

**Table.S1**

Allele distribution of participants

	<b>Allele Frequency</b>	$\chi^2$	<b>P</b>
<b>Hardy Weinberg</b>			
<b>Ile/Ile</b>	22 (54%)		
<b>Ile/Val</b>	16 (39%)	<0.001	>0.999
<b>Val/Val</b>	3 (7%)		
<b>Allele distribution</b>			
*Recorded (n=216414)			
<b>Ile</b>	68%	0.438	0.601
<b>Val</b>	32%		
Observed (n=41)			
<b>Ile</b>	73%		
<b>Val</b>	27%		

P values for Hardy-Weinberg equilibrium and allele distribution were obtained using chi square tests.

Shao, D. Revoe, R. Villamarin, E. Ivanchenko, M. Kimura, Z. Y. Wang, L. Hao, N. Sharopova, M. Bihan, A. Sturcke, M. Lee, N. Popova, W. Wu, C. Bastiani, M. Ward, J. B. Holmes, V. Lyoshin, K. Kaur, E. Moyer, M. Feolo, and B. L. Kattman. "ALFA: Allele Frequency Aggregator." National Center for Biotechnology Information, U.S. National Library of Medicine, 10 Mar. 2020,

**Table.S2**  
Effect of genotype on baseline (pre treatment) measurements across groups.

	Combined			CON		WL		WLEX		Interaction, p
	Ile/Ile n=22	Val/_ n=19	Genotype, p	Ile/Ile n=10	Val/_ n=5	Ile/Ile n=5	Val/_ n=7	Ile/Ile n=7	Val/_ n=7	
<b>Body Composition</b>										
Δ BMI (Kg/m <sup>2</sup> )	35.16 ± 1.05	36.97 ± 1.26	0.223	33.35 ± 1.54	35.74 ± 2.14	35.75 ± 2.03	35.31 ± 1.87	36.36 ± 1.69	39.86 ± 1.81	0.529
Δ Body mass (Kg)	99.15 ± 3.59	103.60 ± 4.30	0.379	92.49 ± 5.26	102.59 ± 7.33	101.83 ± 6.95	100.82 ± 6.42	103.11 ± 5.77	107.39 ± 6.21	0.666
Δ Fat mass (Kg)	43.91 ± 2.27	46.35 ± 2.72	0.445	39.12 ± 3.33	43.57 ± 4.64	45.49 ± 4.40	43.52 ± 4.06	47.11 ± 3.65	51.95 ± 3.93	0.618
Δ Fat mass (%)	44.02 ± 0.95	44.46 ± 1.14	0.741	42.22 ± 1.40	41.66 ± 1.95	44.47 ± 1.85	43.66 ± 1.71	45.37 ± 1.54	48.06 ± 1.65	0.488
Δ Lean mass (Kg)	52.72 ± 1.50	54.85 ± 1.79	0.315	51.36 ± 2.20	57.15 ± 3.06	53.18 ± 2.90	54.35 ± 2.68	53.63 ± 2.41	53.04 ± 2.59	0.441
Δ Lean mass (%)	52.99 ± 0.90	52.66 ± 1.08	0.792	54.71 ± 1.32	55.35 ± 1.83	52.52 ± 1.74	53.41 ± 1.61	51.74 ± 1.44	49.22 ± 1.55	0.464
Δ Appendicular lean mass (Kg)	24.80 ± 0.81	25.70 ± 0.97	0.432	24.00 ± 1.19	27.59 ± 1.66	24.52 ± 1.58	25.79 ± 1.45	25.89 ± 1.31	23.72 ± 1.41	0.126
Δ Thigh SAT (cm <sup>3</sup> )	1891.20 ± 232.44	2230.30 ± 259.84	0.336	2083.10 ± 292.90	1809.90 ± 428.44	1577.90 ± 538.78	2125.70 ± 495.38	2012.70 ± 355.46	2755.40 ± 337.44	0.355
Δ Abdomen SAT (cm <sup>3</sup> )	13414.00 ± 788.15	14531.00 ± 881.08	0.350	14407.00 ± 993.19	13108.00 ± 1452.80	10432.00 ± 1826.90	13892.00 ± 1679.80	15402.00 ± 1205.30	16592.00 ± 1144.20	0.286
Δ Abdomen VAT (cm <sup>3</sup> )	9409.00 ± 777.91	9570.90 ± 869.64	0.889	7766.80 ± 980.28	8432.10 ± 1433.90	11059.00 ± 1803.20	10705.00 ± 1657.90	9400.90 ± 1189.60	9576.10 ± 1129.30	0.940
