Additional files

Additional Table 1 Description of the genotyped polymorphisms.

Polymorphism	**Position**	**MAF**	**Alleles (M/m)**	**HWE P**	***Call rate* (%)**
rs9939609	Intron 1	0.444	T/A	0.682	99.4
rs9928094	Intron 1	0.462	A/G	0.789	99.8
rs9930333	Intron 1	0.463	T/G	0.687	99.4
rs9935401	Intron 1	0.439	G/A	1	99.3
rs10852521	Intron 1	0.446	C/T	0.606	99.8
rs1861868	Intron 1	0.466	A/G	0.797	99.8
rs7205986	Intron 1	0.084	A/G	0.246	99.8
rs11643744	Intron 1	0.267	A/G	0.256	99.8
rs7203521	Intron 1	0.383	A/G	1	100
rs12445162	Intron 1	0.075	G/A	0.681	100
rs11075986	Intron 1	0.084	C/G	0.201	100
rs17818902	Intron 3	0.245	T/G	0.855	99.8
rs3826169	Intron 3	0.228	T/C	1	100
rs8061518	Intron 3	0.309	A/G	0.889	97.9
rs7190053	Intron 3	0.183	C/T	1	99.1
rs2111114	Intron 4	0.212	A/G	0.843	99.8
rs8044353	Intron 4	0.053	G/A	1	99.8
rs10521303	Intron 5	0.439	C/A	0.069	99.1
rs1558756	Intron 6	0.444	C/T	0.119	100
rs16952623	Intron 6	0.132	T/C	0.388	99.4
rs7194336	Intron 7	0.441	G/T	0.199	100

rs9929152	Intron 7	0.277	A/G	**0.040**	99.6
rs16952649	Intron 7	0.122	C/T	**0.008**	100
rs10852525	Intron 7	0.106	G/A	0.159	99.1
rs8053966	Intron 7	0.184	T/C	**0.007**	99.6
rs2111113	Intron 7	0.074	G/C	0.330	99.6
rs16952624	Exon 7	0.001	C/T	1	99.6
rs1136002	Intron 8	0.317	T/C	0.462	100
rs2075202	Intron 8	0.025	T/G	1	100
rs2540781	Intron 8	0.128	C/A	0.345	100
rs12932373	Intron 8	0.138	C/T	0.589	99.4
rs1008400	Intron 8	0.459	C/T	0.153	99.6
rs1125337	Intron 8	0.450	A/T	**0.027**	99.8
rs17833492	Intron 8	0.313	C/A	0.466	99.6
rs7203181	Intron 8	0.339	C/A	0.780	100
rs7194907	Intron 8	0.479	T/C	0.091	98.9
rs2689248	Intron 8	0.480	C/A	0.368	99.4
rs13334214	Intron 8	0.201	C/T	0.228	98.3
rs1558687	Intron 8	0.242	C/T	0.864	99.4
rs4784351	Intron 8	0.270	A/G	0.742	97.6
rs12596638	Intron 8	0.136	G/A	1	99.8
rs8056299	Intron 8	0.429	A/G	0.696	99.8
rs7194243	Intron 8	0.219	C/T	0.337	100
rs6499656	Intron 8	0.130	G/C	0.356	100
rs7199716	Intron 8	0.394	C/T	0.893	99.8
rs8054364	Intron 8	0.146	C/G	**0.040**	99.8

rs8049235	Intron 8	0.393	G/A	0.285	99.6
rs17225435	Intron 8	0.115	A/G	1	100
rs7200579	Intron 8	0.060	C/G	0.536	100
rs697771	Intron 8	0.427	C/T	0.362	100
rs7191513	Intron 8	0.424	G/A	0.241	100
rs8049933	Intron 8	0.108	C/T	0.284	99.3

HWE P: Hardy-Weinberg equilibrium (p for the control group); FAM: minor allele frequency.

Additional Table 2 Association of rs9928094 with biomarkers of inflammation and cardiovascular disease risk in obese children.

