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Supplemental Tables

Table S1. Hardy-Weinberg equilibrium test of T2D-associated loci.

Identified Association to	Loci	Chr	Reported Gene	Allele	Genotype	Genotype Freq	*P* Value
T2D	rs340874	1	PROX1	T/C	TT/CT/CC	524/712/247	0.872
	rs243021	2	BCL11A	A/G	AA/GA/GG	708/642/156	0.552
	rs2943641	2	IRS1	C/T	CC/CT/TT	1304/210/11	0.463
	rs3923113	2	GRB14	A/C	AA/CA/CC	1129/352/27	1.000
	rs7593730	2	RBMS1, ITGB6	C/T	CC/CT/TT	1058/430/35	0.304
	rs780094	2	GCKR	T/C	TT/TC/CC	365/742/355	0.601
	rs1470579	3	IGF2BP2	A/C	AA/CA/CC	860/566/91	0.945
	rs16861329	3	ST6GAL1	C/T	CC/TC/TT	896/530/78	1.000
	rs4607103	3	ADAMTS9	C/T	CC/CT/TT	606/679/227	0.111
	rs4858889	3	SCAP	A/G	AA/GA/GG	1091/363/28	0.830
	rs7612463	3	UBE2E2	C/A	CC/CA/AA	981/462/66	0.222
	rs831571	3	PSMD6	C/T	CC/CT/TT	605/716/196	0.507
	rs6815464	4	MAEA	C/G	CC/CG/GG	508/760/236	0.088
	rs459193	5	ANKRD55	G/A	GG/GA/AA	400/757/349	0.837
	rs10946398	6	CDKAL1	A/C	AA/CA/CC	503/785/219	0.002
	rs1535500	6	KCNK16	G/T	GG/GT/TT	424/755/329	0.877
	rs9470794	6	ZFAND3	T/C	TT/CT/CC	707/648/160	0.516
	rs2191349	7	DGKB, TMEM195	T/G	TT/GT/GG	632/631/211	0.009
	rs4607517	7	GCK	G/A	GG/GA/AA	918/501/76	0.495
	rs864745	7	JAZF1	T/C	TT/CT/CC	863/572/64	0.011
	rs972283	7	KLF14	G/A	GG/GA/AA	794/605/107	0.603
	rs13266634	8	SLC30A8	C/T	CC/TC/TT	443/798/268	0.006
	rs516946	8	ANK1	C/T	CC/TC/TT	1165/345/13	0.022
	rs896854	8	TP53INP1	C/T	CC/CT/TT	699/649/163	0.517
	rs10811661	9	CDKN2A, CDKN2B	T/C	TT/TC/CC	396/774/268	0.001
	rs13292136	**9**	**CHCHD9**	**C/T**	**CC/TC/TT**	**1522/4/15**	**<0.001**
	rs17584499	9	PTPRD	C/T	CC/CT/TT	1226/282/14	0.779
	rs2796441	9	TLE1	A/G	AA/AG/GG	536/702/240	0.704
	rs7041847	9	GLIS3	A/G	GG/AG/AA	406/780/312	0.087
	rs10886471	10	GRK5	C/T	CC/TC/TT	867/508/66	0.492

