

SUPPLEMENTARY MATERIAL

Table S1. Basic characteristics of 40 genotyped SNPs in candidate genes and their associated traits.

Gene	SNP	CHR	Mutation Type	Known associations of interest	References
<i>ADIPOQ</i>	rs266729	3	Upstream gene variant	Nephropathy and Retinopathy in T2D	Cai et al. 2015; Li et al. 2015
<i>ADIPOQ, ADIPOQ-ASI</i>	rs1063539	3	3'UTR variant, Upstream gene variant	Diabetes mellitus and Hypertension	Tong et al. 2013; Jiang et al. 2014
<i>APOE</i>	rs440446	19	Missense variant	Not associated to T2D	Geng et al. 2011
<i>CAT</i>	rs1001179	11	Upstream gene variant	Oxidative stress, Type 2 Diabetes	Pacal et al. 2011
<i>CLPTMIL</i>	rs401681	5	Upstream variant 2KB	Pancreatic cancer, T2D	Wu et al. 2015
<i>DDAHI</i>	rs669173	1	Intron variant, Non coding transcript variant, Downstream gene variant	ADMA(Asymmetric dimethylarginine) levels	Abhary et al. 2010
<i>DDAHI</i>	rs13373844	1	Intron variant, Non coding transcript variant	ADMA(Asymmetric dimethylarginine) levels	Abhary et al. 2010
<i>DDAHI</i>	rs7521189	1	Intron variant, Non coding transcript variant	ADMA(Asymmetric dimethylarginine) levels	Abhary et al. 2010
<i>EPO</i>	rs1617640	7	Upstream variant 2KB	Diabetic Retinopathy, Diabetic Nephropathy	Tong et al. 2008
<i>EPO</i>	rs507392	7	Intron variant	Diabetic Retinopathy, Diabetic Nephropathy	Tong et al. 2008
<i>EPO</i>	rs551238	7	Downstream gene variant 500B	Diabetic Retinopathy, Diabetic Nephropathy	Tong et al. 2008
<i>FTO</i>	rs1121980	16	Intron variant, NMD transcript variant, Non coding transcript variant	Susceptibility to Type 2 Diabetes, Obesity	Li et al. 2011
<i>FTO</i>	rs1421085	16	Intron variant, NMD transcript variant, Non coding transcript variant	BMI and Type 2 Diabetes	Akiyama et al. 2014
<i>FTO</i>	rs17817449	16	Intron variant, NMD transcript variant, Non coding transcript variant	Susceptibility to Type 2 Diabetes, Obesity	Basile et al. 2014
<i>FTO</i>	rs8047395	16	Intron variant, NMD transcript variant, Non coding transcript variant	Susceptibility to Type 2 Diabetes, Obesity	Akiyama et al. 2014
<i>FTO</i>	rs8050136	16	Intron variant, NMD transcript variant, Non coding transcript variant	Susceptibility to Type 2 Diabetes	Chang et al. 2014
<i>FTO</i>	rs9939609	16	Intron variant, NMD transcript variant, Non coding transcript variant	BMI and Type 2 Diabetes	Akiyama et al. 2014

<i>HIF1A</i>	rs11549465	14	Missense variant	Susceptibility to Type 1 and Type 2 Diabetes	Nagy et al. 2009
<i>IGF2BP2</i>	rs1470579	3	Intron variant	Susceptibility to Type 2 Diabetes	Park et al. 2015
<i>IGF2BP2</i>	rs4402960	3	Intron variant	Susceptibility to Type 2 Diabetes	Scott et al. 2007; The Wellcome Trust Case Control 2007; Zeggini et al. 2007
<i>IRS1</i>	rs2943641	2	Intergenic variant (500 kb upstream)	Insulin resistance and Hyperinsulinemia	Rung et al. 2009
<i>KCNJ11</i>	rs5215	11	Missense variant	Susceptibility to Type 2 Diabetes	Zeggini et al. 2008
<i>KCNQ1</i>	rs2237892	11	Intron variant	Susceptibility to Type 2 Diabetes	Kong et al. 2009
<i>SLC30A8</i>	rs13266634	8	Missense variant	Susceptibility to Type 2 Diabetes	Sladek et al. 2007
<i>SLC30A8</i>	rs16889462	8	Missense variant	Susceptibility to Type 2 Diabetes	Labruna et al. 2011; Sun et al. 2014
<i>SOD2</i>	rs4880	6	Missense variant	Diabetic Nephropathy	Mollsten et al. 2007
<i>TCF7L2</i>	rs7901695	10	Intron variant	Susceptibility to Type 2 Diabetes	Scott et al. 2007; The Wellcome Trust Case Control 2007; Zeggini et al. 2007
<i>TCF7L2</i>	rs7903146	10	Intron variant	Susceptibility to Type 2 Diabetes	Grant et al. 2006
<i>TERC</i>	rs12696304	3	Downstream gene variant (1.5 kb)	Human Leukocyte Telomere Length and the Risk of T2D	Codd et al. 2010; Al Khaldi et al. 2015
<i>TERT</i>	rs2735940	5	Upstream variant 2KB	Susceptibility to Breast cancer	Pellatt et al. 2013
<i>TERT</i>	rs2736098	5	Synonymous variant	Cancer, T2D, leukocyte telomere length	You et al. 2012, Wu et al. 2015
<i>TERT</i>	rs2736109	5	Upstream variant 2KB	Telomere lengths, Susceptibility to Breast and Ovarian cancer	Bojesen et al. 2013
<i>TERT</i>	rs2853669	5	Upstream variant 2KB	Susceptibility to Type 2 Diabetes	You et al. 2012,
<i>UCP1</i>	rs1800592	4	Upstream gene variant	Abdominal Fat, Blood pressure, Retinopathy, Insulin resistance, T2D	Fukuyama et al. 2006; Cha et al. 2008; Ho Cha et al. 2008; Zhang et al. 2015
<i>UCP1</i>	rs3811787	4	Upstream gene variant	Abdominal Fat, Obesity	Ho Cha et al. 2008, Labruna et al. 2011

