Supplementary Table 1 Included and excluded meta-analyses of gene-disease associations

ID	Author	Polymorphism/Genetic contrast	Disease	
Included meta-analyses				
1	Christensen	CYP2D6 (deficient oxidation); poor metabolism vs. others	Lung cancer	
2	Houlston	GSTM1 (gene deletion); null/null vs. other	Lung cancer	
3	Houlston	CYP1A1 (4889A/G); GG vs. AA+ AG	Lung cancer	
4	Houlston	CYP1A1 (MspI); +/+ vs. others	Lung cancer	
5	Marcus	NAT2 (slow acetylation alleles); slow/slow vs. others	Bladder cancer	
6	McCarron	APOE (epsilon 2/3/4); allele 4 vs. others	ICVD	
7	Mitchell	TGFA (TaqI); allele 2 vs. allele 1	Nonsyndromic cleft lip	
8	Sharma	ACE (insertion/deletion); DD vs. DI + II	Ischemic stroke	
9	Tarnow	ACE (insertion/deletion); II vs. DI + DD	Diabetic nephropathy	
10	Botto	MTHFR (677C/T); TT vs. CT + CC	NTD, patients	
11	Botto	MTHFR (677C/T) mother; TT vs. CT + CC	NTD, mothers	
12	Wilson	APOE (epsilon 2/3/4); 4/3+4/2+4/4 vs. 3/3	IHD	
13	Di Castelnuovo	ITGB3 (L33P); A2A2 + A1A2 vs. A1A1	CAD	
14	Johns	GSTM1 (gene deletion); null/null vs. other	Bladder cancer	
15	Karassa	FCGR2A (R131H); RR vs. RH + HH	SLE nephritis	
16	Sanchez-Guerra	LPR/LPR exon3 (766 C/T); CC vs. CT + TT	Alzheimer's disease	
17	Karassa	FCGR3A (F158V); F vs. V allele	SLE nephritis	
18	Maraganore	UCH-L1; Y/Y + Y/S vs. S/S	Parkinson's disease	
19	Karassa	FCGR2A (R131H); RR vs. RH + HH	APS	
20	Ntais	CYP17 (TtoC); A2A2 + A1A2 vs. A1A1	Prostate cancer	
21	Ntais	SRD5A2 (A49T); AT + TT vs. AA	Prostate cancer	
22	Kosmas	Factor V (Leiden mutation); V vs. v allele	Pre-eclampsia	
23	Kosmas	MTHFR (677C/T); TT vs. CT + CC	Pre-eclampsia	
24	Sethi	AGT (M235T); TT vs. MM	Essential HTN	
25	Sethi	AGT (M235T);TT vs. TM + MM	IHD	
26	Kim	MTHFR (677C/T); TT vs. CT + CC	Ischemic stroke	
27	Kim	MTHFR (677C/T); TT vs. CT + CC	MI	
28	Burzotta	F2 (20210G/A); AA + AG vs. GG	MI	
29	Jonsson	DRD4 (-521C>T); C vs. T allele	Schizophrenia	
30	Jonsson	DRD3 (Ser9Gly); SerSer vs. SerGly + GlyGly	Schizophrenia	
31	Jonsson	DRD2 (Ser311Cys); Cys vs. Ser allele	Schizophrenia	
32	Cahill	MTHFR (677C/T); TT vs. CT+CC	Retinal arterial occlusive disease	
33	Cahill	MTHFR (677C/T); TT vs. CT+CC	Retinal venous occlusive disease	
34	Schurhoff	ApoE (epsilon 2/3/4); allele _4 vs. others	Schizophrenia	
35	Wheeler	PON1 (Q192R); RR vs. QQ	MI	
36	Wheeler	PON1 (Q192R); RR + QR vs. QQ	Coronary stenosis	

