

ESM Table S2. Summary of 50 T2D and related trait loci

Number	Chr	Loci	Reasons for Fine-mapping	Coverage (number of SNPs) on Metabochip	Confirmation in TaiChi p<10E-3	Lead SNP (TaiChi)	Literature SNP or Proxy of Literature SNP	r2 (Asian)	r2 (European)
1	2	<i>GCKR</i>	SFM (fastGLU), Replication (fastGLU, 2hrGLU)	157	Yes	rs1260326	rs780094	0.827	0.933
2	2	<i>IRS1/LOC646736</i>	SFM (T2D), Replication (T2D, fastGLU, 2hrGLU, fastINS)	727	Yes	rs2943632	rs1260326	1.000	1.000
3	3	<i>UBE2E2 *</i>	Replication (T2D, fastINS)	10	Yes	rs2943632	rs7578326	0.070	0.782
4	3	<i>IGF2BP2</i>	LFM (T2D), SFM (T2D), Replication (T2D, fastGLU)	386	Yes	rs17012800	rs2943640	0.675	0.654
5	6	<i>CDKAL1</i>	LFM (T2D), SFM (T2D), Replication (T2D, fastGLU, fastINS)	2096	Yes	rs6769511	rs7612463	0.823	0.478
						rs6769511	rs4402960	0.848	1.000
						rs6769511	rs6769511	1.000	1.000
						rs9356744	rs1374910	0.376	0.068
						rs9356744	rs9465871	0.702	0.361
						rs9356744	rs9295474	0.845	0.446
						rs9356744	rs9368222	1.000	0.843
						rs9356744	rs7756992	0.763	0.843
						rs9356744	rs9460546	0.866	0.490
6	8	<i>SLC30A8</i>	SFM (T2D), Replication (T2D, fastGLU, 2hrGLU)	118	Yes	rs9356744	rs9361514	0.756	0.761
7	9	<i>GLIS3</i>	SFM (fastGLU), Replication (T2D, fastGLU, 2hrGLU)	334	Yes	rs9356744	rs4712523	0.868	0.490
8	9	<i>CDKN2A/B-CDKN2BAS</i>	LFM (T2D), SFM (T2D), Replication (T2D, fastGLU)	526	Yes	rs9356744	rs4712523	0.845	0.490
						rs9356744	rs9460546	0.866	0.490
						rs9356744	rs9368222	1.000	0.843
						rs11774700	rs13266634	0.934	0.801
						rs11774700	rs3802177	0.956	0.801
						rs12378556	rs7034200	NA	NA
						rs12378556	rs7041847	0.521	0.121
						rs10811661	rs10811661	1.000	1.000
						rs10811661	rs10965250	1.000	0.915
9	10	<i>CDC123/CAMK1D</i>	SFM (T2D), Replication (T2D, fastGLU)	417	Yes	rs10811661	rs2383208	0.977	0.957
10	10	<i>IDE/KIF11/HHEX</i>	SFM (T2D), Replication (T2D, fastGLU)	754	Yes	rs10811661	rs7020996	0.827	0.598
11	11	<i>KCNQ1 *</i>	LFM (T2D), SFM (T2D), Replication (T2D, fastGLU, 2hrGlu)	1762	Yes	rs10811661	rs564398	0.012	0.004
						rs11257655	rs7018475 **	NA	NA
						rs11257655	rs10906115	0.152	0.224
						rs11257655	rs12779790 **	NA	NA
						rs10882091	rs1111875	0.178	0.506
						rs10882091	rs6583826 **	NA	NA
						rs10882091	rs1111875	0.101	0.510
						rs2237897	rs2237897	1.000	1.000
						rs2237897	rs7480855	0.438	NA
12	11	<i>KCNJ11/ABCC8</i>	SFM (T2D), Replication (T2D)	89	Yes	rs2237897	rs163182 **	NA	NA
