Supplemental Material

Polymorphisms in Genes Encoding Potential Mercury Transporters and Urine Mercury Concentrations in Populations Exposed to Mercury Vapor from Gold Mining

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Supplemental Material Table S1. Pearson correlations (*r*) between urinary mercury [a] and potentially influential variables in the different study populations.

Country/ Continent	Correlation/ p-value	Exposure group	Hg storage	Age	Gender [b]
Indonesia	*r*	*0.46*	*0.33*	*0.093*	*0.22*
	p	<0.001	<0.001	0.090	<0.001
Philippines	*r*	*0.51*	*0.53*	*-0.12*	*0.26*
	p	<0.001	<0.001	0.055	<0.001
Tanzania	*r*	*0.61*	*0.52*	*-0.077*	*0.37*
	p	<0.001	<0.001	0.25	<0.001
Zimbabwe	*r*	*0.85*	*0.72*	*-0.015*	*0.33*
	p	<0.001	<0.001	0.82	<0.001
Asia	*r*	*0.50*	*0.42*	*-0.001*	*0.22*
	p	<0.001	<0.001	0.99	<0.001
Africa	*r*	*0.67*	*0.63*	*-0.13*	*0.31*
	p	<0.001	<0.001	0.008	<0.001

[a]Creatinine-adjusted, natural log- (ln-) transformed.

[b] Female=0, male=1.

Supplemental Material Table S2. Unadjusted geometric mean concentrations of urinary mercury (μg/g creatinine) and numbers of observations according to *MRP2* genotype by exposure subgroup[a], country and continent.

Country/ Continent	Indonesia			Philippines			Tanzania			Zimbabwe			Asia	Africa
Exposure subgroup	Low	High	All	Low	High	All	Low	High	All	Low	High	All	All	All
Genotype														
Rs1885301														
AA	4.9 (5)	7.1 (15)	6.4 (20)	0.94 (7)	16.5 (7)	3.9 (16)	0.47 (7)	2.2 (19)	0.92 (32)	[b]	43.0 (18)	16.5 (22)	5.1 (36)	3.0 (55)
GA	3.4 (47)	7.3 (65)	4.9 (115)	1.8 (34)	9.8 (29)	3.4 (78)	0.42 (27)	2.1 (63)	1.1 (101)	5.6 (17)	34.8 (65)	7.8 (103)	4.2 (194)	2.9 (206)
GG	2.2 (54)	6.2 (119)	3.6 (190)	1.2 (71)	8.4 (55)	2.6 (148)	0.37 (16)	1.8 (54)	0.89 (85)	4.6 (7)	21.9 (63)	6.1 (90)	3.1 (339)	2.4 (177)
AA+AG	3.5 (52)	7.2 (80)	5.1 (135)	1.6 (41)	10.8 (36)	3.4 (94)	0.37 (34)	2.2 (82)	1.0 (133)	5.6 (17)	36.4 (83)	8.9 (125)	4.4 (230)	2.9 (261)
GG	2.2 (54)	6.2 (119)	3.6 (190)	1.2 (71)	8.4 (55)	2.6 (148)	0.43 (16)	1.8 (54)	0.89 (85)	4.6 (7)	21.9 (63)	6.1 (90)	3.1 (339)	2.4 (177)
Rs717620														
AA	4.5(8)	2.5 (12)	2.9 (21)	[b]	16.2 (5)	5.8(9)	(0)	(1)[c]	[b]	(0)	(0)	(0)	3.6 (30)	[b]
GA	3.1(42)	8.8 (54)	5.6 (89)	1.9 (23)	9.5 (22)	4.3 (49)	(0)	(2)[c]	2.0 (5)	(0)	83 (5)	24.9 (6)	5.1 (138)	4.8 (11)
GG	2.4(61)	6.5 (135)	3.8 (213)	1.1 (76)	9.7 (51)	2.5 (158)	(53)[c]	(131)[c]	2.0 (214)	(24)[c]	28 (136)	7.0 (204)	3.2 (373)	2.6 (418)
AA+GA	3.3(42)	7.0 (66)	5.0 (110)	1.9 (23)	10.5 (27)	4.5 (58)	(0)	(3)[c]	2.0 (5)	(0)	83 (5)	24.9 (6)	4.8 (168)	4.8 (11)
GG	2.4 (61)	6.5 (135)	3.8 (213)	1.1 (76)	9.7 (51)	2.5 (158)	(53)[c]	(131)[c]	2.0(214)	(24)[c]	28 (136)	7.0 (204)	3.2 (373)	2.6 (418)
Rs2273697														
AA+GA[d]	(2)[c]	11.2 (17)	9.2 (19)	1.3 (19)	8.3 (22)	3.2 (46)	0.50 (24)	1.6 (46)	0.85 (80)	5.4 (7)	16.7 (46)	7.3 (63)	3.5 (65)	2.2 (143)
GG	2.8(102)[c]	6.3 (184)	4.0 (306)	1.3 (82)	10.7 (56)	2.8 (172)	0.36 (27)	2.4 (85)	1.0 (134)	5.3 (17)	37.4 (95)	7.3 (147)	4.4 (478)	2.9 (281)

