

First Author Year	Country	Geographic region	Ethnicity	Case-control (yes/no)	Type of control	Matching	Adjustments	Cases						IHWL	Quality score	Age/Gbw vs Age/Avg		Gbw/Gbw vs Age/Avg		Gbw/Gbw vs Age/Avg		Gbw/Gbw vs Age/Avg		
								Arg/Arg	Arg/Gbw	Gbw/Gbw	Arg/Arg	Arg/Gbw	Gbw/Gbw											
1	Hsu et al. 2003	USA	North America	Mixed	9863/337	PB	Blood sample	Non-cancer controls	Year of birth, menopausal status, postmenopausal hormone use at blood collection, time of day of blood collection and fasting status at blood draw	IBM at age 18 years (continuous), weight gain since age 18 years (<5, 5-19, ≥20kg), age at menarche (<12, 12-13, ≥13 years), age at menopause (<50, 50-59, ≥60 years), parity (age at first birth (multiparous, 1-2 children) or first birth <24 years, 1-2 children) or first birth <24 years, 3+ children) or first birth >24 years, 1st-degree family history of breast cancer (yes/no), history of benign breast disease (yes/no), and duration of postmenopausal hormone use (never use, past use, current use <5 years/current use ≥5 years)	391	460	135	545	634	176	0.9255	22	1.07 (0.88, 1.30)	1.03 (0.77, 1.37)	-	-	-	-
2	Kang et al. 2003	Korea	Asia	Asian	205/205	BB	Blood sample	Non-cancer controls	Age, education, body mass index, age at menarche, age at first pregnancy, age at menopause, smoking, alcohol consumption, duration of breastfeeding, family history of breast cancer and menopausal status at baseline	Age, education, body mass index, age at menarche, age at first pregnancy, age at menopause, smoking, alcohol consumption, duration of breastfeeding, family history of breast cancer and menopausal status at baseline	92	79	34	90	101	14	0.0415	13	0.80 (0.51, 1.16)	2.4 (1.20, 4.72)	-	-		
3	Meunier et al. 2003	France	Europe	Caucasian	254/312	BBV	Blood sample	UK	Aust	Age, education, body mass index, age at menarche, age at first pregnancy, age at menopause, smoking, alcohol consumption, duration of breastfeeding, family history of breast cancer and menopausal status at baseline	109	113	32	127	148	39	0.7669	16	0.96 (0.66, 1.40)	1.00 (0.57, 1.76)	-	-		
4	Siu et al. 2003	China	Asia	Asian	1088/182	PB	Blood sample	Non-cancer controls	Age	Education, family history of breast cancer, menopausal status, age at menarche, age at menopause, body mass index, waist/hip ratio, and physical activity	561	442	83	610	498	74	0.0367	19	0.90 (0.76, 1.08)	1.20 (0.85, 1.69)	-	-		
5	Smith et al. 2003	USA	North America	Caucasian	114/229	BB	Peripheral lymphocytes	NR	NR	Age	56	46	10	86	119	24	0.0809	13	0.53 (0.29, 0.97)	0.80 (0.28, 2.18)	0.57 (0.32, 1.02)	1.12 (0.43, 2.89)		
6	Deligdisch et al. 2004	Turkey	Asia	Caucasian	151/333	NB	NB	Blood sample	Healthy controls	NR	NR	50	68	25	60	66	17	0.9066	7	-	-	-	-	
7	Figueroedo et al. 2004	Canada	North America	Caucasian	402/402	PB	Blood sample	NR	Age	Ethnicity (Caucasian or Caucasian and other ethnic group), age (years), and FH of breast cancer (first degree relative)	168	170	55	160	185	57	0.7646	20	0.91 (0.67, 1.23)	0.88 (0.57, 1.37)	-	0.93 (0.62, 1.41)		
8	Frost et al. 2004	Finland	Europe	Caucasian	221/298	PB	Tumor tissue	Non-cancer controls	Region	NR	100	101	20	130	125	31	0.9163	13	-	-	-	-		
9	Delfino et al. 2005	Brazil	South America	Mixed	86/119	BBV	Blood sample	Non-cancer controls	NR	NR	46	33	7	59	70	10	0.8967	11	-	-	-	-		
10	Metola et al. 2005	Finland	Europe	Caucasian	4794/78	PB	Blood sample	Healthy controls	NR	Age at menarche, age at first full term pregnancy, number of pregnancies, history of benign breast disease, first degree family history of breast cancer, sex-to-slip ratio, smoking and use of alcohol	237	196	46	256	185	37	0.6573	18	1.24 (0.93, 1.65)	1.39 (0.84, 2.20)	1.26 (0.96, 1.66)	-		
11	Patel et al. 2005	USA	North America	Mixed	452/452	PB	Blood sample	Non-cancer controls	Age	Matched pairs, body mass index, age at menopause, age at menarche, alcohol intake, education, parity, age at first live birth, physical activity, history of breast cysts, family history of breast cancer in mother or sister, use of hormone replacement therapy, and smoking status	196	195	61	194	202	56	0.7609	20	1.01 (0.73, 1.39)	1.27 (0.76, 2.02)	1.06 (0.76, 1.44)	-		
12	Shen et al. 2005	USA	North America	Mixed	1087/1110	PB	Blood sample	Non-cancer controls	Age	Age, County of birth, State, Educational level, Marital status, Number of births, Height, Weight, Age at menarche, and Oral contraceptive use and, for the combined analysis, for family history (reported first- or second-degree relatives) of breast cancer.	412	539	116	444	536	130	0.0975	21	1.08 (0.96, 1.29)	0.97 (0.73, 1.29)	1.06 (0.95, 1.26)	-		