Δ Abdomen AT (cm <sup>3</sup> )	22823.00 ± 1401.40	24102.00 ± 1566.70	0.544	22174.00 ± 1766.00	21540.00 ± 2583.20	21492.00 ± 3248.50	24597.00 ± 2986.80	24803.00 ± 2143.20	26169.00 ± 2034.50	0.771
<b>Glucose Control</b>										
Δ Glucose fasting (mg/dL)	109.56 ± 4.89	114.28 ± 5.85	0.490	107.38 ± 6.96	111.13 ± 10.03	117.02 ± 9.51	111.44 ± 8.74	104.28 ± 7.89	120.26 ± 8.47	0.438
Δ HbA1c (%)	6.13 ± 0.19	6.52 ± 0.23	0.161	6.14 ± 0.28	6.47 ± 0.40	5.98 ± 0.38	6.18 ± 0.35	6.28 ± 0.31	6.89 ± 0.33	0.808
<b>Aerobic Capacity</b>										
Δ VO <sub>2 peak</sub> (mL/min/KgFFM)	28.42 ± 1.02	29.28 ± 1.14	0.529	33.43 ± 1.47 #	29.23 ± 1.94	22.51 ± 2.06 #	29.49 ± 1.70	29.32 ± 1.53	29.13 ± 1.64	<b>0.010</b>
Δ VO <sub>2 peak</sub> (mL/min/KgBM)	16.17 ± 0.78	16.52 ± 0.87	0.735	19.68 ± 1.13 #	17.34 ± 1.49	12.54 ± 1.58 #	16.77 ± 1.30	16.28 ± 1.17	15.46 ± 1.26	<b>0.047</b>
Δ RER <sub>peak</sub>	1.09 ± 0.02	1.08 ± 0.03	0.675	1.16 ± 0.04	1.09 ± 0.05	1.02 ± 0.05	1.06 ± 0.04	1.09 ± 0.04	1.08 ± 0.04	0.474
Δ Ergometer work <sub>peak</sub> (W)	100.63 ± 6.88	99.57 ± 7.66	0.909	116.29 ± 9.89	107.61 ± 13.08	78.86 ± 13.90	95.47 ± 11.43	106.72 ± 10.29	95.64 ± 11.06	0.416
<b>Mitochondrial Oxidative Capacity</b>										
<i>in vivo</i> ( <sup>31</sup> P-MRS)										
Δ k; PCr recovery rate constant (1/sec*10 <sup>3</sup> )	19.45 ± 1.60	21.55 ± 1.97	0.405	17.79 ± 2.17	23.49 ± 3.03	20.96 ± 3.32	19.39 ± 3.37	19.60 ± 2.94	21.79 ± 2.73	0.434
Δ Q <sub>max</sub> ; ATP rate (mM/sec)	0.48 ± 0.04	0.55 ± 0.05	0.297	0.45 ± 0.06	0.59 ± 0.08	0.47 ± 0.09	0.52 ± 0.09	0.51 ± 0.08	0.53 ± 0.07	0.670
Δ PDE1/2 (mM)	7.27 ± 0.44	7.59 ± 0.54	0.646	7.08 ± 0.60	6.71 ± 0.83	7.67 ± 0.91	7.28 ± 0.92	7.07 ± 0.81	8.77 ± 0.75	0.318
<i>ex vivo</i> (Oxygraph)										
Δ P; OXPHOS capacity <sub>net</sub> (pmol O <sub>2</sub> /sec/mg)	43.36 ± 2.75	41.27 ± 3.08	0.583	39.46 ± 4.86	41.18 ± 5.32	42.20 ± 4.92	45.31 ± 4.32	48.42 ± 4.25	37.31 ± 4.27	0.214
Δ E; ETS capacity <sub>net</sub> (pmol O <sub>2</sub> /sec/mg)	55.20 ± 3.11	52.53 ± 3.48	0.536	51.70 ± 5.50	51.83 ± 6.01	54.12 ± 5.56	55.32 ± 4.89	59.78 ± 4.81	50.44 ± 4.83	0.502
Δ P/E; OXPHOS control ratio <sub>net</sub>	0.65 ± 0.03	0.64 ± 0.03	0.775	0.69 ± 0.05	0.64 ± 0.06	0.59 ± 0.05	0.67 ± 0.05	0.66 ± 0.05	0.60 ± 0.05	0.278
<b>Covariates</b>										
Age (y)	68.59 ± 0.70	68.63 ± 1.14		68.50 ± 1.37	71.60 ± 2.04	69.20 ± 1.24	68.71 ± 2.11	68.29 ± 0.81	66.43 ± 1.53	
Sex (F:M)	15:7	16:3		8:2	4:1	4:1	6:1	3:4	6:1	
Diabetes	8	5		4	1	2	1	2	3	

