

Additional Table 1 SNP Associations in the FAMUSS study

Additional Table 1A SNP Associations with BMI and change in BMI with Exercise for Females

Gene (dbSNP ID)	BMI		Δ BMI with Resistance Training	
	N; mean ± SEM	Unadjusted p-value	N; mean ± SEM	Unadjusted p- value
<i>NEGR1</i> (rs2815752)	AA (N=190; 23.91 ± 0.32) AG/GG (N=267; 23.88 ± 0.27)	0.9419	AA (N=190; 0.26 ± 0.06) AG/GG (N=267; 0.14 ± 0.05)	0.1685
<i>MTCH2</i> (rs10838738)	AA (N=210; 24.09 ± 0.30) AG/GG (N=245; 23.68 ± 0.28)	0.3281	AA (N=210; 0.15 ± 0.06) AG/GG (N=245; 0.23 ± 0.06)	0.3146
<i>TMEM18</i> (rs6548238)	CC (N=309; 24.01 ± 0.25) CT/TT (N=148; 23.63 ± 0.36)	0.3837	CC (N=309; 0.21 ± 0.05) CT/TT (N=148; 0.15 ± 0.07)	0.5081
<i>GNPDA2</i> (rs10938397)	AA (N=137; 24.17 ± 0.38) AG/GG (N=308; 23.81 ± 0.25)	0.4328	AA (N=137; 0.22 ± 0.07) CT/TT (N=308; 0.18 ± 0.05)	0.6580
<i>SH2B1</i> (rs7498665)	AA (N=181; 23.69 ± 0.33) AG/GG (N=274; 24.04 ± 0.27)	0.4024	AA (N=181; 0.20 ± 0.06) AG/GG (N=274; 0.19 ± 0.05)	0.9495
<i>KCTD15</i> (rs11084753)	GG (N=200; 23.87 ± 0.32) AG/AA (N=256; 23.90 ± 0.28)	0.9296	GG (N=200; 0.21 ± 0.06) AG/GG (N=256; 0.18 ± 0.05)	0.7202
<i>MC4R</i> (rs17782313)	TT (N=278; 23.41 ± 0.26) CT/CC (N=174; 24.70 ± 0.33)	0.0025	TT (N=278; 0.18 ± 0.05) CT/CC (N=174; 0.21 ± 0.07)	0.6914
<i>FTO</i> (rs9939609)	TT (N=115; 23.47 ± 0.42) AT/AA (N=236; 24.15 ± 0.29)	0.1890	TT (N=236; 0.27 ± 0.08) AT/AA (N=115; 0.24 ± 0.06)	0.7552

Additional Table 1B Trained Upper Arm Subcutaneous Fat Volume and change in Subcutaneous Fat Volume with Exercise for Females

Gene (dbSNP ID)	Subcutaneous Fat volume (mm3)		Δ Subcutaneous Fat volume (mm3) with resistance training	
	N; mean ± SEM	Unadjusted p-value	N; mean ± SEM	Unadjusted p- value
<i>NEGR1</i> (rs2815752)	AA (N=129; 263600 ± 5845) AG/GG (N=191; 250315 ± 4802)	0.0804	AA (N=129; 8536 ± 2752) AG/GG (N=190; 4679 ± 2267)	0.2685
<i>MTCH2</i> (rs10838738)	AA (N=146; 258719 ± 5558) AG/GG (N=172; 252936 ± 5119)	0.4453	AA (N=146; 4176 ± 2576) AG/GG (N=171; 7689 ± 2380)	0.3180
<i>TMEM18</i> (rs6548238)	CC (N=219; 257848 ± 4617) CT/TT (N=101; 253675 ± 6808)	0.6129	CC (N=219; 6052 ± 2116) CT/TT (N=100; 6397 ± 3136)	0.9276
<i>GNPDA2</i> (rs10938397)	AA (N=101; 250567 ± 6767) AG/GG (N=210; 261171 ± 4686)	0.1995	AA (N=101; 5174 ± 3152) AG/GG (N=209; 6761 ± 2188)	0.6801
<i>SH2B1</i> (rs7498665)	AA (N=126; 261979 ± 6092) AG/GG (N=192; 253658 ± 4932)	0.2900	AA (N=126; 770 ± 2772) AG/GG (N=191; 9813 ± 2250)	0.0119
<i>KCTD15</i> (rs11084753)	GG (N=133; 263970 ± 5899) AG/AA (N=186; 250871 ± 4988)	0.0911	GG (N=133; 6131 ± 2704) AG/AA (N=185; 6487 ± 2292)	0.9201
<i>MC4R</i> (rs17782313)	TT (N=193; 257444 ± 4932) CT/CC (N=123; 256402 ± 6201)	0.8962	TT (N=192; 5041 ± 2277) CT/TT (N=123; 8115 ± 2856)	0.4043
<i>FTO</i> (rs9939609)	TT (N=84; 254444 ± 7257) AT/AA (N=153; 259722 ± 5368)	0.5603	TT (N=84; 3633 ± 3446) AT/AA (N=152; 6895 ± 2557)	0.4491