	AA	AG	GG	β (95%CI)	P
n	155	263	115		
Anthropometric factors					
Height (m)	1.38 ± 0.01	1.39 ± 0.01	1.39 ± 0.01	-0.003 (-0.01, 0.00)	0.167
Weight (kg)	42.2 ± 1.4	45.9 ± 1.1	48.8 ± 2.0	3.14 (1.37, 4.91)	**0.001**
BMI (kg/m^2)	21.55 ± 0.49	23.02 ± 0.36	24.12 ± 0.61	1.26 (0.53, 1.98)	**0.001**
BMI z-score	1.43 ± 0.17	1.88 ± 0.13	2.25 ± 0.20	0.44 (0.18, 0.69)	**0.001**
Waist circumference (cm)	70.43 ± 1.40	73.16 ± 1.01	76.45 ± 1.61	2.77 (0.03, 5.51)	**0.048**
Clinical and metabolic biomarkers					
Systolic BP (mm Hg)	104 ± 1	105 ± 1	105 ± 1	0.90 (-0.91, 2.72)	0.330
Diastolic BP (mm Hg)	63 ± 1	65 ± 1	65 ± 1	0.81 (-0.67, 2.28)	0.285
Glucose (mg/dl)	85 ± 1	84 ± 0	84 ± 1	-0.37 (-1.22, 0.49)	0.399
Insulin (mU/l)	8.81 ± 0.66	8.86 ± 0.43	9.35 ± 0.65	0.02 (-0.02, 0.05)	0.349
HOMA-IR	1.88 ± 0.15	1.87 ± 0.10	1.98 ± 0.14	0.01 (-0.02, 0.05)	0.443
Triacylglycerol (mg/dl)	68 ± 3	63 ± 2	68 ± 3	-0.64 (-0.45, 3.27)	0.748

Apo-AI (mg/dl)	143 ± 2	140 ± 2	136 ± 3	-3.41 (-6.72, -0.09)	**0.044**
Cholesterol (mg/dl)	169 ± 3	166 ± 2	168 ± 2	-0.001 (-0.01, 0.01)	0.811
HDL-c (mg/dl)	58 ± 1	57 ± 1	55 ± 1	-0.84 (-2.65, 0.96)	0.360
Adiponectin (mg/l)	25.94 ± 0.99	25.15 ± 0.73	24.22 ± 1.06	-0.50 (-1.93, 0.93)	0.496
Resistin (µg/l)	10.28 ± 0.46	10.91 ± 0.35	11.15 ± 0.51	0.50 (-0.19, 1.19)	0.158
Leptin (µg/l)	13.69 ± 1.29	14.50 ± 0.84	15.55 ± 1.38	1.00 (-0.78, 2.78)	0.273
Inflammatory biomarkers					
C-reactive protein (mg/l)	2.02 ± 0.30	2.31 ± 0.24	2.59 ± 0.48	0.31 (-0.19, 0.81)	0.228
IL-6 (ng/l)	5.73 ± 0.93	5.66 ± 0.62	6.67 ± 1.21	0.53 (-0.83, 1.89)	0.448
IL-8 (ng/l)	1.87 ± 0.16	1.90 ± 0.14	1.95 ± 0.22	0.06 (-0.21, 0.34)	0.645
TNFα (ng/l)	3.58 ± 0.17	3.69 ± 0.13	3.30 ± 0.18	-0.07 (-0.32, 0.18)	0.568
Cardiovascular disease risk biomarkers					
MMP-9 (µg/l)	82.36 ± 4.57	80.95 ± 3.67	94.46 ± 5.61	0.04 (0.003, 0.07)	**0.034**
MPO (µg/l)	17.77 ± 2.16	17.67 ± 1.61	17.63 ± 1.75	0.14 (-2.91, 3.19)	0.929
sE-Selectin (µg/l)	26.06 ± 1.17	28.43 ± 1.06	26.38 ± 1.33	0.61 (-1.27, 2.50)	0.525
sICAM-1 (mg/l)	0.162 ± 0.005	0.168 ± 0.005	0.160 ± 0.005	0.004 (-0.01, 0.01)	0.993

Active PAI-1 (µg/l)	8.39 ± 0.60	8.64 ± 0.52	10.04 ± 0.88	0.80 (-0.22, 1.82)	0.127
Total PAI-1 (µg/l)	23.04 ± 1.34	22.22 ± 0.94	26.72 ± 1.90	0.02 (-0.01, 0.06)	0.223

CI: Confidence interval; BMI: body mass index; BP: blood pressure; HOMA-IR: homeostasis model assessment for insulin resistance; HDL-c: high-density lipoprotein cholesterol; IL: interleukin; TNF-α: tumor necrosis factor alpha; MMP-9: metalloproteinase-9; MPO: myeloperoxidase; sICAM-1: soluble intracellular adhesion molecule-1, PAI-1: plasminogen activator inhibitor. β Coefficients represent the change in absolute traits values of each additional risk allele. General linear models were used to examine associations, P adjusted by age and sex.

Additional Table 3 Association of rs9930333 with biomarkers of inflammation and cardiovascular disease risk in obese children.

