

Table 1. List of all SNPs examined

SNP	Current BMI ^a	BMI at 20 ^a	BMI change ^a	Chr. ^a	Position (bp) ^a	Candidate gene(s) ^a	Current BMI			BMI at 20			BMI change		
							β ^a	SE ^a	P-value ^a	β ^a	SE ^a	P-value ^a	β ^a	SE ^a	P-value ^a
rs12045597	+	-	-	1	1708801	NADK	0.015	0.041	0.718	-0.005	0.031	0.863	0.000	0.001	0.849
rs2076463	+	-	-	1	27971092	FGFR, IFI6	0.032	0.045	0.477	-0.008	0.034	0.808	0.001	0.001	0.566
rs657452	+	-	-	1	49598847	AGRL4	0.007	0.042	0.875	0.016	0.032	0.614	0.000	0.001	0.980
rs3110126	+	-	-	1	72712055	NEGR1, LINC01260	0.020	0.045	0.635	-0.029	0.037	0.503	0.000	0.001	0.627
rs12566985	+	+	-	1	75002193	PGFT-TNNI3K, TNNI3K	-0.159	0.074	0.030	-0.133	0.056	0.016	-0.003	0.002	0.196
rs12041852	+	-	-	1	75003500	PGFT-TNNI3K, TNNI3K	-0.159	0.074	0.030	-0.133	0.056	0.016	-0.003	0.002	0.196
rs11165643	+	-	-	1	96924097	LINC01787, PTBP2	-0.019	0.046	0.677	-0.019	0.035	0.582	0.000	0.001	0.878
rs11185092	+	-	-	1	10786278	WTFG1	0.059	0.055	0.282	0.048	0.041	0.245	0.001	0.002	0.737
rs1092374	+	-	-	1	11954842	LINC05378932, WARS2	0.068	0.042	0.103	0.068	0.039	0.040	0.001	0.001	0.627
rs860295	+	-	-	1	15576708	GOML	0.080	0.047	0.089	0.009	0.036	0.811	0.002	0.001	1.02
rs17490051	+	-	-	1	155860091	SYT11, RIT1	0.069	0.050	0.166	0.017	0.038	0.661	0.002	0.001	0.248
rs347313	+	-	-	1	162304276	NOS1AP	-0.080	0.051	0.117	-0.070	0.039	0.070	0.000	0.002	0.874
rs635315	+	-	-	1	177825280	LINC01741, SEC16B	0.064	0.049	0.190	0.087	0.037	0.019	0.000	0.001	0.768
rs543874	+	-	-	1	177920345	LINC01741, SEC16B	0.058	0.049	0.240	0.081	0.037	0.029	0.000	0.001	0.842
rs10920678	+	-	-	1	190239907	BRINP3	0.016	0.043	0.714	0.039	0.033	0.225	0.000	0.001	0.991
rs491055	+	-	-	1	190308834	BRINP3	0.024	0.043	0.574	0.054	0.032	0.092	0.000	0.001	0.970
rs10754220	+	-	-	1	197244290	CRB1	-0.114	0.054	0.035	0.011	0.041	0.794	-0.003	0.002	0.067
rs2803015	+	-	-	2	20182164	LINC01	-0.110	0.069	0.112	-0.083	0.052	0.112	-0.001	0.002	0.509
rs231314	+	-	-	2	205719532	NUCKS1	0.071	0.041	0.080	0.042	0.031	0.168	0.002	0.001	1.135
rs9786986	+	-	-	2	235656632	B3GALNT2	0.036	0.041	0.381	0.033	0.031	0.281	0.001	0.001	0.672
rs9939584	+	-	-	2	621558	LINC05373352, TMEH18	-0.220	0.067	0.001	-0.217	0.051	0.000	-0.003	0.002	0.152
rs13021737	+	-	-	2	632348	LINC05373352, TMEH18	-0.214	0.067	0.001	-0.208	0.051	0.000	-0.003	0.002	0.177
rs4854349	+	-	-	2	647861	LINC05373352, TMEH18	-0.191	0.067	0.004	-0.190	0.051	0.000	-0.002	0.002	0.230
rs111612372	+	-	-	2	2043218	SDCL, PUM2	0.059	0.051	0.247	-0.014	0.039	0.718	0.002	0.002	0.188
rs11676272	+	-	-	2	25141538	ADCY3	0.136	0.040	0.001	0.078	0.030	0.011	0.003	0.001	0.015
rs10182181	+	-	-	2	25150296	ADCY3, DNAH27	0.137	0.040	0.001	0.076	0.030	0.013	0.003	0.001	0.014
rs1713586	+	-	-	2	25158008	ADCY3, DNAH27	-0.128	0.040	0.004	-0.058	0.030	0.056	-0.003	0.001	0.017
rs11126666	+	-	-	2	26928811	KCNK3	-0.125	0.043	0.567	-0.057	0.033	0.082	-0.001	0.001	0.584
rs6734118	+	-	-	2	37559355	PRKD3, QPCT	-0.031	0.041	0.446	-0.011	0.031	0.730	-0.001	0.001	0.777
rs7748951	+	-	-	2	38750287	LINC01929596, HHRNP18	0.048	0.086	0.572	0.093	0.065	0.151	0.001	0.003	0.626
rs45296023	+	-	-	2	48955683	LHGCR, STON1-GTF2A1L	0.041	0.041	0.069	0.001	0.031	0.971	-0.002	0.001	0.553
rs10174398	+	-	-	2	51195601	NRXN1	0.033	0.041	0.426	0.061	0.031	0.051	0.000	0.001	0.896
rs10197655	+	-	-	2	58791420	LINC01122	0.086	0.041	0.037	0.078	0.031	0.013	0.001	0.001	0.277
rs4671328	+	-	-	2	58935282	LINC01122	0.038	0.042	0.363	0.088	0.032	0.005	0.000	0.001	0.721
rs11868816	+	-	-	2	63053048	EHBP1	0.050	0.048	0.300	0.028	0.036	0.443	0.001	0.001	0.679
rs12617004	+	-	-	2	142615136	LRF1B	0.020	0.042	0.464	-0.025	0.031	0.427	-0.001	0.001	0.756
rs2390669	+	-	-	2	169091942	STK39	0.015	0.048	0.762	0.026	0.037	0.472	0.000	0.001	0.978
