

Extended Data 6. Blood factors that increased significantly only after aerobic 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 ^a
25(OH)VitaminD	ng/mL	37.80 ± 11.89	32.09 ± 3.07	0.64	24.51 ± 2.88	34.09 ± 4.94	< 0.05	49.32 ± 22.02	30.36 ± 3.86	0.40	+9.59 ± 22.37	-18.96 ± 22.37	0.24
Myonectin	ng/mL	2.03 ± 0.13	2.14 ± 0.13	< 0.01	1.86 ± 0.06	2.01 ± 0.05	< 0.01	2.17 ± 0.23	2.26 ± 0.24	0.16	+0.14 ± 0.06	+0.09 ± 0.06	0.47
IL-15	FI ^b	-7.93 ± 1.06	-6.32 ± 1.25	< 0.05	-8.41 ± 1.78	-6.48 ± 1.67	< 0.05	-7.52 ± 1.25	-6.18 ± 1.86	0.43	+1.93 ± 0.94	+1.34 ± 1.19	0.70
MPIF-1/CCL23	pg/mL	146.02 ± 11.61	158.21 ± 13.35	< 0.05	146.44 ± 17.69	160.84 ± 19.73	< 0.05	145.65 ± 15.60	155.94 ± 18.44	0.16	+14.41 ± 7.12	+10.28 ± 7.12	0.67
CD163	ng/mL	94.57 ± 5.13	98.88 ± 5.37	0.12	92.11 ± 7.80	103.46 ± 7.35	< 0.001	96.70 ± 6.89	94.91 ± 7.78	0.67	+11.34 ± 4.13	-1.79 ± 4.13	< 0.05
Chitinase 3-like 1	ng/mL	15.42 ± 1.05	15.68 ± 1.10	0.67	14.71 ± 1.07	17.75 ± 1.94	< 0.10	16.03 ± 1.73	13.83 ± 1.07	0.22	+3.04 ± 1.63	-2.66 ± 1.63	< 0.05
IL-6Ra	ng/mL	9.03 ± 0.40	9.47 ± 0.43	0.12	8.36 ± 0.61	9.48 ± 0.49	< 0.01	9.62 ± 0.53	9.47 ± 0.69	0.71	+1.12 ± 0.39	-0.14 ± 0.39	< 0.05
IL-12(p70)	FI ^b	-2.85 ± 0.42	-2.70 ± 0.38	0.33	-2.90 ± 0.85	-2.50 ± 0.66	< 0.10	-2.80 ± 0.29	-2.87 ± 0.44	0.63	+0.40 ± 0.43	-0.07 ± 0.43	0.45
IL-34	FI ^b	-25.17 ± 1.49	-23.83 ± 1.53	< 0.01	-27.03 ± 2.87	-23.9 ± 2.62	< 0.05	-23.56 ± 1.24	-23.76 ± 1.79	0.24	+3.13 ± 1.59	-0.20 ± 1.59	< 0.10
IL-35	FI ^b	-7.21 ± 1.84	-5.75 ± 2.14	< 0.10	-8.15 ± 3.53	-3.84 ± 2.93	< 0.05	-6.39 ± 1.63	-7.41 ± 3.10	0.66	+4.31 ± 2.49	-1.02 ± 2.49	0.11
MMP-2	ng/mL	80.10 ± 3.85	92.00 ± 5.09	< 0.01	79.61 ± 5.51	93.72 ± 5.84	< 0.0001	80.52 ± 5.46	90.50 ± 8.14	0.13	+14.11 ± 6.33	+9.98 ± 6.33	0.58
Pentraxin-3	ng/mL	11.71 ± 0.75	12.87 ± 0.79	< 0.10	11.87 ± 1.37	13.02 ± 1.18	< 0.10	11.57 ± 0.76	12.75 ± 1.08	0.22	+1.15 ± 0.94	+1.18 ± 0.94	0.98
TSLP	FI ^b	10.45 ± 1.10	11.54 ± 1.23	< 0.10	12.02 ± 2.19	13.87 ± 2.16	< 0.10	9.08 ± 0.76	9.52 ± 1.24	0.46	+1.85 ± 1.15	+0.43 ± 1.15	0.34
TWEAK/TNFSF12	pg/mL	354.66 ± 15.48	371.33 ± 13.17	0.13	347.80 ± 28.34	392.14 ± 17.64	< 0.05	360.61 ± 15.68	352.68 ± 18.94	0.63	+44.34 ± 18.13	-19.69 ± 18.13	< 0.05