All values are mean ± SEM after adjustment for sex, age, and diabetes status using a general linear model. p values <0.05 for the allocation are shown in bold. Significant posthoc comparisons (p<0.05; Holm) between groups are shown using the symbol #. CON, health education only control; WL, diet-induced weight loss; WLEX, WL with exercise training; BMI, body mass index; SAT, subcutaneous adipose tissue; VAT, visceral adipose tissue; AT, total adipose tissue; HbA1c, glycated hemoglobin A1c; VO<sub>2</sub>, O<sub>2</sub> consumption during peak exercise; RER, respiratory exchange ratio during peak exercise; <sup>31</sup>P-MRS, phosphorus magnetic resonance spectroscopy; PCr, phosphocreatine; PDE, phosphodiesterases; OXPHOS, oxidative phosphorylation; ETS, electron transport system.

Table.S3

Effects of diet-induced weight loss with or without exercise training in older sedentary obese participants.

	CON n=15	WL n=12	WLEX n=14	Main, P	contrast, P		
					CON vs. WL	CON vs. WLEX	WL vs. WLEX
<b>Body Composition</b>							
Δ BMI (Kg/m <sup>2</sup> )	-0.43 ± 0.55	-1.99 ± 0.59	-3.26 ± 0.50	<b>0.002</b>	<b>0.037</b>	<b>&lt;0.001</b>	0.088
Δ Body mass (Kg)	-1.56 ± 1.47	-6.19 ± 1.56	-9.24 ± 1.33	<b>0.001</b>	<b>0.021</b>	<b>&lt;0.001</b>	0.120
Δ Fat mass (Kg)	-0.41 ± 1.17	-3.60 ± 1.24	-7.77 ± 1.06	<b>&lt;0.001</b>	<b>0.044</b>	<b>&lt;0.001</b>	<b>0.010</b>
Δ Fat mass (%)	-0.29 ± 0.67	-1.74 ± 0.71	-4.15 ± 0.61	<b>&lt;0.001</b>	0.107	<b>&lt;0.001</b>	<b>0.010</b>
Δ Lean mass (Kg)	-0.36 ± 0.65	-0.95 ± 0.69	-0.06 ± 0.59	0.575	0.496	0.722	0.305
Δ Lean mass (%)	0.37 ± 0.67	1.72 ± 0.71	4.16 ± 0.61	<b>&lt;0.001</b>	0.131	<b>&lt;0.001</b>	<b>0.009</b>
Δ Appendicular lean mass (Kg)	-0.52 ± 0.45	-0.71 ± 0.48	0.01 ± 0.41	0.462	0.751	0.376	0.234
Δ Thigh SAT (cm <sup>3</sup> )	-25.88 ± 95.11	-61.16 ± 124.62	-431.22 ± 79.82	<b>0.008</b>	0.820	<b>0.004</b>	<b>0.020</b>
Δ Abdomen SAT (cm <sup>3</sup> )	-539.01 ± 358.59	-348.32 ± 469.85	-2204.30 ± 300.92	<b>0.002</b>	0.744	<b>0.002</b>	<b>0.003</b>
Δ Abdomen VAT (cm <sup>3</sup> )	-279.80 ± 517.14	-882.89 ± 677.59	-1772.10 ± 433.96	0.111	0.476	<b>0.040</b>	0.274
Δ Abdomen AT (cm <sup>3</sup> )	-818.81 ± 784.33	-1231.20 ± 1027.70	-3976.40 ± 658.18	<b>0.013</b>	0.747	<b>0.006</b>	<b>0.033</b>
<b>Glucose Control</b>							
Δ Glucose fasting (mg/dL)	3.43 ± 6.12	-3.51 ± 6.50	-12.71 ± 5.54	0.137	0.383	<b>0.048</b>	0.257