rs6433857	+	-	-	2	181517996	CWC22, SCHLAP1	-0.034	0.043	0.426	0.020	0.033	0.551	-0.002	0.001	0.200
rs1528435	+	-	-	2	181550962	CWC22, SCHLAP1	-0.035	0.044	0.429	0.008	0.033	0.821	-0.002	0.001	0.248
rs15795376	+	-	-	2	205340222	CCO3, PARO8	0.053	0.043	0.191	0.003	0.031	0.911	-0.002	0.001	0.248
rs972540	+	-	-	2	207244783	ZDRF2, ADAM423	0.056	0.054	0.309	-0.002	0.041	0.964	-0.002	0.002	0.170
rs11692326	+	-	-	2	208263279	LINC01802, CREB1	-0.027	0.056	0.631	-0.027	0.042	0.518	-0.001	0.002	0.389
rs7565158	+	-	-	2	213593970	ERBB4, LINC01878	0.023	0.041	0.584	0.016	0.031	0.596	0.000	0.001	0.963
rs4072096	+	-	-	2	22703603	LINC64736	-0.064	0.041	0.123	0.006	0.031	0.837	-0.001	0.001	0.248
rs2574704	+	-	-	2	1165381	IGL1A	-0.058	0.041	0.043	-0.063	0.031	0.053	-0.001	0.001	0.351
rs10510554	+	-	-	3	25099776	RARB	-0.005	0.041	0.904	-0.043	0.031	0.170	0.001	0.001	0.526
rs1892473	+	-	-	3	42299399	CCX	-0.024	0.069	0.725	-0.086	0.052	0.100	-0.001	0.002	0.570
rs10460960	+	-	-	3	42308735	CCX, LZVL4	-0.038	0.045	0.398	-0.023	0.034	0.497	-0.001	0.001	0.697
rs7613875	+	-	-	3	49913514	MON1A, RBM6	0.051	0.043	0.055	0.025	0.042	0.550	0.001	0.001	0.286
rs11130319	+	-	-	3	52755592	NEK4	0.066	0.041	0.105	0.053	0.031	0.085	-0.001	0.001	0.559
rs2240920	+	-	-	3	52831009	ITH3	0.051	0.041	0.207	0.023	0.031	0.456	-0.001	0.001	0.493
rs2365389	+	-	-	3	61236462	FHT	0.011	0.071	0.881	0.044	0.054	0.412	-0.002	0.002	0.438
rs12495177	+	-	-	3	63886077	CADM2	-0.050	0.044	0.251	-0.014	0.033	0.669	0.000	0.001	0.763
rs2869975	+	-	-	3	11683523	LINC00901, LINC02024	0.065	0.047	0.173	0.042	0.032	0.057	0.000	0.001	0.767
rs1225051	+	-	-	3	131645972	CPE4	-0.061	0.041	0.135	-0.048	0.031	0.121	-0.001	0.001	0.530
rs7621025	+	-	-	3	136272246	STAG1	-0.035	0.052	0.506	0.001	0.040	0.978	-0.001	0.002	0.676
rs16851483	+	-	-	3	141275436	RASA2	0.057	0.045	0.207	0.030	0.034	0.375	0.001	0.001	0.277
rs138981	+	-	-	3	15183115	MDACL2-AS1, LINC01928166	0.053	0.043	0.187	0.008	0.034	0.605	0.001	0.001	0.621
rs4686392	+	-	-	3	185524081	IGF2BP2	-0.046	0.043	0.283	0.025	0.033	0.444	-0.001	0.001	0.345
rs3774854	+	-	-	4	5711368	EVC2	0.144	0.045	0.001	0.093	0.034	0.006	0.002	0.001	0.140
rs1996023	+	-	-	4	45164637	GNPDA2, GABRG1	0.137	0.045	0.003	0.070	0.034	0.040	0.002	0.001	0.079
rs13130484	+	-	-	4	45175691	GNPDA2, GABRG1	-0.012	0.041	0.719	0.022	0.031	0.482	-0.001	0.001	0.220
rs10933937	+	-	-	4	4518237	GNPDA2, GABRG1	0.147	0.045	0.001	0.094	0.034	0.001	0.002	0.001	0.820
rs1229984	+	-	-	4	100239319	ADH1B	0.030	0.046	0.516	0.030	0.035	0.385	0.000	0.001	0.820
rs4834272	+	-	-	4	113313986	ALPK1	-0.073	0.041	0.072	0.011	0.031	0.721	-0.002	0.001	0.160
rs16869212	+	-	-	4	16882090	MYO16	0.003	0.042	0.934	0.046	0.032	0.131	0.000	0.001	0.928
rs1712084	+	-	-	4	60733933	ZSWI6	0.031	0.041	0.481	0.024	0.033	0.476	0.001	0.001	0.277
rs1035491	+	-	-	5	63962177	RG378P, FAM159B	-0.002	0.046	0.963	0.004	0.035	0.909	0.001	0.001	0.548
rs6881648	+	-	-	5	74991849	POCS	0.043	0.041	0.293	0.009	0.031	0.782	0.001	0.001	0.237
rs2112347	+	-	-	5	75015242	POCS, SVZC	0.044	0.041	0.284	0.009	0.031	0.779	0.001	0.001	0.255
rs1846974	+	-	-	5	87959927	LINC0041	0.074	0.041	0.283	-0.008	0.034	0.791	0.002	0.001	0.104
rs16493385	+	-	-	5	87978252	LINC0041, MEF2C-AS2	0.026	0.041	0.523	0.020	0.031	0.523	0.002	0.001	0.186
rs10062657	+	-	-	5	95867908	LINC01929710	0.138	0.042	0.001	0.084	0.032	0.008	0.002	0.001	0.191
rs1582931	+	-	-	5	122657199	PRDM6, CEP120	0.099	0.041	0.015	0.090	0.031	0.003	0.001	0.001	0.423
rs437030	+	-	-	5	124316031	ZNF608, LINC01929421	-0.053	0.041	0.195	0.019	0.031	0.542	-0.002	0.001	0.091
rs684049	+	-	-	5	124320122	ZNF608, LINC01929421	0.143	0.042	0.001	0.012	0.031	0.507	0.000	0.001	0.760
rs239120	+	-	-	5	133861756	WDR22	-0.067	0.042	0.377	-0.061	0.032	0.055	0.003	0.001	0.023
rs329122	+	-	-	5	133864599	JADE2	0.037	0.04							