[Table S2 continued]

[a]Control subgroups are not shown separately, but are included in the "All" group.

[b]Denotes that the genotype is pooled with heterozygotes, due to a low number of individuals (3 or less).

[c]Data is not shown, due to a low number of individuals (3 or less) for all genotypes but one.

[d]Rs2273697 AA+AG genotypes were pooled in all populations due to a low number of individuals with AA genotype.

Supplemental Material Table S3.Unadjusted geometric mean concentrations of urinary mercury (µg/g creatinine)[a] according to *LAT1* rs33916661, *OAT1* 4149170 and *OAT3* 4149182 genotypes by exposure subgroup[b], country and continent.

Country/ Continent	Indonesia			Philippines			Tanzania			Zimbabwe			Asia	Africa
Exposure subgroup	Low	High	All	Low	High	All	Low	High	All	Low	High	All	All	All
Genotype														
LAT1 **Rs33916661**														
GG	3.4 (6)	8.1 (10)	5.8 (16)	(0)	11.2 (4)	11.2 (4)	0.45 (5)	3.3 (18)	1.8 (26)	[c]	35.1 (25)	17.4 (31)	6.6 (20)	6.2 (57)
GA	2.5 (40)	5.3 (61)	3.6 (106)	1.3 (33)	10.2 (30)	3.2 (177)	0.35 (19)	1.6 (59)	0.81 (93)	4.7 (10)	34.5 (62)	8.9 (87)	3.4 (183)	2.6 (181)
AA	2.9 (60)	7.1 (125)	4.4 (199)	1.4 (80)	9.3 (53)	2.7 (158)	0.45 (28)	2.0 (58)	0.92(100)	6.3 (13)	23.9 (58)	5.5 (94)	3.6 (359)	2.2 (198)
OAT1 **Rs4149170**														
AA	1.3 (7)	6.5 (9)	2.6 (18)	[c]	[c]	2.6 (4)	0.3 (16)	1.2 (25)	0.59 (47)	1.8 (4)	26.5 (37)	6.7 (51)	2.6 (22)	2.1 (98)
GA	2.4 (35)	6.1 (57)	4.1 (93)	1.1 (18)	9.0 (25)	3.5 (49)	0.3 (24)	2.6 (64)	1.1 (102)	7.4 (14)	33.0 (65)	8.4 (100)	3.9 (142)	3.0 (207)
GG	3.3 (64)	6.7 (135)	4.3 (215)	1.4 (92)	9.7 (65)	2.9 (186)	0.7 (12)	1.8 (48)	1.1 (72)	5.1 (6)	28.0 (44)	7.5 (64)	3.6 (203)	2.7 (136)
OAT3 **Rs4149182**														
CC	2.4 (8)	12.8 (10)	5.0 (19)	1.7 (6)	9.5 (4)	3.0 (11)	0.33 (17)	1.2 (25)	0.58 (48)	1.8 (4)	25.9 (39)	7.0 (53)	4.2 (30)	2.1 (101)
CG	3.5 (42)	5.6 (64)	3.7 (116)	1.0 (30)	6.8 (35)	2.7 (81)	0.34 (23)	2.5 (66)	1.1 (105)	6.9 (14)	32.0 (64)	8.1 (99)	3.2 (198)	2.9 (209)
GG	2.4 (56)	6.9 (125)	4.4 (190)	1.4 (76)	11.4 (52)	3.1 (150)	0.91 (11)	1.9 (46)	1.2 (67)	6.2 (6)	28.4 (43)	7.5 (63)	3.7 (341)	2.9 (230)

[a]Numbers of individuals is within brackets.

[b]Control subgroups are not shown separately, but are included in the "All" group.

[c]Denotes that the genotype is pooled with the heterozygotes due to a low number of individuals (3 or less).