37	Wheeler	PON2 (S311C); S allele vs. C allele	CHD	
38	Kehoe	ACE (insertion/deletion); - DI + II vs. DD	Altzheimer's disease	
39	Ray	MTHFR (677C/T); TT vs. CT+CC	Venous thrombolembolism	
40	Matakidou	TP53 (PRO72ARG); ProPro vs. ArgPro + ArgArg	Lung cancer	
41	Hashibe	GSTM1 (gene deletion); null/null vs. other	Head-and-neck cancer	
42	Hashibe	CYP1A1 (3801T>C); VV +VI vs. II	Head-and-neck cancer	
43	Glatt	KCNN3 (exon 1 CAG-repeat); alleles>19 vs. others	Schizophrenia	
Excluded meta-analyses				**Reason for exclusion**
1	Golbe	MAPT (allele A0); allele A0 vs. others	Parkinson's disease	<80% studies available
2	Trikalinos	FCGR2A (R131H); RR vs. RH + HH	Heparin-induced thrombocytopenia	<80% studies available
3	Jonsson	DRD3 (Ser9Gly); SerSer vs. SerGly + GlyGly	Response to clozapine	<80% studies available
4	Anguelova	5-HT (102 C/T); allele T vs. C	Suicide	Not significant
5	Anguelova	5-HTT promoter (insertion/deletion); long vs. short alleles	Suicide	Not significant
6	Botto	MTHFR (677C/T) father; TT vs. CT + CC	NTD, fathers	Not significant
7	Deb	APOE (epsilon 2/3/4); allele 2 vs. 3+4	Dementia in Down syndrome	Not significant
8	Elvidge	DRD3 (Bal1); allele 1 vs. allele 2	Bipolar disorder	Not significant
9	Feyler	MPO (G463A); AA vs. GA + GG	Lung Cancer	Not significant
10	Furlong	MAOA (CA); allele 122 vs. other	Bipolar disorder	Not significant
11	Geller	MC4R (V103I); II + IV vs. VV	Obesity	Not significant
12	Glatt	COMT (Val158/108Met); allele Val vs. Met	Schizophrenia	Not significant
13	Glatt	KCNN3 (exon 1 CAG-repeat); alleles>19 vs. others	Bipolar disorder	Not significant
14	Hashibe	GSTT1 (gene deletion); null/null vs. Other	Head-and-neck cancer	Not significant
15	Hashibe	GSTP1 (Ile105Val); VV +VI vs. II	Head-and-neck cancer	Not significant
16	Jonsson	DRD4 I(exon3 VNTR); long vs. short alleles	Schizophrenia	Not significant
17	Jonsson	DRD4 (exon 1 VNTR); long vs. short alleles	Schizophrenia	Not significant
18	Karassa	FCGR3A (F158V); F vs. V allele	SLE	Not significant
19	Karassa	FCGR2A (R131H); RR vs. RH + HH	SLE	Not significant
20	Kato	DRD3 (Bal1); 11+22 vs. 12	Schizophrenia	Not significant
21	Kim	F5 (1691G/A); AA + AG vs. GG	Ischemic stroke	Not significant
22	Kim	F5 (1691G/A); AA + AG vs. GG	MI	Not significant
23	Kim	F2 (20210G/A); AA + AG vs. GG	Ischemic stroke	Not significant
24	Kuznetsova	ACE (insertion/deletion); D vs. I allele	LV hypertrophy	Not significant
25	Lalovic	TPH (A779C); allele C vs. A	Suicide	Not significant
26	LeMarchand	CYP1A1 (A2455G); AA + AG vs. GG	Lung cancer	Not significant
27	Nelen	MTHFR (677C/T); TT vs. CT + CC	Pregnancy loss	Not significant
28	Njajou	HFE (C282Y); CC + CY vs. YY	Type 2 diabetes	Not significant
29	Njajou	HFE (H63D); HH + HD vs. DD	Type 2 diabetes	Not significant
30	Ntais	SRD5A2 (V98L); LL + VL vs. VV	Prostate cancer	Not significant
31	Ntais	SRD5A2 (TA repeat); long/long vs. others	Prostate cancer	Not significant
32	Ntais	VDR (TaqI); t vs. T allele	Prostate cancer	Not significant