rsID	chr	bp	ref	alt	SNP	SE	SNP	SE	SNP	SE	SNP	SE	SNP	SE	SNP	SE	SNP	SE	
rs10795945	+	-	-	-	10	12302607	CDC123, CAMK1D	-0.012	0.041	0.767	0.029	0.031	0.352	-0.001	0.001	0.531	-0.001	0.001	0.468
rs11257655	+	-	-	-	10	12307894	CDC123, CAMK1D	-0.016	0.041	0.693	0.029	0.031	0.347	-0.001	0.001	0.500	-0.001	0.001	0.364
rs11277723	+	-	-	-	10	18534623	CACNB2	-0.135	0.054	0.033	0.004	0.041	0.903	0.005	0.001	0.903	0.005	0.001	0.903
rs7912454	+	-	-	-	10	18584792	CACNB2	-0.115	0.054	0.033	0.004	0.041	0.967	-0.004	0.002	0.022	-0.004	0.002	0.022
rs11239187	+	-	-	-	10	45133277	CXCL12, TMEM72-AS1	0.080	0.053	0.133	-0.023	0.040	0.566	0.004	0.002	0.023	0.004	0.002	0.023
rs2163188	+	-	-	-	10	65314711	REEF3	0.019	0.044	0.668	-0.027	0.033	0.411	0.001	0.001	0.607	0.001	0.001	0.607
rs80117551	+	-	-	-	10	69834828	HERC4	-0.161	0.047	0.001	-0.069	0.035	0.051	-0.004	0.001	0.022	-0.004	0.001	0.022
rs1832886	+	-	-	-	10	94477539	HHEX, EXOC6	-0.058	0.051	0.255	-0.015	0.039	0.699	-0.001	0.002	0.708	-0.001	0.002	0.708
rs7923837	+	-	-	-	10	94481917	HHEX, EXOC6	-0.058	0.051	0.256	-0.016	0.039	0.674	-0.001	0.002	0.717	-0.001	0.002	0.717
rs12569457	+	-	-	-	10	99096676	FRAT2, RRP12	-0.016	0.052	0.762	-0.010	0.039	0.796	0.000	0.002	0.836	0.000	0.002	0.836
rs1709422	+	-	-	-	10	102395440	HIF1AN, PAK2	0.029	0.043	0.500	0.064	0.033	0.051	0.000	0.001	0.861	0.000	0.001	0.861
rs2495707	+	-	-	-	10	102426449	HIF1AN, PAK2	-0.025	0.051	0.817	-0.056	0.031	0.067	0.007	0.002	0.471	0.007	0.002	0.471
rs4409766	+	-	-	-	10	104616663	BORCS7-ASMT	0.181	0.045	0.000	0.036	0.034	0.293	0.005	0.001	0.000	0.005	0.001	0.000
rs1907240	+	-	-	-	10	122897959	WDR11, FGR2	0.057	0.044	0.197	0.059	0.033	0.076	0.000	0.001	0.737	0.000	0.001	0.737
rs2257129	+	-	-	-	10	122898697	WDR11, FGR2	0.055	0.044	0.214	0.058	0.033	0.081	0.000	0.001	0.762	0.000	0.001	0.762
rs7093657	+	-	-	-	10	12526468	BUR3, GPR26	-0.156	0.047	0.001	-0.068	0.042	0.204	-0.001	0.001	0.541	-0.001	0.001	0.541
rs1568079	+	-	-	-	10	125251751	BUR3, GPR26	-0.057	0.043	0.182	-0.042	0.032	0.187	-0.001	0.001	0.513	-0.001	0.001	0.513
rs60808706	+	-	-	-	11	2857233	KCNQ1	0.088	0.041	0.034	0.067	0.031	0.032	0.001	0.001	0.253	0.001	0.001	0.253
rs2237897	+	-	-	-	11	2858546	KCNQ1	0.109	0.042	0.009	0.080	0.032	0.012	0.002	0.001	0.135	0.002	0.001	0.135
rs16937956	+	-	-	-	11	8404501	LMN1, STK33	0.089	0.042	0.032	0.036	0.031	0.246	0.003	0.001	0.040	0.003	0.001	0.040
rs1084009	+	-	-	-	11	8667680	TIRAP	0.123	0.042	0.004	0.052	0.032	0.004	0.003	0.001	0.034	0.003	0.001	0.034
rs5215	+	-	-	-	11	17408630	KCNJ11	-0.117	0.042	0.006	-0.028	0.032	0.381	-0.003	0.001	0.006	-0.003	0.001	0.006
rs11030100	+	-	-	-	11	27677586	BDNF-AS	-0.199	0.042	0.000	-0.082	0.031	0.009	-0.005	0.001	0.000	-0.005	0.001	0.000
rs6265	+	-	-	-	11	27679916	BDNF	-0.203	0.041	0.000	-0.071	0.031	0.023	-0.005	0.001	0.000	-0.005	0.001	0.000
rs11030104	+	-	-	-	11	27684517	BDNF-AS	0.268	0.042	0.000	0.067	0.031	0.023	0.001	0.001	0.000	0.001	0.001	0.000
rs3026401	+	-	-	-	11	31807524	PANX6	-0.015	0.041	0.713	0.023	0.031	0.465	-0.001	0.001	0.323	-0.001	0.001	0.323
rs3817334	+	-	-	-	11	47650993	MTCH2	-0.025	0.043	0.571	0.008	0.033	0.804	-0.002	0.001	0.178	-0.002	0.001	0.178
rs11602339	+	-	-	-	11	47761471	FNBP4	-0.015	0.043	0.728	-0.017	0.033	0.614	-0.002	0.001	0.212	-0.002	0.001	0.212
rs506338	+	-	-	-	11	64440920	NRXN2	0.023	0.054	0.674	-0.003	0.041	0.941	0.000	0.002	0.963	0.000	0.002	0.963
rs1712876	+	-	-	-	11	7244583	AKAP1	0.050	0.048	0.534	0.013	0.036	0.515	0.001	0.001	0.511	0.001	0.001	0.511
rs10899469	+	-	-	-	11	78018313	GAB2	-0.028	0.041	0.916	-0.052	0.031	0.095	-0.001	0.001	0.585	-0.001	0.001	0.585
rs5633855	+	-	-	-	11	88134563	CTSC, GRM5-AS1	-0.006	0.061	0.498	-0.050	0.046	0.272	0.001	0.002	0.443	0.001	0.002	0.443