	TT	TG	GG	β (95% CI)	P
n	154	262	115		
Anthropometric factors					
Height (m)	1.38 ± 0.01	1.39 ± 0.01	1.39 ± 0.01	-0.003 (-0.01, 0.00)	0.192
Weight (kg)	42.4 ± 1.4	46.0 ± 1.1	48.5 ± 2.0	3.07 (1.31, 4.84)	**0.001**
BMI (kg/m^2)	21.60 ± 0.49	23.09 ± 0.36	24.03 ± 0.61	1.23 (0.52, 1.96)	**0.001**
BMI z-score	1.44 ± 0.17	1.90 ± 0.13	2.23 ± 0.20	0.43 (0.18, 0.69)	**0.001**
Waist circumference (cm)	70.54 ± 1.41	73.31 ± 1.02	76.30 ± 1.61	2.73 (-0.003, 5.47)	0.051
Clinical and metabolic biomarkers					
Systolic BP (mm Hg)	104 ± 1	105 ± 1	105 ± 1	0.88 (-0.93, 2.69)	0.339
Diastolic BP (mm Hg)	63 ± 1	65 ± 1	65 ± 1	0.83 (-0.65, 2.30)	0.272
Glucose (mg/dl)	85 ± 1	84 ± 0	84 ± 1	-0.37 (-1.22, 0.49)	0.402
Insulin (mU/l)	8.83 ± 0.67	8.89 ± 0.43	9.31 ± 0.65	0.02 (-0.02, 0.05)	0.400
HOMA-IR	1.89 ± 0.15	1.88 ± 0.10	1.97 ± 0.14	0.01 (-0.02, 0.05)	0.499
Triacylglycerols (mg/dl)	68 ± 3	63 ± 2	68 ± 3	-0.42 (-4.32, 3.48)	0.034

Apo-AI (mg/dl)	143 ± 2	141 ± 2	135 ± 3	-3.59 (-6.90, -0.29)	**0.033**
Cholesterol (mg/dl)	169 ± 3	167 ± 2	168 ± 2	-0.002 (-0.01, 0.01)	0.728
HDL-c (mg/dl)	57 ± 1	57 ± 1	55 ± 1	-0.97 (-2.77, 0.83)	0.293
Adiponectin (mg/l)	25.77 ± 0.98	25.37 ± 0.75	23.78 ± 1.01	-0.73 (-2.16, 0.70)	0.319
Resistin (µg/l)	10.28 ± 0.46	10.95 ± 0.35	11.10 ± 0.51	0.45 (-0.23, 1.14)	0.198
Leptin (µg/l)	13.76 ± 1.29	14.56 ± 0.84	15.56 ± 1.38	0.98 (-0.80, 2.75)	0.283
Inflammatory biomarkers					
C-reactive protein (mg/l)	2.03 ± 0.30	2.31 ± 0.24	2.60 ± 0.48	0.32 (-0.18, 0.82)	0.371
IL-6 (ng/l)	5.74 ± 0.93	5.67 ± 0.62	6.68 ± 1.21	0.51 (-0.84, 1.87)	0.461
IL-8 (ng/l)	1.86 ± 0.16	1.90 ± 0.15	1.95 ± 0.22	0.06 (-0.21, 0.33)	0.656
TNFα (ng/l)	3.57 ± 0.17	3.70 ± 0.13	3.32 ± 0.18	-0.08 (-0.32, 0.17)	0.552
Cardiovascular disease risk biomarkers					
MMP-9 (µg/l)	81.61 ± 4.54	80.95 ± 3.71	96.34 ± 5.60	0.04 (0.006, 0.07)	**0.021**
MPO (µg/l)	17.65 ± 2.17	17.78 ± 1.62	17.57 ± 1.75	0.07 (-2.97, 3.12)	0.962
sE-Selectin (µg/l)	26.06 ± 1.17	28.43 ± 1.06	26.38 ± 1.33	0.56 (-1.33, 2.44)	0.562
sICAM-1 (mg/l)	0.162 ± 0.005	0.169 ± 0.005	0.159 ± 0.005	-0.000 (-0.01, 0.01)	0.953

Active PAI-1 (µg/l)	8.40 ± 0.60	8.69 ± 0.52	10.06 ± 0.88	0.79 (-0.23, 1.81)	0.129
Total PAI-1 (µg/l)	23.02 ± 1.35	22.13 ± 0.94	27.04 ± 1.90	0.03 (-0.01, 0.06)	0.187

CI: Confidence interval; BMI: body mass index; BP: blood pressure; HOMA-IR: homeostasis model assessment for insulin resistance; HDL-c: high-density lipoprotein cholesterol; IL: interleukin; TNF-α: tumor necrosis factor alpha; MMP-9: metalloproteinase-9; MPO: myeloperoxidase; sICAM-1: soluble intracellular adhesion molecule-1, PAI-1: plasminogen activator inhibitor. β Coefficients represent the change in absolute traits values of each additional risk allele. General linear models were used to examine associations, P adjusted by age and sex.

Additional Table 4 Association of rs9935401 with biomarkers of inflammation and cardiovascular disease risk in obese children.

