              | ng/mL           | 2.83 ± 0.33     | 2.01 ± 0.17     | < 0.05  | 1.85 ± 0.13     | 2.01 ± 0.28     | 0.54    | 3.65 ± 0.55    | 2.01 ± 0.22    | < 0.01  | +0.23 ± 0.56   | -1.63 ± 0.56   | < 0.01               |
| Reg3A                       | ng/mL           | 6.78 ± 0.49     | 6.39 ± 0.43     | < 0.10  | 6.70 ± 0.68     | 6.48 ± 0.58     | 0.49    | 6.85 ± 0.71    | 6.32 ± 0.64    | < 0.05  | -0.23 ± 0.24   | -0.53 ± 0.24   | 0.44                 |
| Progranulin/PGRN            | ng/mL           | 37.23 ± 2.11    | 33.68 ± 1.05    | < 0.05  | 38.5 ± 4.09     | 33.06 ± 1.91    | 0.13    | 36.14 ± 1.79   | 34.21 ± 1.07   | < 0.05  | -5.44 ± 0.91   | -1.93 ± 0.91   | 0.30                 |
| Complement Factor D/Adipsin | µg/mL           | 3.07 ± 0.09     | 2.83 ± 0.07     | < 0.001 | 2.95 ± 0.10     | 2.81 ± 0.11     | 0.12    | 3.18 ± 0.13    | 2.85 ± 0.10    | < 0.001 | -0.14 ± 0.08   | -0.32 ± 0.08   | 0.13                 |
| MSP/MST1                    | µg/mL           | 2.69 ± 0.07     | 2.58 ± 0.06     | < 0.05  | 2.55 ± 0.06     | 2.50 ± 0.08     | 0.36    | 2.81 ± 0.12    | 2.65 ± 0.09    | < 0.05  | -0.04 ± 0.06   | -0.16 ± 0.06   | 0.14                 |
| LBP                         | µg/mL           | 5.91 ± 0.28     | 5.31 ± 0.15     | < 0.05  | 6.16 ± 0.54     | 5.48 ± 0.25     | 0.19    | 5.69 ± 0.24    | 5.16 ± 0.18    | < 0.05  | -0.69 ± 0.21   | -0.53 ± 0.21   | 0.76                 |
| CXCL4/PF4                   | µg/mL           | 11.17 ± 1.22    | 8.82 ± 0.77     | < 0.10  | 11.18 ± 2.18    | 8.30 ± 0.97     | 0.22    | 11.16 ± 1.32   | 9.26 ± 1.18    | < 0.10  | -2.87 ± 1.11   | -1.90 ± 1.11   | 0.69                 |
| ADP                         | µM              | 1.23 ± 0.11     | 1.06 ± 0.09     | < 0.10  | 0.98 ± 0.12     | 1.01 ± 0.14     | 0.64    | 1.45 ± 0.17    | 1.10 ± 0.12    | < 0.10  | -0.21 ± 0.20   | -0.43 ± 0.20   | 0.38                 |
| Ethanolamine phosphate      | µM              | 4.15 ± 0.20     | 3.46 ± 0.18     | < 0.01  | 3.77 ± 0.29     | 3.29 ± 0.29     | 0.14    | 4.47 ± 0.26    | 3.61 ± 0.23    | < 0.05  | -0.48 ± 0.33   | -0.91 ± 0.33   | 0.34                 |
| N,N-Dimethylglycine         | µM              | 6.95 ± 0.42     | 6.53 ± 0.46     | < 0.10  | 7.71 ± 0.80     | 7.34 ± 0.92     | 0.40    | 6.29 ± 0.32    | 5.83 ± 0.27    | < 0.05  | -0.39 ± 0.21   | -0.45 ± 0.21   | 0.90                 |
| Nicotinamide                | µM              | 0.35 ± 0.02     | 0.30 ± 0.01     | < 0.05  | 0.32 ± 0.02     | 0.29 ± 0.02     | 0.15    | 0.37 ± 0.02    | 0.32 ± 0.02    | < 0.05  | -0.10 ± 0.08   | -0.10 ± 0.08   | 0.98                 |

Values show the means ± standard errors (SEs). The change value was calculated as delta (Δ) by subtracting the baseline value measured before the training intervention from the value measured after the training intervention. Statistical analyses were performed with two-sided paired *t* tests for the intragroup difference, <sup>a</sup>two-sided independent *t* tests for the intergroup difference, and <sup>b</sup>Wilcoxon signed-rank sum tests for the intragroup difference in the FI value. AT, aerobic training; FI, fluorescence intensity; RT, resistance training