13	15	<i>PRC1</i>	SFM (T2D), Replication (T2D)	123	Yes	rs2237897	rs2237895 **	NA	NA
14	17	<i>HNF1B (TCF2)</i>	SFM (T2D), Replication (T2D, fastGLU)	60	Yes	rs2237897	rs2237895 **	NA	NA
15	1	<i>NOTCH2</i>	SFM (T2D), Replication (T2D)	448	No (P=0.217) †	rs2237897	rs2283228	0.469	NA
16	1	<i>PROX1</i>	SFM (fastGLU), Replication (T2D, fastGLU)	163	No (P=0.004) †	rs2237897	rs231362	0.000	NA
17	2	<i>THADA</i>	SFM (T2D), Replication (fastGLU)	866	No (P=0.021) †	rs2074314	rs5219 or rs5215	0.962	0.837
18	2	<i>BCL11A</i>	SFM (T2D), Replication (T2D, fastGLU)	169	No (P=0.020) †	rs3743451	rs8042680 **	NA	NA
19	2	<i>RBMS1/ITGB6</i>	Replication (T2D, fastGLU)	13	No (P=0.001) †	rs8064454	rs757210	0.848	0.564
20	2	<i>G6PC2/ABCB11</i>	SFM (fastGLU), Replication (fastGLU)	249	No (P=0.014) †	rs8064454	rs4239217	0.961	0.764
21	3	<i>PPARG</i>	SFM (T2D), Replication (T2D)	333	No (P=0.006) †	rs74117563	rs2453040	0.001	NA
22	3	<i>ADAMTS9/ADAMTS9-AS2 (LOC730057)</i>	SFM (T2D), Replication (T2D, 2hrGLU)	179	No (P=0.040) †	rs340874	rs340874	1.000	1.000
23	3	<i>ADCY5</i>	LFM (fastGLU), SFM (T2D, fastGLU), Replication (fastGLU)	871	No (P=0.015) †	rs4952986	rs17030946	NA	0.001
24	3	<i>SLC2A2</i>	SFM (fastGLU)	234	No (P=0.054)	rs243018	rs243083	0.727	0.967
25	4	<i>WFS1</i>	SFM (T2D), Replication (fastGLU)	280	No (P=0.106)	rs6742799	rs4410242	0.281	0.721
26	5	<i>ZBED3/ZBED3-AS1 (LOC728723)</i>	SFM (T2D), Replication (fastGLU)	55	No (P=0.019) †	rs3755160	rs560887	0.023	0.053
27	7	<i>DGKB-TMEM195</i>	LFM (fastGLU), Replication (fastGLU, 2hrGLU)	2622	No (P=0.005) †	rs3755160	rs563694	0.025	0.053
28	7	<i>JAZF1</i>	LFM (T2D), SFM (T2D), Replication (T2D)	1235	No (P=0.010) †	rs11715234	rs2197423	1.000	0.342
29	7	<i>GCK</i>	SFM (fastGLU), Replication (T2D, fastGLU, 2hrGLU)	76	No (P=0.104)	rs11715234	rs2067819	1.000	0.131
30	7	<i>KLF14</i>	SFM (T2D), Replication (T2D)	127	No (P=0.178)	rs11715234	rs2067819	1.000	0.131
31	8	<i>TP53INP1</i>	Replication (T2D, fastGLU)	5	No (P=0.063)	rs5705229	rs6770866	0.084	0.113
32	9	<i>PTRPD *</i>	Replication (T2D, fastGLU)	29	No (P=0.003) †	rs10511416	rs11708067	0.001	0.000
33	9	<i>CHCHD9/TLE4</i>	Replication (T2D, fastGLU)	8	No (P=0.065)	rs10511416	rs2877716	0.001	0.007
34	10	<i>TCF7L2</i>	SFM (T2D), Replication (T2D, fastGLU)	278	No (P=0.010) †	rs11924032	rs11924648	0.066	0.285
35	11	<i>CRY2</i>	LFM (fastGLU), SFM (fastGLU), Replication (T2D, fastGLU)	216	No (P=0.010) †	rs4689388	rs4689393	1.000	0.793
36	11	<i>MADD</i>	SFM (fastGLU), Replication (fastGLU)	172	No (P=0.004) †	rs4689388	rs4689388	1.000	1.000
