

Table S1. Details of genes and SNPs studied in 13 included articles.

Gene	Chr	dnSNP ID	Gene locus	SNP details	Genotyping method	Minor allele	Frequency	References
<i>ABCB1</i>	7q21.12	rs1045642	Exon 26	3435 A>G (Ile1145Ile)	MassArray	G	48	[20]
<i>ABCB1</i>	7q21.12	rs17064	3'UTR	89 T>A	MassArray	A	6	[20]
<i>ABCB1</i>	7q21.12	rs3842	3'UTR	202 T>C	MassArray	C	2	[20]
<i>ABCB1</i>	7q21.12	rs9282564	Exon 2	61 T>C (Asn21Asp)	MassArray	C	6	[20]
<i>ABCC1</i>	16p13.11	rs212090	3'UTR	543 T>A	MassArray	A	20	[24]
<i>ABCC1</i>	16p13.11	rs2230671	Exon 28	4002 G>A (Ser1334Ser)	MassArray	A	24	[20]
<i>ABCC1</i>	16p13.11	rs8187858	Exon 13	1704 C>T (Tyr568Tyr)	MassArray	T	8	[20]
<i>ABCC2</i>	10q24.2	rs17222723	Exon 25	3563 T>A (Val1188Glu)	MassArray	A	5	[20]
<i>ABCC2</i>	10q24.2	rs1885301	5'UTR	-1549 A>G	MassArray	G	15	[24]
<i>ABCC2</i>	10q24.2	rs2273697	Exon 10	1249 G>A (Val417Ile)	MassArray	A	17	[20]
<i>ABCC2</i>	10q24.2	rs3740066	Exon 28	3972 C>T (Ile1324Ile)	MassArray	T	15	[24]
<i>ABCC2</i>	10q24.2	rs8187710	Exon 32	4544G>A (Cys1515Tyr)	MassArray	A	5	[20]
<i>ABCC4</i>	13q32.1	rs868853	Promoter	-1508 T>C	MassArray	C	1	[20]
<i>ABCG2</i>	4q22.1	rs2231142	Exon 5	421 G>T (Glu141Lys)	MassArray	T	15	[20]
<i>AHCY</i>	20q11.22	rs819146	5'UTR	-124 T>G	MassArray	G	15	[20]
<i>ALAD</i>	9q32	rs1800435	Exon 4	177 C>G (Lys59Asn)	TaqMan	G	1 and 3	[5,18]
<i>ATP7B</i>	13q14.3	rs1061472	Exon 10	2495 C>T (Lys832Arg)	MassArray	T	27 and 48	[20,24]
<i>ATP7B</i>	13q14.3	rs1801243	Exon 2	1216 A>C (Ser406Ala)	MassArray	C	27 and 48	[20,24]
<i>ATP7B</i>	13q14.3	rs732774	Exon 12	2855 T>C (Arg952Lys)	MassArray	C	47	[20]
<i>BCL11A</i> ^a	2p16.1	rs4671393	Intron 2	G>A	MassArray	A	2	[20]
<i>BDNF</i> ^a	11p14.1	rs6265	Exon 11	196 C>T (Val66Met)	MassArray	T	29	[20]
<i>CAT</i> ^a	11p13	rs7943316	Promoter	-21 A>T	MassArray	T	10 and 43	[24,20]
<i>CBS</i>	21q22.3	rs1051319	3'UTR	123 C>G	MassArray	G	7	[20]
<i>CBS</i>	21q22.3	rs2850146	Promoter	-8283 C>G	MassArray	G	8	[20]
<i>CPOX</i>	3q11.2	rs1131857	Exon 4	814 T>G (Asn272His)	MassArray	G	18	[20]
<i>CYP2D6</i>	22q13.2	rs1080985	Promoter	-1584 G>C	MassArray	C	27	[24]
<i>CYP3A4</i>	7q22.1	rs2740574	Promoter	-392T>C	TaqMan and Microarray ^b	C	1-54 (range) ^f	[22]
<i>CYP3A5</i>	7q22.1	rs776746	Exon 14	6986 C>T (Splice Defect)	TaqMan and Microarray ^b	T	6-55 (range) ^f	[22]
<i>CYP3A7</i>	7q22.1	rs2257401	Exon 11	26041 G>C (Thr409Arg)	TaqMan	C	46-92 (range) ^f	[22]
<i>DNMT1</i>	19p13.2	rs2228613	Exon	1632 G>T (Ile544Ile)	MassArray	T	6	[20]