33	Ntais	VDR (BsmI); B vs. B allele	Prostate cancer	Not significant
34	Ntais	VDR (FokI); f vs. F allele	Prostate cancer	Not significant
35	Ntais	VDR (poly(A)); S vs. L allele	Prostate cancer	Not significant
36	Ntais	CTSD; T vs. C allele	Alzheimer's disease	Not significant
37	Pasche	TRAP1 (del(GGC)3: allele 6); 66 + 69 vs. 99	Cancer	Not significant
38	Schena	ACE (insertion/deletion); DD vs. DI + II	IgA nephropathy	Not significant
39	Wheeler	PON1 (L55M); LL vs. MM	MI	Not significant
40	Wheeler	PON1 (L55M); LL vs. LM + MM	Coronary stenosis	Not significant
41	Wheeler	PON1 (T107C); TT vs. TC + CC	CHD	Not significant
42	Ye	GSTM1(gene deletion); null/null vs. others	Colorectal cancer	Not significant
43	Ye	NAT2 (slow acetylation alleles); rapid/rapid vs. others	Colorectal cancer	Not significant
44	Mizuta	COMT (V158M); MM+MV vs. VV	Parkinson's disease	Single race (E. Asian)
45	Persad	CYP2D6 (deficient oxidation); poor metabolizing vs. others	Parkinson's disease	Single race (E. Asian)
46	Agerholm-Larsen	ACE (insertion/deletion); DD vs. DI + II	MI	Single race (European)
47	Agerholm-Larsen	ACE (insertion/deletion); DD vs. DI + II	IHD	Single race (European)
48	Agerholm-Larsen	ACE (insertion/deletion); DD vs. DI + II	ICVD	Single race (European)
49	Arranz	HTR2A (102T/C); CC vs. CT+TT	Poor clozapine response	Single race (European)
50	Arranz	HTR2A (H452Y);YY vs. HY+HH	Poor clozapine response	Single race (European)
51	Boekholdt	SERPINE1/PAI-1 promoter (4G/5G); 4G/4G vs. 5G/5G	MI	Single race (European)
52	Boekholdt	FGB/FGB promoter (455G/A); AA vs. GG	MI	Single race (European)
53	Carter	IL1RN (86-BP DUP); carriers of ε2 vs. others	Ulcerative colitis	Single race (European)
54	Combarros	IL1A (-889); 22 vs. 21 + 11	Early-onset Altzheimer's	Single race (European)
55	Combarros	IL1A (-889); 22 vs. 21 + 11	Late-onset Altzheimer's	Single race (European)
56	Efstathiadou	ITGB3 (L33P); A2A2 vs. A1A2 + A1A1	Fractures	Single race (European)
57	Furlong	MAOA (Fnu4HI); allele 1 vs. 2	Bipolar disorder	Single race (European)
58	Furlong	TH (tetranucleotide repeat); allele 1 vs. others	Bipolar disorder	Single race (European)
59	Furlong	TH (tetranucleotide repeat); allele 1 vs. others	Unipolar disorder	Single race (European)
60	Gomez-Lira	CD45 (exon 4 C77G); CG vs. GG	MS	Single race (European)
61	Hani	KCNJ11/KIR6.2-BIR (E23K); KK vs. EK+EE	NIDDM	Single race (European)
62	Hinney	HTR2A (1438G/A); allele A vs. G	Bulimia	Single race (European)
63	Hinney	HTR2A (1438G/A); allele A vs. G	Anorexia nervosa	Single race (European)
64	Jonsson	DRD3 (Ser9Gly); SerSer vs. SerGly + GlyGly	Response to anti-psychotics	Single race (European)
65	Joost	CYP2D6 (1934G-A); allele 4 vs. others	Parkinson's disease	Single race (European)
67	Krontiris	HRAS/HRAS1 (rare alleles); rare vs. common alleles	Cancer	Single race (European)
68	Nielsen	KCNJ11/KIR6.2-BIR (E23K); KK vs. EK+EE	NIDDM	Single race (European)
69	Noble	DRD2 (TaqIA); allele A1 vs. A2	Alcoholism	Single race (European)
70	Russ	MAPT (extended haplotypes); H1H1 vs. H1H2 + H2H2	Altzheimer's disease	Single race (European)
71	Teutsch	CTLA4 (exon 1); carriers vs. others	progressive vs. relapsing MS	Single race (European)
72	Teutsch	CTLA4 (exon 1); carriers vs. others	MS	Single race (European)

73	Verpillat	APOE (epsilon 3); allele 3 vs. other	Dementia	Single race (European)
74	Wittrup	LPL (D9N); ND vs. DD	IHD	Single race (European)
75	Wittrup	LPL (N291S); SN vs. NN	IHD	Single race (European)
76	Wittrup	LPL (S447X); XS vs. SS	IHD	Single race (European)
77	Wong	CYP2E/CYP2E1 (RsaI); allele c2 vs. others	Alcoholic liver disease	Single race (European)
78	Wu	F5 (1691G/A); AA + AG vs. GG	Ischemic stroke	Single race (European)
79	Wu	GPIIIA	Ischemic stroke	Single race (European)
80	Wu	F2 (20210G/A); AA + AG vs. GG	Ischemic stroke	Single race (European)
81	Boekholdt	F2 (20210G/A); AA + AG vs. GG	MI	Updated by Burzotta
82	Kim	F2 (20210G/A); AA + AG vs. GG	MI	Updated by Burzotta
83	Preisig	MAOA (CA); allele 122 vs. other	Bipolar disorder	Updated by Furlong
84	Gloyn	KCNJ11/KIR6.2-BIR (E23K); KK vs. EK+EE	NIDDM	Updated by Hani
85	Glatt	DRD4 (-521C>T); C vs. T allele	Schizophrenia	Updated by Jonsson
86	Lung	DRD4 (-521C>T); C vs. T allele	Schizophrenia	Updated by Jonsson
87	Boekholdt	F5 (1691G/A); AA + AG vs. GG	MI	Updated by Kim
88	Brattstrom	MTHFR (677C/T) - TT vs. CC	Vascular disease	Updated by Kim
89	Doix	F5 (1691G/A); AA + AG vs. GG	MI	Updated by Kim
90	Wu	MTHFR (677C/T); TT vs. CT + CC	Ischemic stroke	Updated by Kim
91	Kaklamani	TRAP1 [del(GGC)3: allele 6]; 66 + 69 vs. 99	Cancer	Updated by Pasche
92	Kato	AGT (M235T); allele T235 vs. M235	Essential HTN	Updated by Sethi

For abbreviations, see **Table 1** in main text.