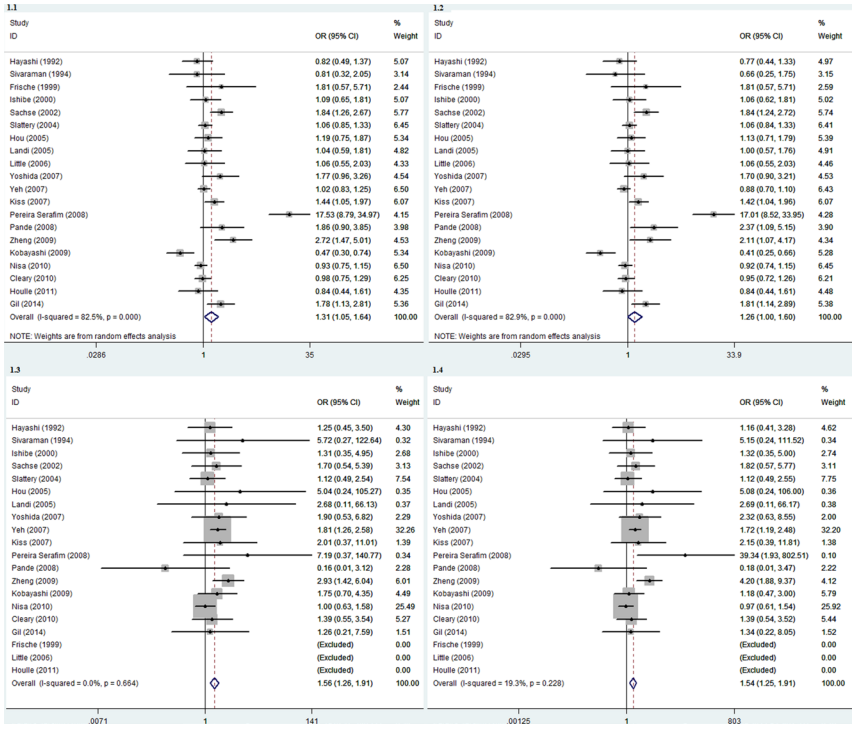
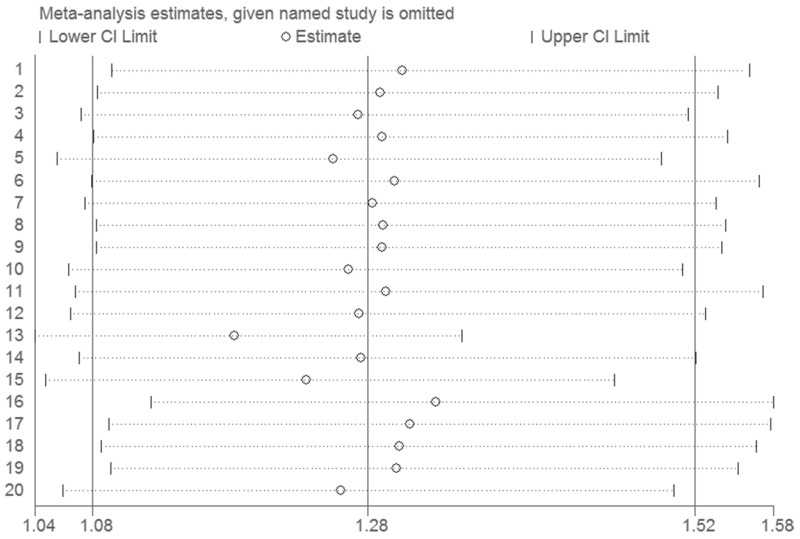
Associations between *CYP1A1* rs1048943 A>G and rs4646903 T>C genetic variations and colorectal cancer risk: Proof from 26 case-control studies

Supplementary Materials



Supplementary Figure S1: Forest plots of colorectal cancer risk associated with *CYP1A1* rs1048943 A > G polymorphism. All models showed statistical significance between *CYP1A1* rs1048943 A > G and colorectal cancer risk and the specific values were as follows. **1.1** Dominant model (GG/GA vs. AA), OR = 1.31, 95% CI = 1.05–1.64; **1.2** Heterozygote model (GA vs. AA), OR = 1.26, 95% CI = 1.00–1.60; **1.3** Recessive model (GG vs. GA/AA), OR = 1.56, 95% CI = 1.26–1.91; **1.4** Homozygote model (GG vs. AA), OR = 1.54, 95% CI = 1.25–1.91.



Supplementary Figure S2: The leave-one-out sensitivity analysis of colorectal cancer risk associated with CYP1A1 rs1048943 A > G polymorphism (G vs. A).