rs1048932	+	-	-	-	11	115044850	CADM1	0.079	0.041	0.054	0.053	0.031	0.090	0.002	0.001	0.190	0.002	0.001	0.190
rs10717983	+	-	-	-	12	17141562	SH3BP1	0.174	0.052	0.138	0.053	0.033	0.111	0.001	0.001	0.692	0.001	0.001	0.692
rs10841048	+	-	-	-	12	18779259	PKC3CG	0.020	0.043	0.991	0.015	0.033	0.657	0.000	0.001	0.990	0.000	0.001	0.990
rs80234489	+	-	-	-	12	31441179	FAM60A	-0.103	0.051	0.043	-0.069	0.039	0.073	-0.003	0.002	0.080	-0.003	0.002	0.080
rs4346053	-	+	-	-	12	33115820	PKP2, SYT10	0.056	0.045	0.222	0.043	0.034	0.213	0.001	0.001	0.475	0.001	0.001	0.475
rs7138803	+	+	-	-	12	50247468	BCDML30, FAIM2	0.000	0.043	0.991	0.015	0.033	0.657	0.000	0.001	0.990	0.000	0.001	0.990
rs2052118	+	-	-	-	12	50281809	FAIM2	0.050	0.048	0.198	0.044	0.034	0.195	0.001	0.001	0.445	0.001	0.001	0.445
rs7132908	+	-	-	-	12	50263148	FAIM2	-0.019	0.043	0.666	0.003	0.033	0.925	0.000	0.001	0.758	0.000	0.001	0.758
rs7511173	+	-	-	-	12	53885337	MAP3K12	-0.083	0.066	0.208	-0.061	0.050	0.218	-0.001	0.002	0.464	-0.001	0.002	0.464
rs11105839	+	-	-	-	12	91237920	LINC02392, LINC00615	-0.029	0.041	0.478	0.031	0.031	0.318	-0.002	0.001	0.130	-0.002	0.001	0.130
rs7325242	+	-	-	-	12	11226162	ALDH2, MAPK9AS-AS1	0.056	0.042	0.001	0.056	0.032	0.081	0.001	0.001	0.364	0.001	0.001	0.364
rs301712	+	-	-	-	12	112641377	HECTD4	0.056	0.043	0.191	0.049	0.032	0.132	0.001	0.001	0.446	0.001	0.001	0.446
rs10507285	-	+	-	-	12	118295924	KSR2	0.106	0.060	0.078	0.032	0.046	0.477	0.003	0.002	0.151	0.003	0.002	0.151
rs4319547	+	-	-	-	12	123079035	KNTC1	-0.063	0.058	0.274	-0.039	0.044	0.370	-0.001	0.002	0.437	-0.001	0.002	0.437
rs1006353	+	-	-	-	13	28047269	MTF3, LINC2	-0.020	0.042	0.835	0.001	0.032	0.965	-0.001	0.001	0.512	-0.001	0.001	0.512
rs1751857	+	-	-	-	13	40069438	LINC00598	0.063	0.049	0.138	0.040	0.037	0.299	0.001	0.001	0.654	0.001	0.001	0.654
rs12429545	+	+	-	-	13	54102206	LINC01065, LINC00558	0.084	0.049	0.085	0.045	0.037	0.220	0.002	0.001	0.230	0.002	0.001	0.230
rs9568867	+	-	-	-	13	54107352	LINC01065, LINC00558	0.084	0.049	0.086	0.045	0.037	0.219	0.002	0.001	0.234	0.002	0.001	0.234
rs2321882	+	-	-	-	13	59451989	LINC00374, DIAPH3	0.001	0.064	0.987	0.069	0.049	0.155	-0.002	0.002	0.412	-0.002	0.002	0.412
rs9540963	+	-	-	-	13	60261004	LINC00355, LINC01052	0.006	0.049	0.033	0.022	0.037	0.548	0.000	0.001	0.836	0.000	0.001	0.836
rs1027780	+	-	-	-	13	96522191	HES5T3	0.057	0.041	0.164	0.119	0.031	0.000	0.000	0.001	0.834	0.000	0.001	0.834
rs10132280	+	-	-	-	14	25928179	STX8P6, NOVA1	0.054	0.079	0.499	0.070	0.060	0.245	0.000	0.002	0.931	0.000	0.002	0.931
rs12895330	+	-	-	-	14	33305343	AKAP6, NPAS3	0.131	0.050	0.008	0.084	0.038	0.025	0.003	0.001	0.060	0.003	0.001	0.060
rs712419	+	-	-	-	14	45203476	LINC05374P7, LINC02302	-0.055	0.056	0.328	-0.005	0.042	0.912	-0.002	0.002	0.199	-0.002	0.002	0.199
rs7576625	+	-	-	-	14	5251211	NED	0.189	0.042	0.001	0.189	0.049	0.299	0.001	0.001	0.445	0.001	0.001	0.445
rs7141420	+	-	-	-	14	79899454	NRXN3	0.061	0.043	0.154	0.031	0.032	0.342	0.000	0.001	0.733	0.000	0.001	0.733
rs3783890	+	-	-	-	14	93790276	BTBD7	-0.032	0.043	0.455	-0.037	0.032	0.251	-0.001	0.001	0.595	-0.001	0.001	0.595
rs792050	+	-	-	-	14	94109502	LINC79	0.036	0.042	0.387	0.006	0.032	0.852	0.001	0.001	0.247	0.001	0.001	0.247
rs790460	+	-	-	-	14	10414975	RIL1	-0.042	0.051	0.021	-0.034	0.046	0.456	-0.002	0.002	0.446	-0.002	0.002	0.446
rs112440086	+	-	-	-	15	27038492	GABRB3, GABRAS	-0.082	0.042	0.927	-0.015	0.032	0.629	-0.002	0.001	0.194	-0.002	0.001	0.194
rs1559677	+	-	-	-	15	47738063	SEMA6D	0.047	0.041	0.249	0.064	0.031	0.038	0.001	0.001	0.354	0.001	0.001	0.354
rs9888736	+	-	-	-	15	47940812	SEMA6D	-0.133	0.041	0.001	-0.100	0.031	0.001	-0.001	0.001	0.272	-0.001	0.001	0.272
rs2593235	+	-	-	-	15	57541201	TCF21	-0.005	0.042	0.905	-0.050	0.031	0.108	-0.001	0.001	0.575	-0.001	0.001	0.575

