

Supplementary Table 1. Surrogates used in this study (derived from the CEU HapMap)

CHR	SNP on our Illumina Infinium™ II HumanHap550 BeadChip	SNP used in other system	r ²	Genes Nearby
1	rs2793831	rs10923931	1	<i>NOTCH2</i>
3	rs4411878	rs4607103	1	<i>ADAMTS9</i>
6	rs4712523	rs10946398	1	<i>CDKAL2</i>
7	rs1635852	rs864745	0.965	<i>JAZF1</i>
9	rs2383208	rs10811661	1	<i>CDKN2A/B</i>
10	rs11257622	rs12779790	0.833	<i>CDC123-CAMK1D</i>
11	rs729287	rs3740878	1	<i>EXT2</i>
11	rs163171	rs151290	0.951	<i>KCNQ1</i>
12	rs1353362	rs7961581	0.973	<i>TSPAN8-LGR5</i>

Supplementary Table 2. Effect of the G allele rs7923837 at the *HHEX-IDE* locus on pediatric BMI by gender.

N: number of individuals tested; Effect Size: regression coefficient for the test SNP; SE: standard error of the regression coefficient; Test statistic: additive model; P: unadjusted two-sided trend test *P*-value.

	N	Effect Size	SE	Test Statistic	P
Discovery Cohort					
MALE	1857	0.04092	0.03993	1.025	0.306
FEMALE	1735	0.1472	0.04051	3.633	0.000288
Replication Cohort					
MALE	1946	0.08304	0.03964	2.095	0.0363
FEMALE	1646	0.0436	0.04138	1.054	0.292
Combined Cohort					
MALE	3803	0.06225	0.02813	2.213	0.0270
FEMALE	3381	0.09741	0.02895	3.365	0.000773

Supplementary Table 3. Effect of the G allele rs7923837 at the *HHEX-IDE* locus on pediatric BMI by age bin in the combined cohort.

N: number of individuals tested; Effect Size: regression coefficient for the test SNP; SE: standard error of the regression coefficient; Test statistic: additive model; P: unadjusted two-sided trend test *P*-value.

	N	Effect Size	SE	Test Statistic	P
Age Bin (yrs old)					
2 to 6	2244	0.1205	0.03616	3.332	0.000877
7 to 11	1847	0.07482	0.04192	1.785	0.07446
12 to 18	3093	0.04473	0.02896	1.545	0.1225

Supplementary Table 4. Effect of the G allele rs7923837 at the *HHEX-IDE* locus on pediatric BMI by individual ages in the combined cohort.

N: number of individuals tested; Effect Size: regression coefficient for the test SNP; SE: standard error of the regression coefficient; Test statistic: additive model; P: unadjusted two-sided trend test *P*-value.

	N	Effect Size	SE	Test Statistic	P
<u>AGE</u>					
2	555	0.04397	0.0743	0.5917	0.554
3	540	0.1594	0.06834	2.332	0.0201
4	419	0.1585	0.08553	1.853	0.0646
5	351	0.1216	0.09438	1.289	0.198
6	379	0.1269	0.08714	1.456	0.146
7	374	0.2323	0.09286	2.502	0.0128
8	367	0.1742	0.09794	1.778	0.0762
9	340	-0.09863	0.09608	-1.027	0.305
10	369	-0.01515	0.09316	-0.1626	0.871
11	397	0.08216	0.08903	0.9228	0.357
12	420	0.00608	0.08068	0.07536	0.94
13	480	-0.08932	0.0769	-1.162	0.246
14	503	0.1643	0.06957	2.362	0.0186
15	547	0.02947	0.06593	0.447	0.655
16	508	0.1319	0.06776	1.947	0.0521
17	386	0.06315	0.08567	0.7371	0.462
18	249	-0.07207	0.1037	-0.695	0.488