<i>FADS2</i>	11q12.2	rs174602	Intron	T>C (Asp6Asp)	MassArray	C	18	[24]
<i>FADS2</i>	11q12.2	rs74771917	Intron	C>T	MassArray	T	27	[24]
<i>FADS3</i>	11q12.2	rs7115739	Intron	1287-380 G>T	MassArray	T	27	[24]
<i>GCLC</i>	6p12.1	rs17883901	Promoter	-129G>A	TaqMan and MassArray ^c	A	8 ^g	[18,23,20]

<i>GCLM</i>	6p12.1	rs41303970	Promoter	-588 G>A	TaqMan	A	12 and 30	[15,23]
<i>GGTLC1</i>	20p11.21	rs395485	Exon 8	C>T	MassArray	T	32	[20]
<i>GLRX2</i> ^a	1q31.2	rs912071	5'UTR	T>C	MassArray	C	37	[20]
<i>GPX1</i>	3p21.3	rs1050450	Exon 2	559G>A (Pro198Leu)	TaqMan	A	3 and 25	[23,19]
<i>GPX1</i>	3p21.3	rs1800668	5'UTR	+2G>A	TaqMan	A	-	[18]
<i>GPX4</i>	19p13.3	rs713041	3'UTR	718 C>T	MassArray	T	11	[24]
<i>GPX6</i>	6p22.1	rs6413428	Exon 5	710 A>G	MassArray	G	18	[20]
<i>GPX7</i>	1p32.3	rs1970951	Exon 2	237 C>T (Phe79Phe)	MassArray	T	17	[20]
<i>GSS</i>	20q11.22	rs3761144	5'UTR	-4420G>C	MassArray	C	42	[20]
<i>GSS</i>	20q11.22	rs725521	3'UTR	559C>T	MassArray	T	42	[20]
<i>GSTA2</i>	6p12.2	rs2180314	Exon 5	63G>C (Ser112Thr)	MassArray	C	4	[20]
<i>GSTA4</i>	6p12.2	rs367836	3'UTR	+137 T>G	MassArray	G	34	[20]
<i>GSTA4</i>	6p12.2	rs405729	3'UTR	668 C>T	MassArray	T	35 and 39	[24,20]
<i>GSTM1</i>	1p13.3	rs1065411	Exon 7	2697 G>C (Lys173Asn)	MassArray	C	17	[20]
<i>GSTM3</i>	1p13.3	rs1332018	Promoter	-63 T>G	MassArray	G	34	[20]
<i>GSTM3</i>	1p13.3	rs7483	Exon 7	C>T (Val224Ile)	MassArray	T	43	[20]
<i>GSTO1</i>	10q25.1	rs4925	Exon 4	419 C>A (Ala140Asp)	MassArray	A	27	[20]
<i>GSTO2</i>	10q25.1	rs156697	Exon 5	424 A>G (Asn142Asp)	MassArray	G	36	[20]
<i>GSTP1</i>	11p13.2	rs1138272	Exon 6	341 C > T (Ala114Val)	MassArray	T	6	[20]
<i>GSTP1</i>	11p13.2	rs1695	Exon 5	313 A>G (Ile105Val)	TaqMan and MassArray ^c	G	18-47 (range) ^h	[15,18,23,20,25]
<i>HBS1L</i>	6q23.3	rs4895441	Intergenic	A>G	MassArray	G	26	[20]
<i>HMOX1</i> ^a	22q12.3	rs2071747	Exon 1	19 G>C (Asp7His)	MassArray	C	5	[20]
<i>MDR1</i>	38.p14	rs2032582	Exon 1	2677 C>A (Ala893Ser/Thr)	TaqMan	A	47	[18]
<i>MT1A</i>	16q13	rs11076161	Intron 1	G>A	MassArray	A	32	[20]
<i>MT1A</i>	16q13	rs8052394	Exon	152 A>G (Lys51Arg)	PCR-RFLP	G	22	[26]
<i>MT1B</i>	16q13	rs7191779	Exon	-1975 C>G	MassArray	G	48	[20]
<i>MT1B</i>	16q13	rs8052334	Promoter	95-68 T>C	MassArray	C	48	[20]
<i>MT1B</i>	16q13	rs964372	Intron 1	G>C	MassArray	C	18	[20]
<i>MT1E</i>	38.p14	rs7403881	5'UTR	G>C	MassArray	C	46	[20]
<i>MT1M</i>	16q13	rs2270836	Intron 2	95-49 C>T	TaqMan and MassArray ^c	T	22 and 35	[23,20]