13	BCAC 2006 ABCFS*	Australia	Oceania	Caucasian	1472/820	PB	Blood sample	Non-cancer controls	Age	IBM (categories <2.5, 2.5-25, 25-30, 30 kg/m ²). Number of mammograms until 2 years prior to interview (continuous). Years of OCS use (continuous). Parity (nulliparous, 1-2 children, 3 children). Life-time exposure to months of breastfeeding (non-, <0.5, 0.5-10, 10 years) and Age at menopause (pre-menopausal, <45, 45-50, 50-55, 55 years)	609	609	194	328	391	109	0.6559	20	-	-	0.31 (0.22, 0.39)	0.69 (0.54, 0.90)		
14	BCAC 2006 GENICA	Germany	Europe	Caucasian	605/625	PB	BB	NR	Age	IBM (categories <2.5, 2.5-25, 25-30, 30 kg/m ²). Number of mammograms until 2 years prior to interview (continuous). Years of OCS use (continuous). Parity (nulliparous, 1-2 children, 3 children). Life-time exposure to months of breastfeeding (non-, <0.5, 0.5-10														

First Author Year	Country	Geographic region	Ethnicity	Case-control (yes/no)	Type of control	Matching	Adjustments	Cases				Controls				IHWL	Quality score	Age/Gb vs Age/Arg				Glb/Gb vs Arg/Arg				Glb/Gb vs Arg/Arg				
								Arg/Arg	Arg/Gb	Gb/Gb	Chi/Gb	Arg/Arg	Arg/Gb	Gb/Gb	Chi/Gb			Age/Gb vs Age/Arg	Gb/Gb vs Arg/Arg	Glb/Gb vs Arg/Arg	Chi/Gb vs Arg/Arg	Age/Gb vs Arg/Arg	Gb/Gb vs Arg/Arg	Chi/Gb vs Arg/Arg	Age/Gb vs Arg/Arg					
1	Hsu et al. 2003	USA	North America	Mixed	986337	PH	Blood sample	Non-cancer controls	Year of birth, menopausal status, postmenopausal hormone use at blood collection, time of day of blood collection and fasting status at blood draw	IBD at age 18 years (continuous), weight gain since age 18 years (<5, 5-19, ≥20kg), age at menarche (<12, 12-13, ≥13 years), age at menopause (<50, 50-59, ≥60 years), parity (age at first birth (multiparous, 1-2 children) or first birth <24 years, 1-2 children) or first birth <24 years, 3+ children) or first birth <24 years, first-degree family history of breast cancer (yes/no), history of benign breast disease (yes/no), and duration of postmenopausal hormone use (never use, past use, current use <5 years, current use ≥5 years)	391	460	135	545	634	176	9255	22	1.07 (0.88, 1.30)	1.03 (0.77, 1.37)	–	–	–	–	–	–	–	–	–	–
2	Kang et al. 2003	Korea	Asia	Asian	205205	IB	Blood sample	Non-cancer controls	Age, education, body mass index, age at menarche, age at first pregnancy, age at menopause, smoking, alcohol consumption, duration of breast feeding, family history of breast cancer and menopausal status at baseline	Age, education, body mass index, age at menarche, age at first pregnancy, age at menopause, smoking, alcohol consumption, duration of breast feeding, family history of breast cancer and menopausal status at baseline	92	79	34	90	101	14	0.0415	13	0.80 (0.51, 1.16)	2.4 (2.0, 4.72)	–	–	–	–	–	–	–	–		
3	Mezquita et al. 2003	France	Europe	Caucasian	254312	BY	Blood sample	UK	Age	Age	109	113	32	127	148	39	0.7669	16	0.96 (0.66, 1.40)	1.00 (0.57, 1.76)	–	–	–	–	–	–	–	–		
4	Shi et al. 2003	China	Asia	Asian	1088182	PH	Blood sample	Non-cancer controls	Age	Education, family history of breast cancer, menopausal status, age at menarche, age at menopause, body mass index, waist/hip ratio, and physical activity	561	442	83	610	498	74	0.037	19	0.90 (0.76, 1.08)	1.20 (0.85, 1.69)	–	–	–	–	–	–	–	–	–	
5	Smith et al. 2003	USA	North America	Caucasian	114229	IB	Peripheral lymphocytes	NR	Age	Age	56	46	10	86	119	24	0.0809	13	0.53 (0.29, 0.97)	0.80 (0.26, 2.18)	0.57 (0.32, 1.02)	1.12 (0.43, 2.89)	–	–	–	–	–	–		
6	Deligdisch et al. 2004	Turkey	Asia	Caucasian	151133	NR	Blood sample	Healthy controls	NR	NR	50	68	25	60	66	17	0.9066	7	–	–	–	–	–	–	–	–	–	–	–	
7	Figueredo et al. 2004	Canada	North America	Caucasian	402402	PH	Blood sample	Non-cancer controls	Age	Ethnicity (Caucasian or Caucasian and other ethnic group), age (years), and FH of breast cancer (at least one first-degree relative)	168	179	55	160	185	57	0.7646	20	0.91 (0.67, 1.23)	0.88 (0.57, 1.37)	–	–	–	–	–	–	–	–	–	
8	Finis et al. 2004	Finland	Europe	Caucasian	221298	PH	Tumor tissue	Non-cancer controls	Region	NR	100	101	20	130	125	31	0.9167	13	–	–	–	–	–	–	–	–	–	–	–	
9	DeRoth et al. 2005	Brazil	South America	Mixed	86619	BY	Blood sample	Non-cancer controls	Age	NR	46	33	7	59	70	10	0.8967	11	–	–	–	–	–	–	–	–	–	–	–	
10	Meisels et al. 2005	Finland	Europe	Caucasian	479478	PH	Blood sample	Healthy controls	NR	Age at menarche, age at first full term pregnancy, number of pregnancies, history of benign breast disease, first-degree family history of breast cancer, waist-to-hip ratio, smoking and use of alcohol	237	196	46	256	185	37	0.6573	18	1.24 (0.93, 1.65)	1.39 (0.84, 2.20)	1.26 (0.96, 1.66)	–	–	–	–	–	–	–	–	