Δ HbA1c (%)	-0.31 ± 0.19	-0.46 ± 0.20	-0.78 ± 0.17	0.152	0.530	0.058	0.199
<b>Aerobic Capacity</b>							
Δ VO <sub>2 peak</sub> (mL/min/KgFFM)	0.09 ± 0.94	-0.83 ± 1.06	2.16 ± 0.84	0.065	0.470	0.096	<b>0.025</b>
Δ VO <sub>2 peak</sub> (mL/min/KgBM)	0.31 ± 0.58	0.40 ± 0.65	2.69 ± 0.52	<b>0.005</b>	0.901	<b>0.003</b>	<b>0.006</b>
Δ RER <sub>peak</sub>	-0.03 ± 0.02	0.01 ± 0.02	0.04 ± 0.02	<b>0.019</b>	0.107	<b>0.005</b>	0.234
Δ Ergometer work <sub>peak</sub> (W)	5.93 ± 6.46	-6.73 ± 7.22	29.61 ± 5.75	<b>0.001</b>	0.149	<b>0.007</b>	<b>0.000</b>
<b>Mitochondrial Oxidative Capacity</b>							
<i>in vivo</i> ( <sup>31</sup> P-MRS)							
Δ k; PCr recovery rate constant (1/sec*10 <sup>3</sup> )	1.05 ± 2.83	-0.57 ± 3.41	9.94 ± 2.77	0.063	0.678	<b>0.043</b>	<b>0.030</b>
Δ Q <sub>max</sub> ; ATP rate (mM/sec)	0.03 ± 0.07	-0.03 ± 0.08	0.18 ± 0.07	0.137	0.487	0.130	0.054
Δ PDE1/2 (mM)	0.62 ± 0.42	0.15 ± 0.50	-1.30 ± 0.41	<b>0.016</b>	0.410	<b>0.005</b>	<b>0.040</b>
<i>ex vivo</i> (Oxygraph)							
Δ P; OXPHOS capacity <sub>net</sub> (pmol O <sub>2</sub> /sec/mg)	5.94 ± 4.18	3.55 ± 4.03	27.44 ± 3.49	<b>&lt;0.001</b>	0.648	<b>&lt;0.001</b>	<b>&lt;0.001</b>
Δ E; ETS capacity <sub>net</sub> (pmol O <sub>2</sub> /sec/mg)	9.91 ± 5.07	1.66 ± 4.88	27.11 ± 4.23	<b>0.001</b>	0.201	<b>0.012</b>	<b>&lt;0.001</b>
Δ P/E; OXPHOS control ratio <sub>net</sub>	-0.02 ± 0.04	0.01 ± 0.04	0.08 ± 0.03	0.201	0.637	0.082	0.209
<b>Covariates</b>							
Age (y)	69.53 ± 1.16	68.92 ± 1.29	67.36 ± 0.87				
Sex (F;M)	12;3	10;2	9;5				
Diabetes	5	3	5				

All values are mean ± SEM of post-pre treatment change (D). P values for treatment main effect were obtained after adjustments for sex, age, and diabetes status using a general linear model. Between-group contrasts with p values <0.05 are shown in bold. CON, health education only control; WL, diet-induced weight loss; WLEX, WL with exercise training; BMI, body mass index; SAT, subcutaneous adipose tissue; VAT, visceral adipose tissue; AT, total adipose tissue; HbA1c, glycated hemoglobin A1c; VQ, O<sub>2</sub> consumption during peak exercise; RER, respiratory exchange ratio during peak exercise; <sup>31</sup>P-MRS, phosphorus magnetic resonance spectroscopy; PCr, phosphocreatine; PDE, phosphodiesterases; OXPHOS, oxidative phosphorylation; ETS, electron transport system.