eTable 2. List of SNPs excluded from the initial candidate variants for analysis

SNP	Current BMI ^a	BMI at 20 ^b	BMI change ^c	Chr. ^d	Position (bp) ^d	Candidate gene(s)
(i) No available in imputed genotyping data						
rs17264034			+	5	9557602	<i>AC026787.1,SNHG18</i>
rs6885147			+	5	64448670	<i>ADAMTS6</i>
rs4869139	+			5	95858668	<i>LOC101929710</i>
rs4308481	+			5	122652106	<i>PRDM6,CEP120</i>
rs3849724	+			5	173290977	<i>LINC01485,CPEB4</i>
rs183975233	+			6	32437160	<i>HLA-DRA,HLA-DRB5</i>
rs115472351	+			6	32591448	<i>HLA-DRB1,HLA-DQA1</i>
rs10120246			+	9	9799050	<i>PTPRD</i>
rs11607976	+			11	69279111	<i>MYEOV,LINC01488</i>
rs180950758	+			17	29036425	<i>SUZ12P1</i>
rs1379871	+			X	31854782	<i>DMD</i>
rs6529684	+			X	53542107	<i>HSD17B10,HUWE1</i>
rs3121672	+			X	117916370	<i>IL13RA1</i>
rs1190736	+			X	136113464	<i>GPR101</i>
rs5945324	+			X	152894551	<i>FAM58A,DUSP9</i>
(ii) MAF <0.05						
rs2590942		+		1	72885281	<i>RNU6-1246P,RPL31P12</i>
rs7550711		+		1	110082886	<i>AL355310.3,GPR61</i>
rs17024393		+		1	110154688	<i>GNAT2,GNAI3</i>
rs199950			+	1	181590858	<i>CACNA1E</i>
rs34585985			+	1	210489411	<i>AL035414.1,HHAT</i>
rs10208649	+			2	54161363	<i>PSME4</i>
rs13387838		+		2	207281447	<i>C017081.1,HNRNPA1P51</i>
rs7599312	+			2	213413231	<i>ERBB4,MIR4776-2</i>
rs41526344			+	3	2985142	<i>CNTN4</i>
rs1899951	+			3	12394840	<i>PPARG</i>
rs9847124			+	3	152590762	<i>HMG2P13,P2RY1</i>
rs1516725	+			3	185824004	<i>ETV5</i>
rs6447650			+	4	40381210	<i>RNU7-74P,RBM47</i>
rs13107325		+		4	103188709	<i>SLC39A8</i>
rs28580297			+	4	119427957	<i>CEP170P1</i>
rs25832		+		5	66175682	<i>MAST4</i>
rs10041997			+	5	120198311	<i>AC114284.1,AC008565.1</i>
rs17107133			+	5	147059015	<i>JAKMIP2</i>
rs7715256		+		5	153537893	<i>MFAP3</i>
rs4569924		+		5	153540025	<i>MFAP3</i>
rs1347155			+	5	171969348	<i>SH3PXD2B,LINC01944</i>
rs148546399	+			6	64705610	<i>EYS</i>
rs17601580			+	6	132061420	<i>ENPP3</i>
rs1167827	+			7	75163169	<i>HIP1</i>
rs7869969		+		9	96217447	<i>FAM120A</i>
rs7903146	+			10	114758349	<i>TCF7L2</i>
rs4751240			+	10	129136409	<i>DOCK1</i>
rs17309930		+		11	27748493	<i>AC103796.1</i>
rs12865097			+	13	45477410	<i>LINC00330,NUFIP1</i>
rs10151686		+		14	30466466	<i>AL133372.2,PRKD1</i>
rs927251			+	14	58311135	<i>SLC35F4</i>
rs12897644			+	14	95838401	<i>SYNE3,LINC02292</i>
rs12446632		+		16	19935389	<i>GPR139,GPRC5B</i>
rs55769859			+	22	46353046	<i>WNT7B</i>

BMI, body mass index; bp, base pair; Chr., chromosome; MAF: minor allele frequency; SE, standard error; SNP, single nucleotide polymorphism.

We extracted candidate SNPs which marked "+"^a from the BioBank Japan project report, by searching "childhood body mass index" and "longitudinal BMI measurement" in the GWAS catalog.