Supplementary Table S1: Scale for quality assessment criterion

Criterion	Score
Source of cases Selected from population or cancer registry Selected from hospital Selected from pathology archives, but without description Not described	3 2 1 0
Source of controls Population –based Blood donors or volunteers Hospital-based (cancer free patients) Not described	3 2 1 0
Specimens used for determining genotypes White blood cells or normal tissues Tumor tissues or exfoliated cells of tissue	3 0
Hardy-Weinberg equilibrium in controls Hardy- Weinberg equilibrium Hardy- Weinberg disequilibrium	3 0
Total sample size > 1000 > 500 and ≤ 1000 > 200 and ≤ 500 ≤ 200	3 2 1 0

Supplementary Table S2: The process of scoring on included studies

Study	Polymorphism type	Source of cases (score)	Source of Controls (score)	Specimens used for determining genotype (score)	HWE in control (score)	Total sample size (score)	score
Hayashi,1992	rs1048943	2	3	3	3	1	12
Sivaraman,1994	rs1048943	2	3	3	3	0	11
	rs4646903	2	3	3	3	0	11
Frische,1999	rs1048943	3	3	3	3	1	13
	rs4646903	3	3	3	3	1	13
Ishibe,2000	rs1048943	3	3	3	3	1	13
	rs4646903	3	3	3	3	1	13
Sachse,2002	rs1048943	2	3	3	0	3	11
	rs4646903	2	3	3	3	3	14
Ye,2002	rs4646903	2	3	3	3	0	11
Slattery,2004	rs1048943	3	3	3	0	3	12
	rs4646903	3	3	3	3	3	15
Hou,2005	rs1048943	2	1	3	3	3	12
Landi,2005	rs1048943	2	1	3	3	2	11
	rs4646903	2	1	3	3	2	11
Chen,2005	rs4646903	3	3	3	3	1	13
Little,2006	rs1048943	3	3	3	3	2	14
	rs4646903	3	3	3	3	2	14
Bente,2006	rs4646903	2	1	3	3	3	10
Youshida,2007	rs1048943	2	3	3	3	0	11
	rs4646903	2	3	3	3	0	11
Yeh,2007	rs1048943	2	1	3	3	3	12
Kiss,2007	rs1048943	2	1	3	3	3	12
Pereira, 2008	rs1048943	2	3	3	3	1	12
Pande,2008	rs1048943	3	3	3	0	1	10
	rs4646903	3	3	3	3	1	13
Zheng,2009	rs1048943	2	3	3	0	0	8
	rs4646903	2	3	3	3	0	11
Liu,2009	rs4646903	2	1	3	0	0	6
Kobayashi,2009	rs1048943	2	1	3	0	1	7
Nisa,2010	rs1048943	2	3	3	3	3	14
	rs4646903	2	3	3	3	3	14
Cleary,2010	rs1048943	2	3	3	0	3	11
	rs4646903	2	3	3	3	3	14
Houlle,2011	rs1048943	2	1	3	3	2	11
	rs4646903	2	1	3	3	2	11
Darazy,2011	rs4646903	2	3	0	0	0	5
Saeed,2013	rs4646903	3	1	3	3	0	10
Gil,2014	rs1048943	2	1	3	3	2	11

HWE, Hardy-Weinberg equilibrium.

Supplementary Table 3: The genotype distribution of included studies

Supplementary Table 3.1: The genotype distribution of rs1048943 A > G polymorphism of included studies