11	Patel et al. 2005	USA	North America	Mixed	452452	PH	Blood sample	Non-cancer controls	Age	Matched pairs, body mass index, age at menopause, age at menarche, alcohol intake, education, parity, age at first live birth, physical activity, history of breast cysts, family history of breast cancer in mother or sister, use of hormone replacement therapy, and smoking status	196	195	61	194	202	56	0.7609	20	1.01 (0.73, 1.39)	1.27 (0.76, 2.02)	1.06 (0.76, 1.44)	–	–	–	–	–	–	–	–	
12	Shen et al. 2005	USA	North America	Mixed	1087110	PH	Blood sample	Non-cancer controls	Age	Age, County of birth, State, Educational level, Marital status, Number of live births, Height, Weight, Age at menarche, and Oral contraceptive use and, for the combined analysis, for family history (reported first- or second-degree relatives) of breast cancer	412	538	116	444	536	130	0.0975	21	1.08 (0.98, 1.29)	0.97 (0.73, 1.29)	1.06 (0.95, 1.26)	–	–	–	–	–	–	–	–	
13	BCAC 2006 ABCF's	Australia	Oceania	Caucasian	1473280	PH	Blood sample	Non-cancer controls	Age	Age, County of birth, State, Educational level, Marital status, Number of live births, Height, Weight, Age at menarche, and Oral contraceptive use and, for the combined analysis, for family history (reported first- or second-degree relatives) of breast cancer	609	609	194	328	391	109	0.6559	20	–	–	–	–	–	–	–	–	–	–	–	
14	BCAC 2006 GENICA	Germany	Europe	Caucasian	605425	PH	IB	NR	Age	IBD (categories <2.5, 2.5-25, 25-30, 30 kg/m2), Number of mammograms until 2 years prior to interview (continuous), Years of OC use (continuous), Parity (multiparous, 1-2 children, 3 children), Life time use of hormone therapy (continuous), Age at menarche (continuous, <45, 45-50, 50 years) and Age at menopause (pre-menopausal <45, 45-50, 50-55, 55 years)	254	290	58	252	299	74	0.3023	18	–	–	–	–	–	–	–	–	–	–	–	
15	BCAC 2006 LSHTM	UK	Europe	Caucasian	585598	PH	IB	NR	Age	Matched pairs, body mass index, age at menopause, age at menarche, alcohol intake, education, parity, age at first live birth, physical activity, history of breast cysts, family history of breast cancer in mother or sister, use of hormone replacement therapy, and smoking status	251	251	83	256	274	68	0.6795	17	–	–	–	–	–	–	–	–	–	–	–	
16	BCAC 2006 Madrid	Spain	Europe	Caucasian	608770	PH	Blood sample	Non-cancer controls	NR	NR	354	350	104	308	353	108	0.6556	16	–	–	–	–	–	–	–	–	–	–	–	
17	BCAC 2006 Seoul	Korea	Asia	Asian	508314	IB	IB	NR	Age	Age, Education, Family history of breast cancer, Age at FTFT and parity, Alcohol consumption, and Smoking	140	119	41	149	144	21	0.0764	14	–	–	–	–	–	–	–	–	–	–	–	
18	BCAC 2006 USRHS	USA	North America	Mixed	7071051	IB	Peripheral lymphocytes	Non-cancer controls	Age	NR	314	307	86	425	498	127	0.2908	20	–	–	–	–	–	–	–	–	–	–	–	
19	Jin et al. 2006	China	Asia	Asian	83251	PH	Blood sample	Healthy controls	Age	Age, cigarette smoking, alcohol drinking, the family history of malignancy in first and second relatives	48	27	8	127	97	27	0.1979	18	0.69 (0.38, 1.25)	0.64 (0.25, 1.64)	0.67 (0.39, 1.18)	–	–	–	–	–	–	–	–	
20	Bow-ster et al. 2006	USA	North America	Mixed	365310	BY	Peripheral lymphocytes	Non-cancer controls	Age	Gender (female sex), age at blood donation (within one year), and menopausal status at blood donation	108	159	38	126	135	49	0.2064	18	1.15 (1.00, 1.32)	1.06 (0.92, 1.22)	–	–	–	–	–	–	–	–		
21	Bi et al. 2006	USA	North America	Mixed	19095	IB	Blood sample	Non-cancer controls	NR	NR	84	84	22	42	43	10	0.8309	11	–	–	–	–	–	–	–	–	–	–	–	
22	Pshakowski et al. 2006	USA	North America	African	761676	PH	Blood sample	NR	Age	Offices and age	556	283	22	493	175	11	0.3620	29	1.10 (0.90, 1.50)	1.80 (0.80, 3.80)	1.20 (0.80, 1.50)	–	–	–	–	–	–	–		
23	Pshakowski et al. 2006	USA	North America	Caucasian	1244137	PH	Blood sample	NR	Age	Offices and age	560	951	199	480	494	148	0.2420	29	1.10 (0.90, 1.30)	1.80 (0.80, 3.80)	1.10 (0.90, 1.30)	–	–	–	–	–	–	–		
24	Thyagarajan et al. 2006	USA	North America	Mixed	193322	PH	Tumor tissue	Non-cancer controls	Age	Age, physical activity, BMI, and family history of breast cancer	57	76	60	135	140	47	0.2797	18	1.29 (0.84, 1.97)	0.91 (0.48, 1.72)	1.20 (0.88, 1.79)	–	–	–	–	–	–	–	–	
25	Zhai et al. 2006	China	Asia	Asian	302839	PH	Blood sample	Non-cancer controls	Age	Age, age at menarche and menopausal status	171	101	28	347	240	52	0.2515	20	0.79 (0.57, 1.08)	1.01 (0.60, 1.70)	0.82 (0.61, 1.11)	–	–	–	–	–	–	–		
26	Zhang et al. 2006	USA	North America	Caucasian	3059287	PH	Blood sample	NR	Age	Age and study site	1514	1433	392	1054	1173	50	0.2454	21	1.10 (0.90, 1.20)	0.90 (0.80, 1.10)	–	–	–	–	–	–	–	–		
27	Zhang et al. 2006	Poland	Europe	Caucasian	1983298	PH	Blood sample	NR	Age	Age and study site	723	931	280	867	1036	113	0.2178	21	1.01 (0.80, 1.50)	1.01 (0.80, 1.40)	–	–	–	–	–	–	–	–	–	