<i>UCP1</i>	rs3811791	4	Upstream gene variant	Susceptibility to Type 2 Diabetes	Lee et al. 2008
<i>UCP1</i>	rs45539933	4	Missense variant	Blood pressure, Obesity	Cha et al. 2008, Labruna et al. 2011
<i>UCP2</i>	rs660339	11	Missense variant	Diabetic Retinopathy	Crispim et al. 2010
<i>UCP3</i>	rs1800849	11	5'UTR variant	Age, Type 2 Diabetes, Abdominal Obesity	Pinelli et al. 2006
<i>VEGFA</i>	rs3025021	6	Intron variant, Non coding transcript variant, Non coding transcript exon variant, downstream gene variant	Diabetic Retinopathy	Abhary et al. 2010,

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Table S2. Association analysis of candidate SNPs with diabetic microvascular and macrovascular complications.

Gene	SNP	Alleles	MAF	Retinopathy		Nephropathy		Neuropathy		Ischemic heart disease and stroke	
				OR (95% CI) ^a	P-value	OR (95% CI) ^a	P-value	OR (95% CI) ^a	P-value	OR (95% CI) ^a	P-value
ADIPOQ	rs266729	C/G	0.24	1.10 (0.74-1.63)	0.641	1.1 (0.70-1.73)	0.672	0.9 (0.58-1.38)	0.616	0.61 (0.39-0.95)	0.024
ADIPOQ-AS1	rs1063539	G/C	0.10	0.60 (0.30-1.22)	0.143	0.91 (0.43-1.90)	0.795	0.46 (0.19-1.12)	0.065	0.83 (0.43-1.64)	0.592
APOE	rs440446	G/C	0.39	1.13 (0.79-1.62)	0.510	1.12 (0.73-1.71)	0.617	1.06 (0.71-1.59)	0.760	1.16 (0.81-1.67)	0.425
CAT	rs1001179	G/A	0.22	1.03 (0.66-1.63)	0.885	0.48 (0.26-0.87)	0.010	0.93 (0.56-1.52)	0.760	1.03 (0.66-1.6)	0.905
CLPTM1L	rs401681	C/T	0.40	1.10 (0.76-1.58)	0.627	1.33 (0.86-2.04)	0.197	0.95 (0.64-1.41)	0.792	0.95 (0.65-1.38)	0.794
DDAH1	rs13373844	A/C	0.35	1.19 (0.82-1.71)	0.366	0.88 (0.57-1.35)	0.547	1.13 (0.77-1.67)	0.533	0.92 (0.63-1.33)	0.654
DDAH1	rs7521189	A/G	0.46	1.09 (0.76-1.57)	0.624	0.95 (0.62-1.44)	0.800	1.18 (0.8-1.75)	0.403	1.09 (0.76-1.56)	0.641
EPO	rs1617640	T/G	0.32	0.95 (0.65-1.39)	0.804	0.89 (0.57-1.37)	0.585	1.36 (0.92-2.02)	0.128	1.01 (0.70-1.47)	0.948
EPO	rs507392	T/C	0.32	0.92 (0.62-1.35)	0.665	0.92 (0.59-1.43)	0.713	1.38 (0.93-2.06)	0.114	1.08 (0.73-1.58)	0.709
EPO	rs551238	A/C	0.32	0.95 (0.65-1.39)	0.804	0.89 (0.57-1.37)	0.585	1.36 (0.92-2.02)	0.128	1.01 (0.70-1.47)	0.948
FTO	rs1121980	C/T	0.48	1.01 (0.70-1.44)	0.976	0.64 (0.42-0.96)	0.030	1.15 (0.79-1.67)	0.461	0.97 (0.68-1.38)	0.875
FTO	rs1421085	T/C	0.47	0.97 (0.68-1.38)	0.864	0.63 (0.42-0.95)	0.026	1.25 (0.86-1.82)	0.240	0.95 (0.67-1.35)	0.783
FTO	rs17817449	T/G	0.45	1.08 (0.76-1.53)	0.684	0.66 (0.44-0.98)	0.044	1.07 (0.74-1.55)	0.704	0.97 (0.69-1.37)	0.866