^dPositions are based on Human Genome version 19 (hg19), build 37.

eTable 3. Sex-stratified analysis of the 11 significant SNPs

SNP	Chr. ^a	Position (bp) ^a	REF/ALT	Candidate gene(s)	Current BMI				BMI at 20				BMI change												
					Male		Female		p-heterogeneity	Male		Female		p-heterogeneity	Male		Female		p-heterogeneity						
					Adjusted ^d		Adjusted ^d			Adjusted ^d		Adjusted ^d			Adjusted ^d		Adjusted ^d								
β^b	SE	P-value ^c	β^b	SE	P-value ^c	β^b	SE	P-value ^c	β^b	SE	P-value ^c	β^b	SE	P-value ^c	β^b	SE	P-value ^c								
rs939584	2	621558	C/T	<i>LOC105373352, TMEM18</i>	-0.206	0.097	3.43E-02	-0.228	0.092	1.30E-02	0.918	-0.297	0.077	1.16E-04	-0.144	0.067	3.10E-02	0.127	0.000	0.003	9.66E-01	-0.005	0.003	7.12E-02	0.441
rs13021737	2	632348	A/G	<i>LOC105373352, TMEM18</i>	-0.186	0.097	5.51E-02	-0.232	0.091	1.11E-02	0.914	-0.269	0.077	4.88E-04	-0.154	0.067	2.07E-02	0.260	0.000	0.003	9.64E-01	-0.005	0.003	7.14E-02	0.387
rs4854349	2	647861	T/C	<i>LOC105373352, TMEM18</i>	-0.170	0.097	7.83E-02	-0.204	0.091	2.46E-02	0.984	-0.257	0.077	8.20E-04	-0.131	0.066	4.80E-02	0.215	0.000	0.003	9.33E-01	-0.004	0.003	1.07E-01	0.442
rs4409766	10	104616663	T/C	<i>BORCS7-ASMT</i>	0.176	0.066	7.39E-03	0.201	0.060	7.94E-04	0.734	0.061	0.052	2.41E-01	0.022	0.044	6.17E-01	0.501	0.004	0.002	1.88E-02	0.006	0.002	8.88E-04	0.543
rs11030100	11	27677586	G/T	<i>BDNF-AS</i>	-0.192	0.061	1.68E-03	-0.206	0.056	2.14E-04	0.382	-0.100	0.049	3.86E-02	-0.063	0.041	1.19E-01	0.588	-0.004	0.002	2.89E-02	-0.005	0.002	1.38E-03	0.201
rs6265	11	27679916	C/T	<i>BDNF</i>	-0.189	0.061	1.97E-03	-0.218	0.056	8.86E-05	0.252	-0.093	0.048	5.38E-02	-0.051	0.041	2.12E-01	0.555	-0.004	0.002	2.39E-02	-0.006	0.002	3.31E-04	0.112
rs11030104	11	27684517	A/G	<i>BDNF-AS</i>	-0.189	0.061	2.00E-03	-0.219	0.056	8.34E-05	0.236	-0.089	0.049	6.59E-02	-0.047	0.041	2.45E-01	0.580	-0.004	0.002	2.13E-02	-0.006	0.002	2.27E-04	0.099
rs1927790	13	96922191	T/C	<i>H56ST3</i>	0.102	0.061	9.26E-02	0.026	0.055	6.39E-01	0.302	0.131	0.048	6.67E-03	0.112	0.040	5.30E-03	0.657	0.001	0.002	6.19E-01	-0.001	0.002	6.02E-01	0.361
rs1421085	16	53800954	T/C	<i>FTO</i>	0.264	0.075	4.39E-04	0.390	0.069	1.91E-08	0.070	0.159	0.060	7.87E-03	0.184	0.051	2.73E-04	0.805	0.005	0.002	1.62E-02	0.008	0.002	1.24E-04	0.135
rs11642015	16	53802494	C/T	<i>FTO</i>	0.262	0.075	5.04E-04	0.399	0.069	8.21E-09	0.053	0.159	0.060	7.99E-03	0.184	0.051	2.79E-04	0.810	0.005	0.002	1.80E-02	0.009	0.002	4.85E-05	0.095
rs1558902	16	53803574	T/A	<i>FTO</i>	0.265	0.075	4.35E-04	0.394	0.069	1.34E-08	0.064	0.159	0.060	7.77E-03	0.184	0.051	2.74E-04	0.809	0.005	0.002	1.66E-02	0.008	0.002	9.26E-05	0.121