28	Costa et al. 2007	Portugal	Europe	Caucasian	1264481	BY	Blood sample	Healthy controls	Age	Age	112	109	38	153	222	66	0.3178	17	–	–	–	–	–	–	–	–	–	–	–	
29	Silva et al. 2007	Portugal	Europe	Caucasian	241456	IB	Blood sample	Non-cancer controls	Age	Age (30-49, 50-69, and 70 years), smoking status (never, former, and current smokers), and alcohol intake (abstinent, social, and regular). Asterisk (*) depicts reference classes	112	104	25	191	212	53	0.6488	15	0.87 (0.62, 1.22)	0.87 (0.51, 1.50)	0.87 (0.63, 1.20)	–	–	–	–	–	–	–	–	
30	Ali et al. 2008	USA	North America	Mixed	4048	IB	Tumor tissue	Non-cancer controls	NR	NR	11	16	13	21	28	7	0.5367	11	–	–	–	–	–	–	–	–	–	–	–	
31	Kepkova et al. 2008	Slovak	Europe	Caucasian	114113	BY	Peripheral lymphocytes	Healthy controls	Age	Age	49	50	15	53	43	17	0.1039	13	–	–	–	–	–	–	–	–	–	–	–	
32	Lindholm et al. 2008	Cyprus	Asia	Caucasian	11071176	PH	Blood sample	Healthy controls	Age	NR	506	470	122	526	516	140	0.4808	18	–	–	–	–	–	–	–	–	–	–	–	
33	Mishra et al. 2008	India	Asia	Indian	150225	BY	Blood sample	Healthy controls	Age	Population subgroup, religion, caste, and Indian, Ethnicity, Marital status, Menopausal status, and Thyroid status	44	52	54	83	107	35	0.9577	14	0.92 (0.56, 1.50)	2.91 (1.66, 5.08)	1.41 (0.90, 2.19)	–	–	–	–	–	–	–	–	–
34	Saadat et al. 2008	Iran	Asia	Caucasian	186187	BY	Blood sample	Healthy controls	Age	Family history of breast cancer in first-degree relatives and smoking status	83	70	33	81	90	16	0.1946	17	0.76 (0.47, 1.20)	1.80 (0.93, 3.61)	0.93 (0.61, 1.44)	2.06 (1.07, 3.90)	–	–	–	–	–	–	–	
35	Sungprang et al. 2008	Thailand	Asia	Asian	507424	IB	Blood sample	Non-cancer controls	NR	Age (non-linear using fractional polynomial functions), body mass index, age at menarche, family history of breast cancer, reproduction parameters (five classes), use of contraceptives, menopausal status, hazardous lifestyle, and education	268	201	38	246	158	20	0.3979	16	1.20 (0.90, 1.69)	1.80 (0.95, 3.29)	–	–	–	–	–	–	–	–	–	–
36	Smith et al. 2008	USA	North America	Caucasian	312406	IB	Blood sample	Non-cancer controls	Age	Age, FH of breast cancer, smoking history, age at menarche, age at first live birth and BMI	135	141	36	179	183	46	0.9809	18	1.01 (0.74, 1.40)	0.93 (0.56, 1.54)	1.00 (0.73, 1.35)	–	–	–	–	–	–	–	–	
37	Smith et al. 2008	USA	North America	African	5274	IB	Blood sample	Non-cancer controls	Age	Age, FH of breast cancer, smoking history, age at menarche, age at first live birth and BMI	58	13	1	58	15	1	0.9784	16	1.13 (0.44, 2.91)	2.19 (0.80, 52.25)	1.18 (0.47, 2.96)	–	–	–	–	–	–	–	–	
38	Selcuk et al. 2009	Poland	Europe	Caucasian	159106	NR	NR	Non-cancer controls	Age	NR	34	68	48	24	44	38	0.1104	10	–	–	–	–	–	–	–	–	–	–	–	
39	Symula et al. 2009	India	Asia	Indian	139367	IB	Blood sample	Non-cancer controls	Age	Age	147	154	58	193	126	48	0.0004	13	–	–	–	–	–	–	–	–	–	–	–	
40	Jakubowska et al. 2010	Poland	Europe	Caucasian	117290	PH	Blood sample	Non-cancer controls	NR	Age at first live birth, parity, lifetime cumulative months of breastfeeding, age at menarche, and contraceptive use, smoking, body mass index (at age of breast cancer diagnosis for cases and at time of interview for controls), year of birth and BRCA1 mutation	131	150	36	105	142	43	0.6553	18	0.73 (0.48, 1.10)	0.67 (0.36, 1.25)	–	–	–	–	–	–	–	–	–	
41	Jelonek et al. 2010	Poland	Europe	Caucasian	94551	BY	Blood sample	Non-cancer controls	Age	NR	41	40	13	206	276	69	0.1113	12	–	–	–	–	–	–	–	–	–	–	–	
42	Ming-Shen et al. 2010	China	Asia	Asian	195531	IB	Blood sample	Non-cancer controls	NR	Age, age at first full-term pregnancy, cigarette smoking, body mass index, and family history of breast cancer	198	149	48	276	262	53	0.0789	16	1.05 (0.81, 1.38)	1.31 (0.83, 1.96)	1.12 (0.87, 1.42)	–	–	–	–	–	–	–	–	
43	Qin et al. 2010	China	Asia	Asian	666789	PH	Blood sample	Healthy controls	Age	Age, age at menarche, menopause, history of benign breast disease, history of smoking, history of alcohol consumption, and family history of breast cancer	349	255	62	412	304	73	0.1228	20	0.93 (0.63, 1.08)	0.96 (0.62, 1.08)	0.93 (0.62, 1.05)	–	–	–	–	–	–	–	–	
44	Santos et al. 2010	Brazil	South America	Mixed	6585	BY	Blood sample	Non-cancer controls	Age	Geographical location, dietary habits, and without prior occupational exposure to genotoxic chemicals	24	39	2	24	53	8	0.0009	4	–	–	–	–	–	–	–	–	–	–	–	
45	Stoppone et al. 2010	Italy	Europe	Caucasian	4331	BY	Blood sample	Healthy controls	NR	NR	8	24	11	16	10	5	0.1448	10	–	–	–	–	–	–	–	–	–	–	–	
46	Zippich et al. 2010	USA	North America	Mixed	271323	PH	Blood sample	Non-cancer controls	Age	Menopause and age	126	115	30	139	141															