**Table.S4**  
ANOVA sum of squares and effect sizes

	SS									$\eta^2p$			
	Model	Group	Genotype	Sex	Age	T2D Status	Group x Geno	Residuals	Total	Model	Group	Genotype	Gr.x Ge.
<b>Body Composition</b>													
Δ BMI (Kg/m <sup>2</sup> )	81.82967	48.26557	0.1737	0.68443	1.30461	12.17567	5.96816	95.20933	177.039	0.46	<b>0.34</b>	0.00	<b>0.06</b>
Δ Body mass (Kg)	626.1165	360.0255	2.3662	20.8889	12.2481	83.5227	18.4615	670.4425	1296.559	0.48	<b>0.35</b>	0.00	0.03
Δ Fat mass (Kg)	528.7763	327.443	2.3104	3.9942	6.2074	108.5396	28.8581	426.2745	955.0508	0.55	<b>0.43</b>	0.01	<b>0.06</b>
Δ Fat mass (%)	145.5372	91.1926	1.3639	3.5163	8.0851	18.1735	10.3861	140.7137	286.2509	0.51	<b>0.39</b>	0.01	<b>0.07</b>
Δ Lean mass (Kg)	38.13972	4.82039	0.54746	0.59383	21.72127	12.31178	0.59262	132.76955	170.90927	0.22	0.04	0.00	0.00
Δ Lean mass (%)	134.13303	88.69197	0.9591	4.83083	8.97112	10.47857	6.69127	139.73234	273.86537	0.49	<b>0.39</b>	0.01	0.05
Δ Appendicular lean mass (Kg)	27.53965	3.24524	5.2382	0.46592	10.52209	0.70296	7.77763	63.53239	91.07204	0.30	<b>0.05</b>	<b>0.08</b>	<b>0.11</b>
Δ Thigh SAT (cm <sup>3</sup> )	1300100	857831	61082	12307	13546	165198	52921	1288400	2588500	0.50	<b>0.40</b>	0.05	0.04
Δ Abdomen SAT (cm <sup>3</sup> )	3.0978E+13	1.691E+13	2.3699E+12	1.9733E+11	1.5261E+12	4.3722E+12	1.1705E+12	1.8313E+13	4.9291E+13	0.63	<b>0.48</b>	<b>0.11</b>	<b>0.06</b>
Δ Abdomen VAT (cm <sup>3</sup> )	2.01E+13	9.9211E+12	4123900000	1.1183E+12	1.8745E+12	9.0137E+11	3.4034E+11	3.8088E+13	5.8188E+13	0.35	<b>0.21</b>	0.00	0.01
Δ Abdomen AT (cm <sup>3</sup> )	7.3752E+13	5.0565E+13	2.1763E+12	3.761E+11	17899000000	1.3032E+12	1.8895E+12	8.7612E+13	1.6136E+14	0.46	<b>0.37</b>	0.02	0.02
<b>Glucose Control</b>													
Δ Glucose fasting (mg/dL)	6946.006	1601.879	1088.564	376.875	2655.873	29.527	1132.177	12097.116	19043.122	0.36	<b>0.12</b>	<b>0.08</b>	<b>0.09</b>
Δ HbA1c (%)	8.384844	1.401312	2.118255	2.184874	1.194432	0.042323	0.908016	11.233205	19.618049	0.43	<b>0.11</b>	<b>0.16</b>	<b>0.07</b>
<b>Aerobic Capacity</b>													
Δ VO <sub>2 peak</sub> (mL/min/KgFFM)	169.786395	51.777192	0.035684	3.752209	37.974149	11.48314	29.577044	250.044881	419.831276	0.40	<b>0.17</b>	0.00	<b>0.11</b>
Δ VO <sub>2 peak</sub> (mL/min/KgBM)	96.06507	41.9996	0.34887	3.66463	11.68676	3.20274	12.14155	93.61904	189.68412	0.51	<b>0.31</b>	0.00	<b>0.11</b>
Δ RER <sub>peak</sub>	0.0576393	0.0357642	0.00011188	0.00008748	0.0087102	0.0033462	0.0167099	0.113637	0.1712763	0.34	<b>0.24</b>	0.00	<b>0.13</b>
Δ Ergometer work <sub>peak</sub> (W)	10237.885	7494.242	29.615	189.401	135.031	50.98	844.307	11686.457	21924.342	0.47	<b>0.39</b>	0.00	<b>0.07</b>
<b>Mitochondrial Oxidative Capacity</b>													
<i>in vivo</i> ( <sup>31</sup> P-MRS)													
Δ k; PCr recovery rate constant (1/sec*10 <sup>3</sup> )	0.00064639	0.00040568	1.0254E-08	1.3071E-06	6.5222E-07	9.9213E-06	0.000062737	0.0012745	0.0019209	0.34	<b>0.24</b>	0.00	0.05
Δ Q <sub>max</sub> ; ATP rate (mM/sec)	0.3069988	0.1580858	0.0103555	0.0024232	0.0030681	0.0106306	0.0330986	0.7201723	1.0271711	0.30	<b>0.18</b>	0.01	0.04
Δ PDE1/2 (mM)	30.131488	14.085634	2.844495	0.3203	0.097263	0.554748	1.151431	27.522983	57.654471	0.52	<b>0.34</b>	<b>0.09</b>	0.04
<i>ex vivo</i> (Oxygraph)													
Δ P; OXPHOS capacity <sub>net</sub> (pmol O <sub>2</sub> /sec/mg)	6530.331292	3162.314141	339.7051752	1125.920247	530.9188174	229.7009882	596.29905	2306.29506	8836.626351	0.74	<b>0.58</b>	<b>0.13</b>	<b>0.21</b>
Δ E; ETS capacity <sub>net</sub> (pmol O <sub>2</sub> /sec/mg)	6669.879238	3118.216312	410.0787189	1428.267298	426.626251	294.6327571	455.6960369	3387.063401	10056.94264	0.66	<b>0.48</b>	<b>0.11</b>	<b>0.12</b>
Δ P/E; OXPHOS control ratio <sub>net</sub>	0.2635641	0.0366611	0.0044968	0.0042637	0.0418264	0.0042441	0.1602441	0.187845	0.451409	0.58	<b>0.16</b>	0.02	<b>0.46</b>