ALT, alternative allele; BMI, body mass index; bp, base pair; Chr., chromosome; REF, reference allele; SE, standard error; SNP, single nucleotide polymorphism.

^aPositions are based on Human Genome version 19 (hg19), build 37. ^bAlternative alleles were treated as effect alleles.

^cSignificant P-values were defined as $P \leq 1.77E-04$.

^dAdjusted model in current BMI were adjusted for age (continuous), age-squared (continuous), birth year (continuous), and the first five principal components (continuous).

^eAdjusted model in BMI at 20 were adjusted for birth year (continuous), and the first five principal components (continuous).

^fAdjusted model in BMI change were adjusted for age (continuous), age-squared (continuous), birth year (continuous), the first five principal components (continuous), and BMI at 20 (continuous).

^gSignificant heterogeneity P-values were defined as $P \leq 0.05$.

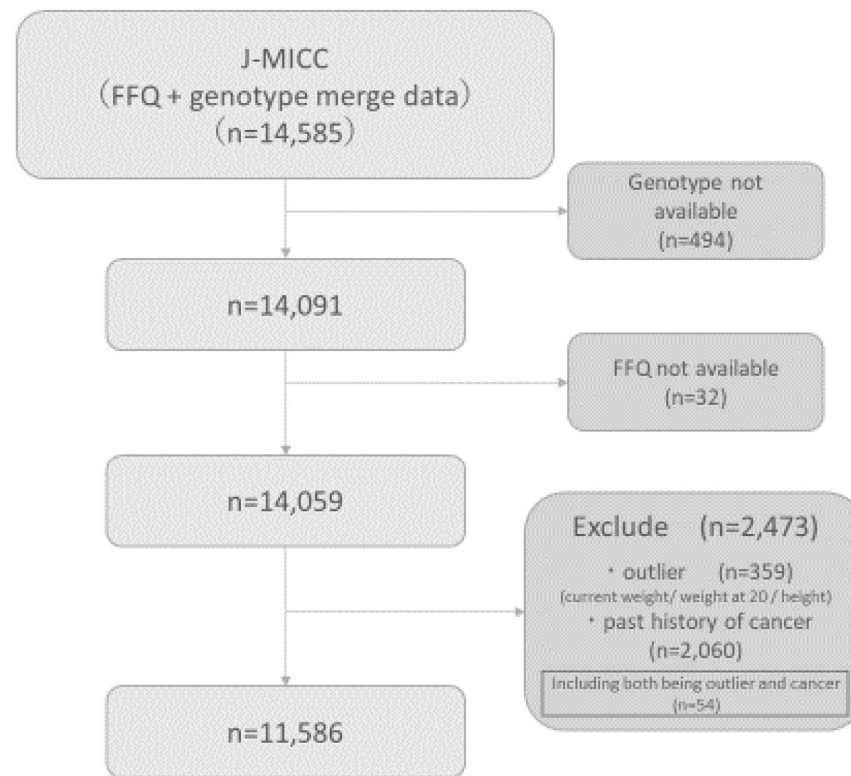
eTable 4. Analysis of 11 significant SNPs excluding DM population in current BMI