Supplemental Table 6 continued

50	Hussien et al. 2012	Egypt	Africa	Caucasian	100100	FB	IB	Blood sample	Non-cancer controls	Age	Age		37	51	12	50	40	10	0.6339	15	1.70 (0.80, 3.10)	1.60 (0.60, 4.30)	1.70 (0.90, 2.90)	--		
51	Al-Muniri et al. 2013	Saudi Arabia	Asia	Caucasian	100100	FB	IB	Blood sample	Healthy controls	Age	NR		50	32	10	53	14	8	0.9306	16	--	--	--			
52	Przybyłowska-Szyg et al. 2013	Poland	Europe	Caucasian	185205	FB	IB	Blood sample	NR	NR	NR		74	80	23	86	89	3	0.2837	15	--	--	--			
53	Ding et al. 2014	China	Asia	Asian	606833	IB	IB	Blood sample	Non-cancer controls	Age	NR		338	200	79	347	254	32	0.0954	18	--	--	--			
54	Laio et al. 2014	China	Asia	Asian	194245	IB	IB	Blood sample	Non-cancer controls	Age (mean age, age at menarche, age at menopause), family history of cancer, residential area, and nativity	Age, body mass index, age at menarche, family history of breast cancer, pregnancy and menopausal status		85	90	21	137	91	17	0.7225	17	1.55 (1.01, 2.31)	2.19 (1.06, 4.51)	1.67 (1.15, 2.49)	--		
55	Ramadan et al. 2014	Egypt	Africa	Caucasian	10075	NR	IB	Blood sample	Healthy controls	Age	Age, BMI, parity, menopausal status, age at menarche, family history of BC, smoking, or physical activity		26	59	15	37	32	6	0.0066	14	2.64 (1.26, 5.08)	4.42 (1.28, 15.31)	2.89 (1.35, 6.21)	--		
56	Sedláček et al. 2014	Canada	North America	Mixed	27294205	FB	FB	Blood sample	Healthy controls	NR	IB		--	--	--	--	--	0.4960	18	1.12 (1.08, 1.25)	1.11 (0.96, 1.31)	--	--			
57	Ni et al. 2015	China	Asia	Asian	360560	FB	IB	Blood sample	Non-cancer controls	Age	Age, family history of BC, occupational exposure history		155	163	44	165	157	38	0.9425	16	1.10 (0.75, 1.61)	1.46 (0.81, 2.64)	1.11 (0.79, 1.58)	--		
58	Al Zoubi et al. 2015	Jordan	Asia	Caucasian	4631	NR	IB	Tumor tissue	Non-cancer controls	Age	NR		22	14	16	15	11	5	0.2471	11	--	--	--			
59	Macías-Gómez et al. 2015	Mexico	North America	Mixed	345341	NR	IB	Blood sample	Non-cancer controls	NR	NR		183	125	37	201	125	15	0.4203	10	--	--	--			
60	Zhu et al. 2015	China	Asia	Asian	101101	BV	IB	Blood sample	Non-cancer controls	Age	Age		13	74	14	46	47	8	0.3977	17	1.05 (0.40, 2.71)	6.39 (2.18, 18.65)	3.17 (1.76, 5.72)	2.02 (0.82, 5.01)		
61	Cheng et al. 2016	Malaysia	Asia	Asian	71260	FB	IB	Blood sample	Healthy controls	NR	NR		25	33	13	114	114	32	0.6723	13	--	--	--			
62	Krivokuc et al. 2016	Serbia	Europe	Caucasian	158104	NR	IB	Blood sample	Non-cancer controls	Age	NR		71	54	33	35	33	36	0.0062	8	--	--	--			
63	Shadima et al. 2016	Russia	Europe	Caucasian	625854	IB	IB	Blood sample	Non-cancer controls	NR	Age		279	280	99	271	236	57	0.9952	15	1.17 (0.92, 1.51)	1.76 (1.21, 2.57)	1.29 (1.02, 1.63)	1.63 (1.14, 2.33)		
64	Al Zoubi et al. 2017	Italy	Europe	Caucasian	2316	NR	IB	Tumor tissue	Non-cancer controls	Age	NR		11	7	5	11	8	0	0.061	1	--	--	--			
65	Zheng et al. 2019	China	Asia	Asian	101103	FB	IB	Blood sample	Healthy controls	Age	Age		50	36	9	57	37	9	0.4059	14	--	--	--			
66	Ogür et al. 2019	Turkey	Asia	Caucasian	102700	NR	IB	NR	Healthy controls	Menopausal status	Age, BMI, HT use, smoking, alcohol consumption, age at first birth, number of childbirth, age at menarche, family history of cancer		51	46	5	38	50	12	0.4684	10	0.48 (0.14, 1.56)	0.16 (0.02, 1.06)	1.63 (0.93, 2.85)	--		
67	Smolczarz et al. 2019	Poland	Europe	Caucasian	600600	NR	IB	Blood sample	Healthy controls	Age	Age		40	72	459	132	366	108	0.0001	11	--	--	--			
68	Gao et al. 2020	China	Asia	Asian	5461250	FB	IB	Blood sample	Healthy controls	Age	NR		285	213	49	669	493	109	0.3039	16	--	--	--			
69	Floric et al. 2020	Italy	Europe	Caucasian	158112	NR	IB	Blood sample	Healthy controls	NR	NR		64	55	16	53	43	16	0.4319	10	--	--	--			
70	Benabdelaziz et al. 2020	Benin	Africa	Indian	121213	FB	IB	Blood sample	Non-cancer controls	Age	NR		65	39	17	92	51	10	0.0062	11	--	--	--			
71	Isakova et al. 2020	Kyrgyzstan	Asia	Asian	101102	NR	NR	Blood sample	Non-cancer controls	NR	NR		33	63	7	56	34	12	0.0677	9	--	--	--			
72	Rajagopal et al. 2020	India	Asia	Indian	464450	NR	NR	Blood sample	Healthy controls	Age, ethnicity and self-reported BC family history	NR		207	185	72	209	199	42	0.5855	13	--	--	--			
73	Abdel Ghafar et al. 2021	Egypt	Africa	Caucasian	100100	NR	IB	Blood sample	Healthy controls	Age	Family history, Age of menarche, Menopausal status, and History of OCs.		14	42	44	28	46	26	0.4258	15	1.63 (0.76, 3.61)	3.39 (1.30, 8.29)	--	--		
74	Marínica-Ramírez et al. 2021	Mexico	North America	Mixed	150130	NR	NR	Blood sample	Healthy controls	Age	NR		47	50	24	64	51	10	0.4701	13	--	--	--			