Additional Table 1C SNP Associations with BMI and Change in BMI with Exercise for Males

Gene (dbSNP ID)	BMI		Δ BMI with resistance training	
	n; mean ± SEM	Unadjusted p-value	n; mean ± SEM	Unadjusted p-value
<i>NEGR1</i> (rs2815752)	AA (N=118; 25.04 ± 0.42) AG/GG (N=193; 25.31 ± 0.33)	0.6148	AA (N=118; 0.12 ± 0.07) AG/GG (N=192; 0.15 ± 0.06)	0.7425
<i>MTCH2</i> (rs10838738)	AA (N=125; 25.11 ± 0.41) AG/GG (N=183; 25.26 ± 0.34)	0.7853	AA (N=125; 0.25 ± 0.07) AG/GG (N=182; 0.07 ± 0.06)	0.0621
<i>TMEM18</i> (rs6548238)	CC (N=206; 25.12 ± 0.32) CT/TT (N=103; 25.39 ± 0.45)	0.6372	CC (N=205; 0.17 ± 0.06) CT/TT (N=103; 0.10 ± 0.08)	0.4588
<i>GNPDA2</i> (rs10938397)	AA (N=94; 25.44 ± 0.48) AG/GG (N=210; 25.03 ± 0.32)	0.4818	AA (N=94; 0.12 ± 0.08) AG/GG (N=209; 0.15 ± 0.05)	0.7951
<i>SH2B1</i> (rs7498665)	AA (N=109; 25.43 ± 0.44) AG/GG (N=199; 25.08 ± 0.33)	0.5314	AA (N=108; 0.06 ± 0.08) AG/GG (N=199; 0.18 ± 0.06)	0.1876
<i>KCTD15</i> (rs11084753)	GG (N=142; 25.08 ± 0.39) AG/AA (N=166; 25.33 ± 0.36)	0.6264	GG (N=142; 0.12 ± 0.07) AG/AA (N=165; 0.17 ± 0.06)	0.5787
<i>MC4R</i> (rs17782313)	TT (N=184; 24.79 ± 0.34) CT/CC (N=119; 25.79 ± 0.42)	0.0643	TT (N=183; 0.09 ± 0.06) CT/CC (N=119; 0.21 ± 0.07)	0.1762
<i>FTO</i> (rs9939609)	TT (N=84; 25.44 ± 0.49) AT/AA (N=132; 24.83 ± 0.39)	0.3323	TT (N=83; 0.23 ± 0.09) AT/AA (N=132; 0.09 ± 0.07)	0.2192

Additional Table 1D Trained Upper Arm Subcutaneous Fat Volume and change in Subcutaneous Fat Volume with Exercise for Males

Gene (dbSNP ID)	Subcutaneous Fat Volume (mm ³)		Δ Subcutaneous Fat Volume (mm ³) with resistance training	
	n; mean ± SEM	Unadjusted p-value	n; mean ± SEM	Unadjusted p-value
<i>NEGR1</i> (rs2815752)	AA (N=73; 172664 ± 7074) AG/GG (N=130; 170614 ± 5314)	0.8175	AA (N=72; 196 ± 2863) AG/GG (N=128; 4937 ± 2152)	0.4027
<i>MTCH2</i> (rs10838738)	AA (N=82; 165657 ± 6721) AG/GG (N=119; 174478 ± 5540)	0.3134	AA (N=82; 4434 ± 2699) AG/GG (N=116; 3195 ± 2254)	0.7257
<i>TMEM18</i> (rs6548238)	CC (N=136; 177825 ± 5139) CT/TT (N=65; 156534 ± 7415)	0.0194	CC (N=135; 3344 ± 2095) CT/TT (N=63; 4471 ± 3058)	0.7618
<i>GNPDA2</i> (rs10938397)	AA (N=61; 180630 ± 7569) AG/GG (N=137; 163376 ± 5000)	0.0592	AA (N=61; 3709 ± 3115) AG/GG (N=134; 3357 ± 2100)	0.9260
<i>SH2B1</i> (rs7498665)	AA (N=73; 162495 ± 7046) AG/GG (N=128; 175740 ± 5340)	0.1360	AA (N=73; 4747 ± 2839) AG/GG (N=125; 3091 ± 2177)	0.6443
<i>KCTD15</i> (rs11084753)	GG (N=85; 178985 ± 6580) AG/AA (N=115; 165247 ± 5622)	0.1144	GG (N=84; 4600 ± 2669) AG/AA (N=115; 3099 2287)	0.6701
<i>MC4R</i> (rs17782313)	TT (N=120; 169121 ± 5624) CT/CC (N=75; 169675 ± 7222)	0.9525	TT (N=117; 845 ± 2275) CT/CC (N=75; 7080 ± 2887)	0.0976
<i>FTO</i> (rs9939609)	TT (N=48; 176397 ± 8854) AT/AA (N=86; 159002 ± 6535)	0.1173	TT (N=48; 9435 ± 3494) AT/AA (N=83; -798 ± 2624)	0.0212