	rs10906115	10	CDC123, CAMK1D	A/G	AA/AG/GG	594/741/182	0.035
	rs11257655	10	CDC123	T/C	TT/CT/CC	479/752/256	0.203
	rs12571751	**10**	**ZMIZ1**	**A/G**	**AA/GA/GG**	**1229/56/227**	**<0.001**
	rs1802295	**10**	**VPS26A**	**C/T**	**CC/TC/TT**	**932/384/237**	**<0.001**
	rs5015480	10	HHEX	C/T	TT/CT/CC	997/453/41	0.253
	rs10830963	11	MTNR1B	C/G	CC/CG/GG	486/775/245	0.030
	rs1552224	11	CENTD2	A/C	AA/CA/CC	1283/238/9	0.738
	rs2237892	**11**	**KCNQ1**	C/T	CC/TC/TT	652/737/142	0.001
	rs231362	**11**	**KCNQ1**	**G/A**	**GG/GA/AA**	**1453/17/25**	**<0.001**
	rs5215	11	KCNJ11	C/T	TT/CT/CC	540/756/222	0.108
	rs10842994	12	KLHDC5	C/T	CC/CT/TT	999/488/44	0.094
	rs1531343	**12**	**HMGA2**	**G/C**	**GG/GC/CC**	**1503/14/10**	**<0.001**
	rs7961581	12	TSPAN8, LGR5	T/C	TT/CT/CC	924/527/66	0.450
	rs1359790	**13**	**SPRY2**	**G/A**	**GG/GA/AA**	**1310/167/34**	**<0.001**
	rs11634397	15	ZFAND6	A/G	AA/AG/GG	1239/251/20	0.077
	rs2028299	15	AP3S2	A/C	AA/CA/CC	964/505/69	0.758
	rs7172432	15	C2CD4A, C2CD4B	A/G	AA/GA/GG	578/736/200	0.170
	rs7178572	15	HMG20A	A/G	AA/AG/GG	583/738/191	0.078
	rs7403531	15	RASGRP1	C/T	CC/TC/TT	598/618/167	0.721
	rs1558902	16	FTO	T/A	TT/AT/AA	1154/307/26	0.273
	rs7202877	16	BCAR1	T/G	TT/GT/GG	993/481/52	0.563
	rs8050136	16	FTO	C/A	CC/CA/AA	1189/312/23	0.621
	rs4430796	17	HNF1B	A/G	AA/AG/GG	748/615/119	0.658
	rs12454712	18	BCL2	T/C	TT/CT/CC	479/754/286	0.754
	rs12970134	18	MC4R	G/A	GG/GA/AA	1013/407/44	0.710
	rs8090011	18	LAMA1	G/C	GG/CG/CC	751/547/114	0.316
	rs10401969	19	CILP2	T/C	TT/CT/CC	1298/226/14	0.237
	rs3786897	**19**	**PEPD**	**A/G**	**AA/GA/GG**	**378/822/279**	**<0.001**
	rs3794991	19	GATAD2A	C/T	CC/TC/TT	1301/169/8	0.369
	rs4812829	**20**	**HNF4A**	**G/A**	**GG/GA/AA**	**487/582/446**	**<0.001**
	rs6017317	**20**	**HNF4A**	**T/G**	**TT/GT/GG**	**410/710/168**	**<0.001**
Birth weight	rs724577	4	LCORL	C/A	CC/CA/AA	385/757/267	0.002
	rs4432842	5	5q11.2	T/C	TT/CT/CC	425/779/310	0.179
	rs6931514	6	CDKAL1	G/A	GG/AG/AA	332/745/293	0.001
	rs1801253	**10**	**ADRB1**	**C/G**	**CC/CG/GG**	**494/788/201**	**<0.001**
	rs1042725	12	HMGA2	T/C	TT/CT/CC	971/493/63	0.937

BMI	rs2568958	1	1p31	A/G	AA/AG/GG	1254/228/13	0.409
	rs574367	1	SEC16B	G/T	GG/GT/TT	931/476/50	0.283
	rs7561317	2	TMEM18	G/A	GG/GA/AA	1188/266/9	0.180
	rs16892496	8	TRHR	A/C	AA/CA/CC	388/760/338	0.377
	rs7832552	8	TRHR	C/T	CC/TC/TT	396/746/361	0.796
	rs11030104	11	BDNF, BDNF-AS	A/G	AA/GA/GG	395/737/319	0.494
	rs6265	11	BDNF, BDNF-AS	C/T	CC/CT/TT	389/768/306	0.046
	rs925946	**11**	**BDNF-AS**	**G/T**	**GG/GT/TT**	**1367/114/10**	**<0.001**
	rs9939609	16	FTO	T/A	TT/AT/AA	1163/302/22	0.614

P values < 0.001 are shown in bold for deviation from Hardy-weinberg equilibrium.

Table S2. Overview of investigated genetic variants associated with insulin resistance.