FTO	rs8050136	C/A	0.45	1.10 (0.77-1.57)	0.594	0.68 (0.45-1.03)	0.068	1.11 (0.76-1.61)	0.590	0.98 (0.69-1.39)	0.907
FTO	rs9939609	T/A	0.45	1.06 (0.74-1.52)	0.739	0.67 (0.45-1.02)	0.057	1.09 (0.75-1.58)	0.644	0.99 (0.70-1.41)	0.974
HIF1A	rs11549465	C/T	0.15	1.24 (0.75-2.05)	0.398	0.95 (0.53-1.71)	0.860	0.9 (0.52-1.57)	0.708	1.50 (0.93-2.41)	0.101
IGF2BP2	rs4402960	G/T	0.37	1.32 (0.92-1.89)	0.133	1.04 (0.68-1.59)	0.854	1.10 (0.74-1.64)	0.63	1.23 (0.86-1.77)	0.262
IRS1 (500 kb downstream)	rs2943641	C/T	0.40	1.22 (0.86-1.75)	0.267	1.03 (0.69-1.56)	0.871	0.71 (0.48-1.06)	0.086	0.93 (0.65-1.34)	0.712
KCNJ11	rs5215	T/C	0.34	1.14 (0.79-1.63)	0.483	1.17 (0.77-1.77)	0.463	0.78 (0.52-1.16)	0.209	0.89 (0.61-1.29)	0.527
KCNQ1	rs2237892	C/T	0.05	0.80 (0.33-1.91)	0.603	1.03 (0.41-2.57)	0.951	2.06 (0.95-4.45)	0.076	0.70 (0.29-1.73)	0.429
TCF7L2	rs7903146	C/T	0.44	0.70 (0.47-1.03)	0.070	1.21 (0.79-1.86)	0.373	0.84 (0.55-1.27)	0.399	0.97 (0.67-1.40)	0.866
TERC	rs12696304	C/G	0.27	0.86 (0.58-1.25)	0.420	1.20 (0.78-1.84)	0.410	0.72 (0.47-1.11)	0.125	0.89 (0.61-1.32)	0.573
TERT	rs2735940	T/C	0.42	1.14 (0.78-1.67)	0.498	1.22 (0.79-1.87)	0.374	0.72 (0.47-1.09)	0.116	1.28 (0.88-1.87)	0.191
TERT	rs2736098	G/A	0.29	1.01 (0.65-1.56)	0.973	0.69 (0.41-1.16)	0.151	1.48 (0.92-2.38)	0.105	1.08 (0.70-1.67)	0.726
TERT	rs2736109	G/A	0.41	1.04 (0.71-1.51)	0.844	0.69 (0.44-1.09)	0.108	0.94 (0.63-1.42)	0.781	1.07 (0.73-1.57)	0.726
UCP1	rs1800592	A/G	0.24	0.84 (0.55-1.29)	0.426	0.57 (0.33-0.98)	0.031	0.86 (0.54-1.36)	0.509	1.10 (0.74-1.64)	0.643

UCP1	rs3811787	T/G	0.25	1.20 (0.80-1.79)	0.382	0.57 (0.34-0.98)	0.031	1.02 (0.66-1.57)	0.945	1.20 (0.81-1.77)	0.367
UCP1	rs45539933	C/T	0.06	0.31 (0.12-0.82)	0.010	0.52 (0.18-1.52)	0.198	1.46 (0.68-3.13)	0.340	1.08 (0.52-2.26)	0.837
UCP2	rs660339	C/T	0.34	0.79 (0.54-1.15)	0.211	1.43 (0.93-2.18)	0.102	1.03 (0.69-1.55)	0.882	0.91 (0.62-1.34)	0.635
UCP3	rs1800849	C/T	0.14	0.88 (0.52-1.49)	0.627	1.72 (0.99-2.99)	0.060	1.13 (0.65-1.97)	0.660	0.86 (0.50-1.48)	0.586
VEGFA	rs3025021	C/T	0.32	1.04 (0.70-1.56)	0.841	1.03 (0.64-1.65)	0.894	0.98 (0.63-1.51)	0.916	0.79 (0.52-1.21)	0.278

Abbreviation: MAF, Minor Allele Frequency; OR, odds ratio; CI, confidence interval.

Significant p-values (<0.10) are highlighted in bold.

^a At each SNP, an additive model was considered. Age, sex, BMI and familiarity were included as covariates.