	GG	AG	AA	β (95%CI)	P
n	167	261	102		
Anthropometric factors					
Height (m)	1.38 ± 0.01	1.39 ± 0.01	1.40 ± 0.02	-0.003 (-0.01, 0.001)	0.115
Weight (kg)	42.1 ± 1.4	45.9 ± 1.1	50.1 ± 2.2	3.44 (1.66, 5.22)	**<0.001**
BMI (kg/m^2)	21.56 ± 0.47	23.08 ± 0.37	24.51 ± 0.64	1.37 (0.65, 2.10)	**<0.001**
BMI z-score	1.42 ± 0.16	1.93 ± 0.13	2.32 ± 0.22	0.47 (0.22, 0.73)	**<0.001**
Waist circumference (cm)	70.29 ± 1.35	73.35 ± 1.01	77.46 ± 1.71	3.37 (0.62, 6.14)	**0.017**
Clinical and metabolic biomarkers					
Systolic BP (mm Hg)	104 ± 1	105 ± 1	107 ± 1	1.19 (-0.65, 3.02)	0.205
Diastolic BP (mm Hg)	63 ± 1	65 ± 1	66 ± 1	1.39 (-0.10, 2.88)	0.068
Glucose (mg/dl)	85 ± 1	84 ± 0	84 ± 1	-0.42 (-1.28, 0.44)	0.342
Insulin (mU/l)	8.78 ± 0.62	8.78 ± 0.44	9.78 ± 0.71	0.02 (-0.01, 0.05)	0.209
HOMA-IR	66 ± 3	64 ± 2	68 ± 4	0.34 (-3.61, 4.29)	0.866
Triacylglycerols (mg/dl)	1.88 ± 0.14	1.86 ± 0.10	2.07 ± 0.16	0.02 (-0.02, 0.05)	0.286

Apo-AI (mg/dl)	143 ± 2	141 ± 2	135 ±	-3.04 (-6.38, 0.31)	0.076
Cholesterol (mg/dl)	168 ± 2	166 ± 2	170 ± 2	0.003 (-0.01, 0.01)	0.584
HDL-c (mg/dl)	58 ± 1	57 ± 1	55 ± 1	-1.04 (-2.86, 0.79)	0.266
Adiponectin (mg/l)	26.09 ± 0.95	24.80 ± 0.73	24.16 ± 1.10	-0.67 (-2.11, 0.78)	0.366
Resistin (µg/l)	10.30 ± 0.43	10.85 ± 0.36	11.43 ± 0.55	0.59 (-0.10, 1.29)	0.096
Leptin (µg/l)	13.29 ± 1.20	14.68 ± 0.84	16.29 ± 1.52	1.51 (-0.28, 3.30)	0.100
Inflammatory biomarkers					
C-reactive protein (mg/l)	2.05 ± 0.29	2.29 ± 0.23	2.77 ± 0.53	0.38 (-0.12, 1.89)	0.140
IL-6 (ng/l)	5.56 ± 0.87	6.00 ± 0.70	6.19 ± 1.05	0.44 (-0.93, 1.82)	0.528
IL-8 (ng/l)	1.86 ± 0.15	1.96 ± 0.15	1.83 ± 0.21	0.03 (-0.24, 0.31)	0.819
TNFα (ng/l)	3.52 ± 0.16	3.69 ± 0.13	3.33 ± 0.20	-0.01 (-0.26, 0.24)	0.962
Cardiovascular disease risk biomarkers					
MMP-9 (µg/l)	82.52 ± 4.42	82.49 ± 3.73	92.82 ± 6.05	0.03 (-0.004, 0.07)	0.080
MPO (µg/l)	17.65 ± 2.02	17.92 ± 1.63	17.65 ± 1.88	0.27 (-2.81, 3.35)	0.865
sE-Selectin (µg/l)	26.18 ± 1.12	28.25 ± 1.07	26.64 ± 1.40	0.74 (-1.16, 2.64)	0.448
sICAM-1 (mg/l)	0.162 ± 0.005	0.169 ± 0.005	0.158 ± 0.006	0.0003 (-0.01, 0.01)	0.951

Active PAI-1 (µg/l)	8.41 ± 0.58	8.62 ± 0.52	10.35 ± 0.97	0.90 (-0.13, 1.93)	0.089
Total PAI-1 (µg/l)	23.26 ± 1.31	22.18 ± 0.92	26.84 ± 2.09	0.02 (-0.02, 0.06)	0.313

CI: Confidence interval; BMI: body mass index; BP: blood pressure; HOMA-IR: homeostasis model assessment for insulin resistance; HDL-c: high-density lipoprotein cholesterol; IL: interleukin; TNF-α: tumor necrosis factor alpha; MMP-9: metalloproteinase-9; MPO: myeloperoxidase; sICAM-1: soluble intracellular adhesion molecule-1, PAI-1: plasminogen activator inhibitor. β Coefficients represent the change in absolute traits values of each additional risk allele. General linear models were used to examine associations, P adjusted by age and sex.