37	11	<i>FADS1</i>	LFM (fastGLU), SFM (fastGLU), Replication (fastGLU)	37	No (P=0.015) †	rs4689388	rs10012946	0.746	0.926
38	11	<i>CENTD2 (ARAP1)</i>	SFM (T2D), Replication (T2D, fastGLU, fastINS)	185	No (P=0.008) †	rs7732130	rs4457053	0.661	0.962
39	11	<i>MTNR1B</i>	SFM (T2D, fastGLU), Replication (T2D, fastGLU)	217	No (P=0.057)	rs4719394	rs2191349	NA	NA
40	12	<i>HMG2</i>	SFM (T2D), Replication (T2D)	319	No (P=0.121)	rs4722750	rs1635852	0.000	0.015
41	12	<i>TSPAN8/LGR5</i>	SFM (T2D), Replication (T2D, fastGLU, 2hrGLU)	355	No (P=0.002) †	rs4722750	rs1635852	0.000	0.015
42	12	<i>IGF1</i>	LFM (fastINS), SFM (fastINS), Replication (fastGLU, fastINS)	911	No (P=0.012) †	rs2268576	rs2908282	0.000	0.008
43	12	<i>HNF1A</i>	SFM (T2D)	49	No (P=0.089)	rs2268576	rs2908289	0.000	0.008
44	13	<i>SPRY2 *</i>	Replication (T2D, fastINS)	5	No (P=0.021) †	rs56988154	rs13234407	0.071	0.091
45	15	<i>VPS13C/C2CD4A</i>	LFM (fastGLU), SFM (2hrGLU), Replication (fastGLU, 2hrGLU, fastINS, T2D)	611	No (P=0.005) †	rs61663478	rs896854	NA	NA
46	15	<i>ZFAND6</i>	Replication (T2D, fastGLU)	5	No (P=0.163)	rs10491613	rs17584499 **	NA	NA
47	16	<i>FTO</i>	Replication (T2D, fastGLU, fastINS)	1555	No (P=0.003) †	rs17791483	rs13292136 **	NA	NA
48	17	<i>SREBF1 (RAI1)</i>	Replication (T2D)	2	No (P=0.264)	rs12244851	rs7903146	NA	0.779
49	19	<i>GIPR</i>	LFM (2hrGLU), SFM (2hrGLU), Replication (T2D, 2hrGLU)	104	No (P=0.043) †	rs12244851	rs7901695	NA	0.889
50	20	<i>FITM2-R3HDML-HNF4A</i>	Replication (T2D, 2hrGLU)	7	No (P=0.007) †	rs12244851	rs4506565	NA	0.889
51	3	<i>PSMD6 *</i>				rs1554338	rs11605924	0.026	0.054
52	4	<i>MAEA *</i>				rs74940231	rs11039182	0.056	NA
53	6	<i>ZFAND3 *</i>				rs174550	rs174550	1.000	1.000
54	6	<i>KCNK16 *</i>				rs1681503	rs1552224	0.019	0.001
55	7	<i>GCC1-PAX4 *</i>				rs4753426	rs10830963	0.369	0.289
56	10	<i>ADRA2A</i>				rs4753426	rs1387153	0.250	0.131
57	15	<i>C2CD4A/4B *</i>				rs1563835	rs2583921	0.036	0.126
58	17	<i>SRR *</i>				rs61924003	rs4760915, proxy for rs4760790	0.010	0.230
59	19	<i>PEPD *</i>				rs61924003	rs4760915, proxy for rs7961581	0.010	0.230
60	X	<i>DUSP9</i>				rs1111241	rs35767	0.008	NA

* initially discovered in Asian studies; ** no proxy
† (Nominal P-value, for those loci not meeting the P<10E-3); 24 loci with nominal P-value.
2hrGLU, 2 hour glucose; fastGLU, fasting glucose; fastINS, fasting insulin; LFM, locus fine-mapped; SFM, signal fine-mapped; T2D, type 2 diabetes