Study	case				Control			
	Case sample	AA (*n*/%)	GA (*n*/%)	GG (*n*/%)	Control sample	AA (*n*/%)	GA (*n*/%)	GG (*n*/%)
Hayashi,1992	85	59 (69.41)	21 (24.71)	5 (5.88)	358	233 (65.08)	108 (30.17)	17 (4.75)
Sivaraman,1994	43	32 (74.42)	9 (20.93)	2 (4.65)	47	33 (70.21)	14 (29.79)	0 (0.00)
Frische,1999	187	174 (93.05)	13 (6.95)	0 (0.00)	101	97 (96.04)	4 (3.96)	0 (0.00)
Ishibe,2000	212	176 (83.02)	31 (14.62)	5 (2.36)	221	186 (84.16)	31 (14.03)	4 (1.81)
Sachse,2002	490	415 (84.69)	68 (13.88)	7 (1.43)	592	539 (91.05)	48 (8.11)	5 (0.84)
Slattery,2004	1791	1632 (91.12)	148 (8.26)	11 (0.61)	2180	1997 (91.61)	171 (7.84)	12 (0.55)
Hou,2005	675	633 (93.78)	40 (5.93)	2 (0.30)	679	643 (94.70)	36 (5.30)	0 (0.00)
Landi,2005	362	333 (91.99)	28 (7.73)	1 (0.28)	323	298 (92.26)	25 (7.74)	0 (0.00)
Little,2006	251	235 (93.63)	16 (6.37)	0 (0.00)	396	372 (93.94)	24 (6.06)	0 (0.00)
Youshida,2007	66	34 (51.52)	27 (40.91)	5 (7.58)	212	79 (65.29)	37 (30.58)	5 (4.13)
Yeh,2007	717	400 (55.79)	228 (31.80)	89 (12.41)	729	410 (56.24)	266 (36.49)	53 (7.27)
Kiss,2007	500	386 (77.20)	110 (22.00)	4 (0.80)	500	415 (83.00)	83 (16.60)	2 (0.40)
Pereira, 2008	114	14 (12.28)	97 (85.09)	3 (2.63)	114	81 (71.05)	33 (28.95)	0 (0.00)
()Pande,2008	120	99 (82.50)	21 (17.50)	0 (0.00)	137	123 (89.78)	11 (8.03)	3 (2.19)
Zheng,2009	79	23 (29.11)	31 (39.24)	25 (31.65)	110	58 (52.73)	37 (33.64)	15 (13.64)
Kobayashi,2009	105	65 (61.90)	32 (30.48)	8 (7.62)	289	125 (43.25)	151 (52.25)	13(4.50)
Nisa,2010	685	418 (61.02)	231 (33.72)	36 (5.26)	78	461 (59.25)	276 (35.48)	41 (5.27)
Cleary,2010	1160	1052 (90.69)	98 (8.45)	10 (0.86)	1288	1166 (90.53)	114 (8.85)	8 (0.62)
Houlle,2011	329	313 (95.14)	16 (4.86)	0 (0.00)	419	395 (94.27)	24 (5.73)	0 (0.00)
Gil,2014	476	414 (86.97)	59 (12.39)	3 (0.63)	400	369 (92.25)	29 (7.25)	2 (0.50)

Supplementary Table 3.2: The genotype distribution of rs4646903 T > C polymorphism of included studies

Study	case				Control			
	Case sample	TT (*n*/%)	CT (*n*/%)	CC (*n*/%)	Control sample	TT (*n*/%)	CT (*n*/%)	CC (*n*/%)
Sivaraman,1994	43	23 (53.49)	10 (23.26)	10 (23.26)	47	33 (70.21)	14 (29.79)	0 (0.00)
Frische,1999	187	151 (80.75)	35 (18.72)	1 (0.53)	101	90 (89.11)	11 (10.89)	0 (0.00)
Ishibe,2000	211	170 (80.57)	37 (17.54)	4 (1.90)	221	169 (76.47)	47 (21.27)	5 (2.26)
Ye,2002	41	35 (85.37)	6 (14.63)	0 (0.00)	82	73 (89.02)	9 (10.98)	0 (0.00)
Sachse,2002	490	389 (79.39)	90 (18.37)	11 (2.24)	592	476 (80.41)	111 (18.75)	5 (0.84)
Slattery,2004	1805	1380 (76.45)	387 (21.44)	38 (2.11)	2164	1639 (75.74)	479 (22.13)	46 (2.13)
Landi,2005	358	289 (80.73)	66 (18.44)	3 (0.84)	305	235 (77.05)	66 (21.64)	4 (1.31)
Chen,2005	139	65 (46.76)	60 (43.17)	14 (10.07)	340	122 (35.88)	165 (48.53)	53 (15.59)
Bente,2006	118	94 (79.66)	20 (16.95)	4 (3.39)	100	91 (91.00)	9 (9.00)	0 (0.00)
Little,2006	232	190 (81.90)	38 (16.38)	4 (1.72)	378	310 (82.01)	66 (17.46)	2 (0.53)
Youshida,2007	66	20 (30.30)	36 (54.55)	10 (15.15)	121	49 (40.50)	54 (44.63)	18 (14.88)
Pande,2008	120	83 (69.17)	37 (30.83)	0 (0.00)	137	104 (75.91)	29 (21.17)	4 (2.92)
Liu,2009	75	38 (50.67)	19 (25.33)	18 (24.00)	100	65 (62.00)	21 (21.00)	14 (14.00)
Zheng,2009	79	35 (44.30)	33 (41.77)	11 (13.92)	110	57 (51.82)	41 (37.27)	12 (10.91)
Nisa,2010	685	283 (41.31)	307 (44.28)	95 (13.87)	778	305 (39.20)	368 (47.30)	105 (13.50)
Cleary,2010	1163	904 (77.73)	247 (21.24)	12 (1.03)	1290	1004 (77.83)	260 (20.16)	26 (2.02)
Darazy,2011	46	42 (91.30)	2 (4.35)	2 (4.35)	56	54 (96.43)	1 (1.79)	1 (1.79)
Houlle,2011	329	265 (80.55)	61 (18.54)	3 (0.91)	419	333 (79.47)	79 (18.85)	7 (1.67)
Saeed,2013	94	70 (74.47)	21 (22.34)	3 (3.19)	79	73 (92.41)	6 (7.59)	0 (0.00)