No.	First Author/Year	Country	Geographic region	Ethnicity	Sample size	Verdict of control	Source of cases	Verdict of genotyping material of case	Type of control	Matching	Adjustments	Genotypes distribution of SNCC1 Arg/Trip vs Arg/Trip			Controls			HW	Quality score	Adjusted OR and 95% CI			Trip/Trip vs Arg/Trip	Arg/Trip vs Arg/Arg		
												Arg/Arg	Arg/Trip	Trip/Trip	Arg/Arg	Arg/Trip	Trip/Trip			Arg/Trip vs Arg/Arg	Trip/Trip vs Arg/Arg	Arg/Arg vs Arg/Arg	Trip/Trip vs Arg/Arg			
1	Hsu et al. 2003	USA	North America	Mixed	9981369	FB	FB	Blood sample	Non-cancer controls	Year of birth, menopausal status, parity (≥12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100), postmenopausal hormone use at blood collection, month of blood return, time of day of blood collection, and fasting status at blood draw	IBB at age 18 years (continuous), weight gain age 18 years (<5, 5-19.9, ≥20kg), age at menarche (<12, 12-13, >13 years), age at menopause (<45, 45-49, 50-54, 55-59, or ≥60 years), first-degree family history of breast cancer (yes/no), history of benign breast disease (yes/no), and duration of postmenopausal hormone use (never use, past use, current use <5 years, current use ≥5 years)	890	105	3	1190	176	3	0.1842	22	--	--	--	--	--	--	0.79 (0.60, 1.04)
2	Kang et al. 2003	Korea	Asia	Asian	205205	IB	IB	Blood sample	Non-cancer controls	Age	Age, education, body mass index, age at menarche, age at first pregnancy, age at menopause, smoking, alcohol consumption, duration of breast feeding, family history of breast cancer and menopausal status at baseline		88	94	23	92	86	27	0.3360	15	1.10 (0.78, 1.73)	0.90 (0.48, 1.67)	--	--		
3	Moulin et al. 2003	France	Europe	Caucasian	154312	BV	IB	Blood sample	UK	Age	Age		219	34	1	230	43	1	0.4709	16	0.95 (0.56, 1.61)	1.63 (0.95, 26.10)	--	--		
4	Smith et al. 2004	USA	North America	Caucasian	114230	FB	IB	Peripheral lymphocytes	NR	NR	Age		97	16	1	205	24	1	0.7430	13	2.60 (0.99, 6.83)	--	2.46 (0.88, 6.17)	--		
5	Delcambre et al. 2004	Turkey	Asia	Caucasian	151313	NR	NR	Blood sample	Healthy controls	NR	NR		143	7	3	119	14	0	0.5217	7	--	--	--			
6	Fölsch et al. 2004	Finland	Europe	Caucasian	223298	FB	NR	Tumor tissue	Non-cancer controls	NR	NR		208	15	0	262	36	0	0.6339	13	--	--	--			
7	Chacko et al. 2005	India	Asia	Indian	123123	IB	IB	Blood sample	NR	Age	Age and menopausal status		78	35	9	96	21	4	0.0093	13	1.89 (0.99, 3.62)	2.78 (0.82, 9.46)	2.08 (1.12, 3.72)	--		
8	Patel et al. 2005	USA	North America	Mixed	485485	FB	FB	Blood sample	Non-cancer controls	Age	Matched pairs, body mass index, age at menarche, age at menopause, alcohol intake, education, parity, age at first live birth, physical activity, history of breast cysts, family history of breast cancer in mother or sister, use of hormone replacement therapy, and smoking status		437	48		415	70	Y	18	--	--	--	0.62 (0.40, 0.95)	--		
9	Shen et al. 2005	USA	North America	Mixed	10661108	FB	FB	Blood sample	Non-cancer controls	Age	Age		938	128		967	141	Y	19	--	--	--	0.93 (0.72, 1.21)	--		
10	Zhai et al. 2006	China	Asia	Asian	456487	FB	IB	Blood sample	Non-cancer controls	Age	Age, BMI, family history of breast cancer, Menarche age, history of abortion, history of live birth, history of oral contraceptives and menopause		225	180	43	244	204	39	0.6879	20	1.06 (0.78, 1.43)	1.24 (0.74, 2.06)	1.09 (0.82, 1.45)	--		
11	Jin et al. 2006	China	Asia	Asian	43251	FB	FB	Blood sample	Healthy controls	Age	Age, cigarette smoking, alcohol drinking, the family history of malignancy in first and second relatives		43	34	6	113	116	22	0.3092	18	0.66 (0.37, 1.18)	0.47 (0.16, 1.43)	0.61 (0.35, 1.06)	--		
12	Brewster et al. 2006	USA	North America	Mixed	308317	BV	FB	Peripheral lymphocytes	Non-cancer controls	Gender (female sex), age at blood donation (within one year), and menopausal status at blood donation	Age and menopausal status		208	37	3	279	36	2	0.4831	18	--	--	--	1.08 (0.83, 1.22)	--	
13	Podkowiński et al. 2006	USA	North America	African	774847	FB	FB	Blood sample	NR	Age	Offspring and age		671	101	2	563	86	3	0.9502	20	1.00 (0.70, 1.30)	0.70 (0.30, 1.40)	1.00 (0.70, 1.30)	--		
14	Podkowiński et al. 2006	USA	North America	Caucasian	1281135	FB	FB	Blood sample	NR	Age	Offspring and age		1126	148	1	967	141	7	0.4251	20	0.90 (0.70, 1.20)	0.90 (0.70, 1.20)	0.90 (0.70, 1.20)	--		
15	Thyagarajan et al. 2006	USA	North America	Mixed	423232	FB	FB	Tumor tissue	Non-cancer controls	NR	Age, physical activity, BMI, and family history of breast cancer		370	58	4	282	37	3	0.1618	18	1.23 (0.21, 4.63)	0.98 (0.21, 4.63)	1.21 (0.78, 1.88)	--		