<i>MT1M</i>	16q13	rs2270837	3'UTR	A>G	TaqMan	G	17-18 ⁱ (range) / 24 ⁱ	[16]
<i>MT1M</i>	16q13	rs9936741	Intron 2	31 T>C	TaqMan	C	13	[23]
<i>MT2A</i>	16q13	rs10636	3'UTR	+838 G>C	TaqMan and MassArray ^c	C	23-25 ⁱ / 23-25 ⁱ (range) ^k	[23,20,16]
<i>MT3</i>	16q13	rs11644094	Intron	A>G	MassArray	G	32	[20]
<i>MT4</i>	16q13	rs11643815	3'UTR	G>A Gly48Asp	TaqMan and MassArray ^c	A	0.6 and 9	[23,20]
<i>MTF1</i>	1p34.3	rs12751325	Intron	T>C	MassArray	C	28	[20]

<i>MTF1</i>	1p34.3	rs473279	Exon	C>T	MassArray	T	13	[24]
<i>MTF1</i>	1p34.3	rs9660548	5'UTR	8298155 T>A	MassArray	A	42	[24]
<i>MTHFR</i>	1p36.22	rs1801133	Exon 11	677 G>A (Ala222Val)	MassArray	A	14	[24]
<i>MTHFR</i>	1p36.22	rs2274976	Exon 11	1793 C>T (Arg594Gln)	MassArray	T	9 and 49	[20,24]
<i>MTR</i>	1q43	rs1805087	Exon 26	2756 A>G (Asp919Gly)	MassArray	G	15	[20]
<i>MTRR</i>	1p36.22	rs1801131	Exon 4	1298 T>G (Gln429Ala)	MassArray	G	46	[24]
<i>MTRR</i>	5p15.31	rs1801394	Exon 7	66 G>A (Ile22Met)	MassArray	A	27 and 47	[24,20]
<i>MTRR</i>	5p15.31	rs3776467	Intron	7068 A>G	MassArray	G	37	[20]
<i>NOS1^a</i>	12q24.22	rs2682826	Exon 2	151745 G>A	MassArray	A	27	[20]
<i>PON1</i>	7q21.3	rs662	3'UTR	192 T>C (Gln192Arg)	Spectrophotometer ^d and MassArray or TaqMan ^e	C	37 and 56	[21,17]
<i>PON1</i>	7q21.3	rs705379	Exon 6	-108 G>A	MassArray or TaqMan ^e	A	37	[17]
<i>PON1</i>	7q21.3	rs705381	Promoter	-162 C>T	MassArray or TaqMan ^e	T	12	[17]
<i>PON1</i>	7q21.3	rs854560	Promoter	163 T>A (Leu54Met)	MassArray or TaqMan ^e	A	18	[17]
<i>PON1</i>	7q21.3	rs854571	Promoter	-832 C>T	MassArray or TaqMan ^e	T	41	[17]
<i>PON1</i>	7q21.3	rs854572	Exon 3	-909 C>G	MassArray or TaqMan ^e	G	39	[17]
<i>PRDX2^a</i>	19p13.13	rs10427027	3'UTR	T>C	MassArray	C	11	[20]
<i>PRDX2^a</i>	19p13.13	rs12151144	Intron	A>C	MassArray	C	11	[20]
<i>PRDX6^a</i>	1q25.1	rs33942654	Promoter	G>A	MassArray	A	23	[20]
<i>SCL22A8</i>	11q12.3	rs4149182	Intron	437+79C>G	MassArray	G	23	[20]
<i>SELS</i>	15q26.3	rs7178239	5'UTR	C>G	MassArray	G	22	[20]
<i>SEPHS2</i>	16p11.2	rs1133238	3'UTR	G>A	MassArray	A	8	[20]
<i>SEPN1</i>	1p36.11	rs2294228	Exon 4	1506A>C (Asn502Lys)	MassArray	C	17	[20]
<i>SEPN1</i>	1p36.11	rs7349185	3'UTR	425A>G (Tyr142Cys)	MassArray	G	15	[20]
<i>SEPP1</i>	1p36.11	rs3877899	Exon 5	700 C>T (Ala234Ser)	MassArray	T	18	[20]
<i>SEPP1</i>	5p12	rs7579	Exon	25191 C>T	MassArray	T	28	[20]
<i>SLC11A1</i>	2q25	rs1059823	3'UTR	577 A>G	MassArray	G	38	[20]
<i>SLC11A1</i>	2q25	rs3731865	Intron 4	469+14G>C	MassArray	C	22	[20]