SNP	Chr. ^a	Position (bp) ^a	REF/ALT	Candidate gene(s)	Current BMI					
					Whole population			Excluding DM population		
					Adjusted model ^d			Adjusted model ^d		
β^b	SE	<i>P</i> -value ^c	β^b	SE	<i>P</i> -value ^c					
rs939584	2	621558	C/T	<i>LOC105373352, TMEM18</i>	-0.220	0.067	1.07E-03	-0.201	0.068	3.07E-03
rs13021737	2	632348	A/G	<i>LOC105373352, TMEM18</i>	-0.214	0.067	1.48E-03	-0.194	0.068	4.25E-03
rs4854349	2	647861	T/C	<i>LOC105373352, TMEM18</i>	-0.191	0.067	4.26E-03	-0.170	0.068	1.20E-02
rs4409766	10	104616663	T/C	<i>BORCS7-ASMT</i>	0.181	0.045	4.96E-05	0.168	0.045	1.91E-04
rs11030100	11	27677586	G/T	<i>BDNF-AS</i>	-0.199	0.042	1.68E-06	-0.191	0.042	5.03E-06
rs6265	11	27679916	C/T	<i>BDNF</i>	-0.203	0.041	1.00E-06	-0.194	0.042	3.33E-06
rs11030104	11	27684517	A/G	<i>BDNF-AS</i>	-0.203	0.042	1.01E-06	-0.193	0.042	3.93E-06
rs1927790	13	96922191	T/C	<i>HS6ST3</i>	0.057	0.041	1.64E-01	0.078	0.042	5.95E-02
rs1421085	16	53800954	T/C	<i>FTO</i>	0.335	0.051	1.24E-10	0.318	0.052	1.12E-09
rs11642015	16	53802494	C/T	<i>FTO</i>	0.334	0.051	7.36E-11	0.322	0.052	6.89E-10
rs1558902	16	53803574	T/A	<i>FTO</i>	0.331	0.051	8.65E-11	0.320	0.052	8.17E-10

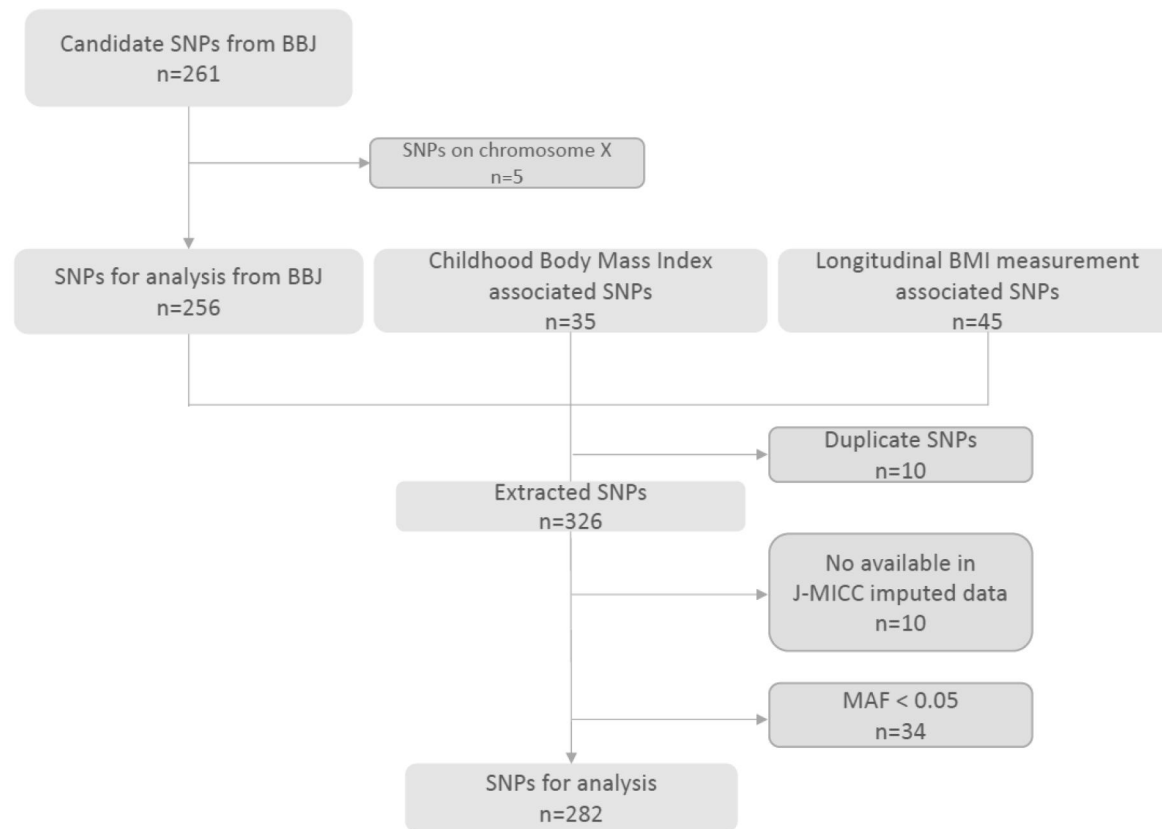
ALT, alternative allele; BMI, body mass index; bp, base pair; Chr., chromosome; DM, diabetes mellitus; REF, reference allele; SE, standard error; SNP, single nucleotide polymorphism.

^aPositions are based on Human Genome version 19 (hg19), build 37. ^bAlternative alleles were treated as effect alleles. ^cSignificant *P*-values ($P \leq 1.77E-04$) are shown in bold.

^dAdjusted model in current BMI were adjusted for age (continuous), age-squared (continuous), sex (male or female), birth year (continuous), and the first five principal components (contin



eFigure 1. Consort diagram of the eligibility of subjects after merging questionnaire and genotype data. FFQ, food frequency questionnaire.



eFigure 2. Consort diagram of the selection of candidate loci. BBJ, BioBank Japan study¹⁵; BMI, body mass index; MAF, minor allele frequency; SNPs, single nucleotide polymorphisms.