16	Bjama et al. 2006	USA	North America	Caucasian	1981283	FB	FB	Buccal cell	NR	Age and family history	Age and family history		1984	189	3	1086	136	11	0.0045	19	0.90 (0.68, 1.20)	0.90 (0.68, 1.20)	0.90 (0.68, 1.20)	--		
17	Silva et al. 2007	Portugal	Europe	Caucasian	404033	IB	IB	Blood sample	Non-cancer controls	Age	Age (10-40*, 50-60, and 70+ years), smoking status (never*, former, and current smokers), use of alcohol intake (abstinent, social, and regular), Asthenia (*) depicts referent classes		198	41	1	386	56	1	0.5018	15	1.49 (0.95, 2.32)	1.66 (0.10, 27.41)	1.49 (0.86, 2.52)	--		
18	Laitinen et al. 2008	Cyprus	Asia	Caucasian	10971164	FB	FB	Blood sample	Healthy controls	Age	Population subgroup, region (i.e., North India), ethnicity, marital status, menopausal status, and dietary habits		914	175	8	973	182	9	0.8787	18	--	--	--	--	--	
19	Musa et al. 2008	India	Asia	Asian	151225	BV	IB	Blood sample	Healthy controls	Age	Race, stage of disease, menopausal status, and family history of breast cancer.		134	15	2	166	53	6	0.4812	14	0.35 (0.19, 0.65)	0.41 (0.08, 2.08)	0.36 (0.20, 0.64)	--		
20	Samjirang et al. 2008	Thailand	Asia	Asian	506425	IB	IB	Blood sample	Non-cancer controls	NR	Age (non-linear using fractional polynomial functions), body mass index, age at menarche, family history of breast cancer, reproduction parameters (five classes), use of contraceptives, menopausal status, hazardous lifestyle, and education		239	229	39	202	179	44	0.6419	16	1.08 (0.81, 1.44)	0.70 (0.42, 1.14)	--	--	--	
21	Smith et al. 2008	USA	North America	Caucasian	124411	IB	IB	Blood sample	Non-cancer controls	Age	Age, FH of breast cancer, smoking history, age at menarche, age at first live birth and BMI.		282	37	5	376	40	1	0.9488	18	1.21 (0.74, 1.97)	8.74 (0.97, 78.23)	--	8.56 (0.96, 76.53)	--	
22	Smith et al. 2008	USA	North America	African	1575	IB	IB	Blood sample	Non-cancer controls	Age	Age, FH of breast cancer, smoking history, age at menarche, age at first live birth and BMI.		47	5	1	67	40	9	0.5362	16	0.44 (0.12, 1.67)	--	--	--	--	
23	Solcznik et al. 2009	Poland	Europe	Caucasian	150106	NR	NR	Blood sample	Non-cancer controls	Age	NR		36	70	44	20	52	34	0.9881	10	--	--	--	--	--	
24	Ming-Shiann et al. 2010	China	Asia	Asian	401533	IB	IB	Blood sample	Non-cancer controls	NR	Age, age at first full-term pregnancy, cigarette smoking, body mass index, and family history of breast cancer		187	170	44	270	217	46	0.7982	16	1.12 (0.84, 1.47)	1.37 (0.87, 2.17)	1.29 (0.87, 1.62)	--	--	
25	Qian et al. 2010	China	Asia	Asian	679793	FB	IB	Blood sample	Healthy controls	Age	Age, age at menarche, menopause, family history of breast feeding, history of breast feeding, history of oral contraceptives and family history of cancer		327	267	76	387	333	73	0.9106	20	0.98 (0.75, 1.26)	1.17 (0.76, 1.80)	1.09 (0.86, 1.40)	--	--	
26	Stjepanovic et al. 2010	Italy	Europe	Caucasian	4531	BV	IB	Blood sample	Healthy controls	NR	NR		36	7	0	28	3	0	0.7771	10	--	--	--	--	--	
27	Eppich et al. 2010	USA	North America	Mixed	271327	FB	FB	Blood sample	Non-cancer controls	NR	Menopausal and age		227	44		282	45	Y	15	--	--	--	--	1.17 (0.61, 2.25)	--	
28	Wang et al. 2011	China	Asia	Asian	202702	FB	IB	Blood sample	Healthy controls	Age	NR		149	178	29	169	106	29	0.0259	18	--	--	--	--	--	
29	Liu et al. 2011	China	Asia	Asian	9591004	FB	IB	Blood sample	Non-cancer controls	Age	Age		492	409	94	539	377	30	0.0069	21	1.19 (0.99, 1.44)	1.16 (0.84, 1.59)	1.19 (0.99, 1.41)	--	--	
30	Al-Muniri et al. 2011	Saudi Arabia	Asia	Caucasian</																						

Supplemental Table 6 continued

39	Devi et al. 2017	India	Asian	Indian	464/534	FB	NR	Blood sample	Healthy controls	NR	Age, region, marital status, menopausal status, betel nut chewing, tobacco smoking, alcohol consumption, dry fish, dry roast, and bamboo shoot consumption habit	263	178	23	338	166	30	0.1143	15	1.42 (1.03, 1.95)	1.69 (0.82, 3.46)	1.44 (1.06, 1.97)	1.45 (0.72, 2.95)
40	Zhang et al. 2019	China	Asian	Asian	103/103	HB	HB	Blood sample	Healthy controls	Age	NR	46	48	9	62	32	7	0.4377	14	—	—	—	—
41	Öngür et al. 2009	Turkey	Asian	Caucasian	102/100	NR	HB	NR	Healthy controls	Menopausal status	Age, BMI, HTI use, smoking, alcohol consumption, age at first birth, number of children, age at menarche, family history of cancer	83	16	3	81	17	2	0.3396	10	0.40 (0.10, 1.64)	0.27 (0.00, 14.18)	1.02 (0.50, 2.07)	—
42	Gao et al. 2020	China	Asian	Asian	537/240	NR	HB	Blood sample	Healthy controls	Age	NR	273	245	39	487	515	109	0.7135	16	—	—	—	—
43	Pietras et al. 2020	Italy	Europe	Caucasian	135/112	HB	HB	Blood sample	Healthy controls	NR	NR	120	7	9	102	100	0	0.6209	10	—	—	—	—
44	Sakuma et al. 2020	Kyrgyzstan	Asian	Asian	103/102	NR	NR	Blood sample	Non-cancer controls	NR	NR	72	28	3	67	34	5	0.8814	9	—	—	—	—