Loci	Chr	Reported Gene	RA	Other Allele	β	Identified by Association to	Reference
rs780094	2	GCKR	C	T	0.0583	type 2 diabetes	Ingelsson E et al. [1]
rs7593730	2	RBMS1, ITGB6	C	T	0.1044	type 2 diabetes	Qi L et al. [2]
rs3923113	2	GRB14	A	C	0.0677	type 2 diabetes	Kooner JS et al. [3]
rs2943641	2	IRS1	C	T	0.174	type 2 diabetes	Ohshige T et al. [4]
rs831571	3	PSMD6	T	C	-0.0896	type 2 diabetes	Chen M et al. [5]
rs4607103	3	ADAMTS9	C	T	0.0862	type 2 diabetes	Zeggini E et al. [6]
rs16861329	3	ST6GAL1	T	C	-0.1508	type 2 diabetes	Qi L et al. [2]
rs459193	5	ANKRD55	G	A	0.077	type 2 diabetes	Harder MN et al. [7]
rs972283	7	KLF14	G	A	0.0392	type 2 diabetes	Voight BF et al. [8]
rs17584499	9	PTPRD	T	C	0.4511	type 2 diabetes	Chang YC et al. [9]
rs10886471	10	GRK5	C	T	0.1133	type 2 diabetes	Huaixing Li et al. [10]
rs2028299	15	AP3S2	C	A	0.0392	type 2 diabetes	Kazakova EV et al. [11]
rs12970134	18	MC4R	A	G	0.077	type 2 diabetes	Bradnová O et al. [12]
rs12454712	18	BCL2	T	C	0.04	type 2 diabetes	Walford GA et al. [13]
rs1558902	16	FTO	A	T	0.0993	type 2 diabetes	Zheng Y et al. [14]
rs9939609	16	FTO	A	T	0.33	BMI	Zheng Y et al. [14]
rs896854	8	TP53INP1	T	C	0.0488	type 2 diabetes	Jia Liu et al. [15]
rs7561317	2	TMEM18	G	A	1.8116	BMI	Sandholt CH et al. [16]
rs6265	11	BDNF, BDNF-AS	T	C	0.0343	BMI	Daily JW et al. [17]
rs7832552	8	TRHR	T	C	0.102	Low lean body mass	Lunardi CC et al. [18]
rs16892496	8	TRHR	C	A	0.8065	Low lean body mass	Lunardi CC et al. [18]
rs724577	4	LCORL	C	A	-0.042	birth weight	Horikoshi M et al. [19]

Table S3. Overview of investigated genetic variants associated with insulin release.

Loci	Chr	Reported Gene	RA	Other Allele	β	Identified by Association to	Reference
rs340874	1	PROX1	C	T	0.0677	type 2 diabetes	Philips R et al. [20]
rs4607517	7	GCK	A	G	0.077	type 2 diabetes	Ingelsson E et al. [1]
rs2191349	7	DGKB, TMEM195	T	G	0.0488	type 2 diabetes	Hong K et al. [21]
rs516946	8	ANK1	C	T	0.0862	type 2 diabetes	Harder MN et al. [7]
rs5015480	10	HHEX	C	T	0.1398	type 2 diabetes	Philips R et al. [20]
rs10830963	11	MTNR1B	G	C	0.0953	type 2 diabetes	Wang Y et al. [22]
rs7403531	15	RASGRP1	T	C	0.0953	type 2 diabetes	Huaixing Li et al. [10]
rs7202877	16	BCAR1	T	G	0.1133	type 2 diabetes	Harder MN et al. [7]
rs4430796	17	HNF1B	G	A	0.1222	type 2 diabetes	Machado-Silva W et al. [23]
rs7612463	3	UBE2E2	C	A	0.0953	type 2 diabetes	Xu K et al. [24]
rs1535500	6	KCNK16	T	G	0.0952	type 2 diabetes	Nicholas C et al. [25]
rs7041847	9	GLIS3	A	G	0.0872	type 2 diabetes	Muller YL et al. [26]
rs5215	11	KCNJ11	C	T	0.0677	type 2 diabetes	Gjesing AP et al. [27]
rs864745	7	JAZF1	T	C	0.0953	type 2 diabetes	Grarup N et al. [28]
rs7961581	12	TSPAN8, LGR5	C	T	0.0862	type 2 diabetes	Grarup N et al. [28]
rs7172432	15	C2CD4A, C2CD4B	A	G	0.1013	type 2 diabetes	Grarup N et al. [29]
rs1552224	11	CENTD2	A	C	0.1044	type 2 diabetes	Nielsen T et al. [30]
rs13266634	8	SLC30A8	T	C	-0.0997	type 2 diabetes	Steinthorsdottir V et al. [31]
rs10946398	6	CDKAL1	A	C	-0.1628	type 2 diabetes	Gjesing AP et al. [27]
rs8090011	18	LAMA1	G	C	0.0296	type 2 diabetes	Matsuba R et al. [32]
rs1470579	3	IGF2BP2	C	A	0.1133	type 2 diabetes	Rodriguez S et al. [33]
rs243021	2	BCL11A	A	G	0.0862	type 2 diabetes	Anna Jonsson et al. [34]
rs2568958	1	1p31	A	G	1.3271	BMI	Xi B et al. [35]
rs6931514	6	CDKAL1	G	A	-0.051	birth weight	Feng Lu et al. [36]
rs10811661	9	CDKN2A,CDKN2B	T	C	0.1655	type 2 diabetes	Zeggini E et al. [37]
rs8050136	16	FTO	A	C	0.1356	type 2 diabetes	MR Wing et al. [38]
rs11634397	15	ZFAND6	G	A	0.0488	type 2 diabetes	Zhao Q et al. [39]

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