IL-33	FI ^b	-4.89 ± 0.27	-4.76 ± 0.27	0.42	-4.81 ± 0.36	-4.37 ± 0.35	< 0.10	-4.97 ± 0.40	-5.10 ± 0.39	0.38	+0.44 ± 0.16	-0.13 ± 0.16	< 0.05
Erythropoetin	FI ^b	-7.46 ± 0.80	-7.43 ± 0.81	0.63	-8.27 ± 1.14	-7.62 ± 1.19	< 0.05	-6.75 ± 1.12	-7.27 ± 1.11	0.23	+0.65 ± 0.45	-0.52 ± 0.45	< 0.05
FSH	mIU/mL	33.66 ± 5.24	43.88 ± 7.27	< 0.01	38.86 ± 8.03	48.57 ± 10.25	< 0.05	28.85 ± 6.82	39.37 ± 10.41	0.11	+11.2 ± 5.68	+9.47 ± 5.68	0.81
MIA	pg/mL	846.98 ± 44.15	891.83 ± 44.99	< 0.01	816.52 ± 61.96	887.18 ± 66.38	< 0.01	873.38 ± 63.09	895.86 ± 62.23	0.26	+70.66 ± 19.42	+22.48 ± 19.42	0.12
Park7/DJ-1	ng/mL	11.56 ± 0.57	12.25 ± 0.73	0.33	10.60 ± 0.49	12.59 ± 1.34	< 0.10	12.38 ± 0.96	11.95 ± 0.73	0.61	+1.99 ± 0.84	-0.43 ± 0.84	< 0.10
1-Methylnicotinamide	μM	0.32 ± 0.02	0.40 ± 0.02	< 0.01	0.30 ± 0.03	0.45 ± 0.04	< 0.01	0.33 ± 0.03	0.35 ± 0.03	0.56	+0.22 ± 0.09	+0.09 ± 0.09	0.24
ADMA	μM	0.35 ± 0.01	0.37 ± 0.01	0.11	0.34 ± 0.01	0.38 ± 0.01	< 0.05	0.36 ± 0.01	0.36 ± 0.01	0.83	+0.30 ± 0.09	+0.01 ± 0.09	< 0.05
Guanidinosuccinic acid	μM	0.34 ± 0.02	0.37 ± 0.02	< 0.05	0.30 ± 0.03	0.35 ± 0.04	< 0.10	0.37 ± 0.03	0.38 ± 0.03	0.35	+0.12 ± 0.08	+0.12 ± 0.08	1.00
His	μM	131.5 ± 2.26	133.6 ± 2.20	0.23	129.49 ± 3.27	133.50 ± 3.12	< 0.10	133.25 ± 3.15	133.69 ± 3.14	0.87	+2.98 ± 2.56	+0.79 ± 2.56	0.52
Homoarginine	μM	1.84 ± 0.07	2.04 ± 0.10	< 0.05	1.91 ± 0.13	2.15 ± 0.17	< 0.05	1.78 ± 0.08	1.94 ± 0.12	0.16	+0.29 ± 0.12	+0.18 ± 0.12	0.51
Lys	μM	342.53 ± 7.10	356.24 ± 8.33	0.14	341.98 ± 10.46	370.27 ± 14.35	< 0.10	343.01 ± 9.83	344.07 ± 8.99	0.92	+23.07 ± 9.99	-4.00 ± 9.99	0.12
Mucic acid	μM	4.47 ± 0.23	4.90 ± 0.22	< 0.05	4.42 ± 0.32	4.97 ± 0.36	< 0.10	4.51 ± 0.34	4.84 ± 0.27	0.19	+0.60 ± 0.25	+0.32 ± 0.25	0.48
N1-Methyl-4-pyridone-5-carboxamide	μM	0.31 ± 0.01	0.36 ± 0.02	< 0.05	0.28 ± 0.02	0.36 ± 0.02	< 0.05	0.33 ± 0.02	0.35 ± 0.03	0.41	+0.17 ± 0.08	+0.03 ± 0.08	0.22
Ornithine	μM	65.49 ± 1.64	68.52 ± 2.30	0.18	67.96 ± 2.03	74.73 ± 4.18	< 0.10	63.34 ± 2.48	63.13 ± 1.89	0.94	+5.04 ± 2.57	+0.14 ± 2.57	0.25

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