45	Abdel Ghafar et al. 2021	Egypt	Africa	Caucasian	100/100	NR	HB	Blood sample	Healthy controls	Age	Family history, Age of menarche, Menopausal status, and History of OCPs	24	42	32	30	44	26	0.2357	15	1.39 (0.64, 3.03)	1.45 (0.61, 3.34)	—	—
No.	First Author/Year	Country	Geographic region	Ethnicity	Sample size (cases/controls)	Source of cases	Source of controls	Source of genotyping material of case	Type of control	Matching	Adjustments	Genotypes distribution of NRCC1 Arg289His (rs25489)						HW	Quality score	Adjusted OR and 95% CI			
1	Mailhot et al. 2003	France	Europe	Caucasian	254/512	BN	HB	Blood sample	UK	Age	Age	Arg/Arg	Arg/His	His/His	Arg/Arg	Arg/His	His/His	—	0.3993	16	1.50 (1.04, 3.08)	His/His + Arg/His vs Arg/Arg	His/His vs Arg/Arg
2	Chakko et al. 2005	India	Asian	Indian	123/123	HB	HB	Blood sample	NR	Age	Age and menopausal status	39	39	4	39	32	2	0.6477	13	0.55 (0.29, 1.03)	1.69 (0.29, 9.63)	0.62 (0.33, 1.12)	—
3	Metsola et al. 2005	Finland	Europe	Caucasian	480/479	FB	HB	Blood sample	Healthy controls	NR	Age, age at menarche, age at first full term pregnancy, number of pregnancies, history of benign breast disease, first degree family history of breast cancer, waist-to-hip ratio, smoking and use of alcohol	399	78	3	406	70	3	0.9927	18	—	—	1.15 (0.80, 1.66)	—
4	Zhai et al. 2006	China	Asian	Asian	456/487	FB	HB	Blood sample	Non-cancer controls	Age	Age, BMI, family history of breast cancer, fibromatosis, history of abortion, history of live birth, history of oral contraceptives and menopause	351	100	5	378	102	7	0.9842	20	1.15 (0.82, 1.63)	0.83 (0.25, 2.82)	1.13 (0.81, 1.59)	—
5	Jin et al. 2006	China	Asian	Asian	83/251	FB	FB	Blood sample	Healthy controls	Age	Age, cigarette smoking, alcohol drinking, the family history of malignancy in first and second relatives	62	18	3	202	47	2	0.6829	18	1.01 (0.53, 1.93)	—	1.11 (0.60, 2.07)	—
6	Pachkowski et al. 2006	USA	North America	African	765/681	FB	FB	Blood sample	NR	Age	Offspring and age	710	54	1	642	38	1	0.5791	20	1.30 (0.80, 2.00)	1.10 (0.10, 18.00)	1.30 (0.80, 1.90)	—
7	Pachkowski et al. 2006	USA	North America	Caucasian	1271/1129	FB	FB	Blood sample	NR	Age	Offspring and age	1184	122	0	1050	97	2	0.8560	20	1.20 (0.90, 1.60)	1.20 (0.90, 1.60)	—	—
8	Pharo et al. 2006	USA	North America	Caucasian	1564/1204	FB	FB	Blood sample	NR	Age	Age and study site	1400	157	4	1122	113	8	0.9305	21	1.10 (0.80, 1.40)	1.00 (0.20, 4.30)	—	—
9	Laitinen et al. 2008	Finland	Asian	Caucasian	1109/1168	FB	FB	Blood sample	Healthy controls	Age	NR	923	177	9	959	207	2	0.6071	16	—	—	—	—
10	Sangprajong et al. 2008	Thailand	Asian	Asian	507/425	HB	HB	Blood sample	Non-cancer controls	NR	Age (non-linear using fractional polynomial functions), body mass index, age at menarche, family history of breast cancer, reproduction parameters (five classes), use of contraceptives, menopausal status, menarche, lifestyle, and education	431	76		366	59		0.89	16	—	—	1.30 (0.88, 1.93)	—
11	Smith et al. 2008	USA	North America	Caucasian	324/408	HB	HB	Blood sample	Non-cancer controls	Age	Age, FH of breast cancer, smoking history, age at menarche, age at first live birth and BMI	298	26	0	363	44	1	0.7825	18	0.72 (0.43, 1.21)	—	0.70 (0.42, 1.18)	—
12	Smith et al. 2008	USA	North America	African	53/75	HB	HB	Blood sample	Non-cancer controls	Age	Age, FH of breast cancer, smoking history, age at menarche, age at first live birth and BMI	49	4	0	69	6	0	0.7382	16	0.66 (0.14, 3.05)	—	0.66 (0.33, 1.14)	—
13	Zepprech et al. 2010	USA	North America	Mixed	273/332	FB	FB	Blood sample	Non-cancer controls	NR	Age at menarche, BMI, and age	250	23		303	29		Y	15	—	—	0.87 (0.38, 2.00)	—
14	Wang et al. 2011	China	Asian	Asian	302/302	FB	HB	Blood sample	Healthy controls	Age	NR	154	130	18	174	109	39	0.7203	20	—	—	—	—
15	Liu et al. 2011	China	Asian	Asian	995/1004	FB	HB	Blood sample	Non-cancer controls	Age	Age	805	182	8	809	179	36	0.0991	21	1.02 (0.81, 1.28)	0.50 (0.21, 1.18)	0.96 (0.78, 1.22)	—
16	Nu et al. 2015	China	Asian	Asian	560/360	HB	HB	Blood sample	Non-cancer controls	Age	Age, family history of BC, occupational exposure history	139	140	61	175	140	36	0.6059	16	1.42 (0.97, 2.09)	2.50 (1.42, 4.40)	1.63 (1.15, 2.30)	—
17	Öngür et al. 2019	Turkey	Asian	Caucasian	102/100	NR	HB	NR	Healthy controls	Menopausal status	Age, BMI, HTI use, smoking, alcohol consumption, age at first birth, number of children, age at menarche, family history of cancer	92	9	1	82	17	1	0.9097	10	0.24 (0.04, 1.22)	17.20 (0.24, 1236.40)	2.02 (0.88, 4.62)	—
18	Gao et al. 2020	China	Asian	Asian	550/234	NR	HB	Blood sample	Healthy controls	Age	NR	300	92	79	578	213	443	0.0001	14	—	—	—	—