Sum of squares (SS) and partial eta squared ( $\eta^2p$ ) of the main model presented in table 1. Medium and large size effects ( $\eta^2p \geq 0.06$ ) for the group, genotype, and their interaction are shown in bold. CON, health education only control; WL, diet-induced weight loss; WLEX, WL with exercise training; BMI, body mass index; SAT, subcutaneous adipose tissue; VAT, visceral adipose tissue; AT, total adipose tissue; HbA1c, glycated hemoglobin A1c; VO<sub>2</sub>, O<sub>2</sub> consumption during peak exercise; RER, respiratory exchange ratio during peak exercise; <sup>31</sup>P-MRS, phosphorus magnetic resonance spectroscopy; PCr, phosphocreatine; PDE, phosphodiesterases; OXPHOS, oxidative phosphorylation; ETS, electron transport system.

**Table.S5**

Absolute genotype differences and effect sizes in response to the intervention

	WL		WLEX	
	$\Delta_{Val} - \Delta_{Ile}$	d	$\Delta_{Val} - \Delta_{Ile}$	d
$\Delta$ Body mass (Kg)	1.24	0.23	-2.26	-0.47
$\Delta$ Fat mass (Kg)	1.47	0.37	-2.85	-0.71
$\Delta$ Appendicular lean mass (Kg)	-0.09	-0.06	2.05	1.46
$\Delta$ Glucose fasting (mg/dL)	2.25	0.13	-25.10	-1.87
$\Delta$ HbA1c (%)	-0.05	-0.16	-0.81	-1.15
$\Delta$ VO <sub>2 peak</sub> (mL/min/KgFFM)	-2.13	-1.03	2.39	0.80
$\Delta$ RER <sub>peak</sub>	-0.03	-0.43	0.06	1.61
$\Delta$ k; PCr recovery rate constant (1/sec*10 <sup>3</sup> )	-3.24	-0.51	4.57	0.52
$\Delta$ Q <sub>max</sub> ; ATP rate (mM/sec)	-0.11	-0.73	0.06	0.28
$\Delta$ P; OXPHOS capacity <sub>net</sub> (pmol O <sub>2</sub> /sec/mg)	-4.92	-0.70	16.50	1.36
$\Delta$ E; ETS capacity <sub>net</sub> (pmol O <sub>2</sub> /sec/mg)	-0.70	-0.08	18.39	1.31
Composite response (SD)	-0.37	-0.71	1.17	2.77

Genotype differences observed on the pre-post changes ( $\Delta$ ) to the intervention, expressed as the absolute difference between changes ( $\Delta_{Val} - \Delta_{Ile}$ ). The standardized effect sizes for these genotype differences are expressed as Cohen's d (d). WL, diet-induced weight loss; WLEX, WL with exercise training; HbA1c, glycated hemoglobin A1c; VO<sub>2</sub>, O<sub>2</sub> consumption during peak exercise; RER, respiratory exchange ratio during peak exercise; OXPHOS, oxidative phosphorylation; ETS, electron transport system.