<i>SLC22A6</i>	11q12.3	rs4149170	3'UTR	453 C>T	MassArray	T	11	[20]
<i>SLC22A8</i>	11q12.3	rs4149182	Intron	C>G	MassArray	G	23	[20]
<i>SLC3A2</i>	11q12.3	rs2269353	5'UTR	G>A	MassArray	A	8	[20]
<i>SLC43A2</i>	17p13.3	rs4790732	5'UTR	G>C	MassArray	C	34 and 49	[20,24]
<i>SLC7A2</i>	8p22	rs62622371	Exon	G>A	MassArray	A	7	[20]
<i>SLC7A5</i>	16q24.2	rs33916661	5'UTR	A>G	MassArray	G	2	[20]
<i>SLC7A7</i>	14q11.2	rs2281677	Intron	-86 G>A	MassArray	A	37	[20]
<i>SLC7A8</i>	14q11.2	rs8011016	Intron	T>C	MassArray	C	14	[20]
<i>SLCO1B1</i>	12p12.1	rs2306283	Intron	388 A>G (Asn130Asp)	MassArray	G	34	[24]

<i>TET1</i>	10q21.3	rs10823229	Exon	A>G (Asp162Gly)	MassArray	G	39	[20]
<i>TET1</i>	10q21.3	rs3998860	Exon	3369 G>A (Ile1123Met)	MassArray	A	16	[20]
<i>TET2</i>	4q24	rs34402524	Exon 11	5162T>G (Leu1721Trp)	MassArray	G	11	[20]
<i>TXNRD2</i> ^a	22q11.21	rs5748469	Exon 4	196 C>A (Ala66Ser)	MassArray	A	49	[20]
<i>TXNRD2</i> ^a	22q11.21	rs5992495	Exon	865 T>G (Ser299Arg)	MassArray	G	16	[20]
<i>TXNRD3</i> ^a	3q21.3	rs3108755	Exon 3	G>A	MassArray	A	5	[20]
<i>VDR</i> ^a	12q13.11	rs1544410	5'UTR	63980 C>T (BsmI)	TaqMan	T	32	[18]

(-) no information; Chr = Chromosome; UTR = untranslated region; MassArray = Sequenom iPLEX Gold platform; TaqMan = Real-Time PCR; ^aGenes in toxicodynamic pathway of mercury; ^bGenotyping of rs776746 and rs2740574 in INMA cohort was performed by Microarray technology (Illumine Human Omni1-Quad BeadChip platform); ^cParajuli et al., [20] 2016 used MassArray technology; ^dLopes et al., [21] 2017 used EnSpire spectrophotometer microplate reader platform; ^eThe authors did not discriminate which technology was used for each SNP. ^fFive cohorts were studied in this study: NC1-Seychelles (54.1, 54.5 and 44.8%), NC2-Seychelles (54.0, 55.1 and 46.5%), INMA-Spain (3.5, 7.8 and 90.5%), PHIME-Italy (3.2, 5.7 and 92.2%) and PHIME-Greece (1.4, 5.9 and 87.6%). ^gBarcelos et al., 2015 combined the heterozygous and variant homozygous genotypes for some SNPs, making it not possible to extract the variant allele frequency. ^hBarcelos et al., 2013 [15] and 2015 (43%) [18], Chan et al., [23] (18%), Parajuli 2016 [20] (et al., (33%), and Rahbar et al., [25] (47%). ⁱRange of boys at Entry (Baseline) and in Year 2 and Year 7 of study. ^jRange of girls at Entry (Baseline) and in Year 2 and Year 7 of study; ^kChan et al., and Parajuli et al., 2016 presented 22% and 25% of the variant allele, respectively.