

Supplementary Table 1. Characteristics of prospective studies on cholesterol and breast cancer risk

Study	Study characteristics *	Participants characteristics †	Cholesterol parameter	Biofluid and conditions of blood sample storage ‡	Preclinical bias taken into account
Hiatt et al (1986) [11]	Name: KPMCP USA 1964-1972 Length of follow-up: 10 years Design: Cohort	N=3597 N=1088 cases Ethnicity: Not stated Age: >15y Not stated	T-C	Serum Storage conditions: Not stated Fasting: Yes	Yes: exclusion of the first 2 years of follow-up tested
Törnberg et al (1987) [12]	Name: 1963-1965 Swedish Cohort Sweden 1963-1965 Length of follow-up: 17.6 years Design: Cohort	N=46570 N=1182 cases Ethnicity: Not stated Age: 17-74y 16.6% < 50y - 83.4% ≥50y at diagnostic	T-C	Serum Storage conditions: Not stated Fasting: No	Yes: exclusion of the first 2 years of follow-up tested
Knekt et al (1988) [13]	Name: 1968-1972 Finland Cohort Finland 1968-1972 Length of follow-up: 10 years Design: Cohort	N=14784 N=95 cases Ethnicity: Not stated Age: >15y Not stated Non smoker	T-C	Serum Storage conditions: Cholesterol analysis one-to-three days after blood drawn; storage: -20°C Fasting: Not stated	Yes: exclusion of the first 4 years of follow-up tested
Vatten et al (1990) [14]	Name: 1974-1977 Norwegian Cohort Norway 1974-1977 Length of follow-up: 14 years Design: Cohort	N=24329 N=242 cases Ethnicity: Not stated Age: 25-51y 57.4% < 51y - 42.6% ≥51y at diagnostic	T-C	Serum Storage conditions: Not stated Fasting: No	Yes: exclusion of the first 3 years of follow-up tested

Hoyer et al (1992) [15]	Name: GPS Denmark 1964-1986 Length of follow-up: 26 years Design: Cohort	N=5207 N=31 cases Ethnicity: Not stated Age: 30-80y Not stated	T-C HDL-C LDL-C	Serum Storage conditions: Not stated Fasting: Yes	No
Gaard et al (1994)[16]	Name: 1977–1983 Norwegian Cohort Norway 1977-1983 Length of follow-up: 10.4 years Design: Cohort	N=31209 N=302 cases Ethnicity: Not stated Age: 20-54y 38.7% < 50y – 61.3% ≥50y at diagnostic	T-C HDL-C LDL-C	Serum Storage conditions: 88% were frozen and stored at - 20°C for 12 months before HDL-C concentration was assessed Fasting: No	Yes: exclusion of the first year of follow-up tested
Steenland et al (1995) [17]	Name: NHANES 1 USA 1971-1975 Length of follow-up: 14 years Design: Cohort	N=6771 N=163 cases Ethnicity: 85% white Age: 25-74y Not stated	T-C	Serum Storage conditions: Not stated Fasting: Not stated	No
Tulinius et al (1997)[18]	Name: Iceland cardiovascular risk and cancer registry Iceland 1968-1995 Length of follow-up: 20 years Design: Cohort	N=11580 N=439 cases Ethnicity: Not stated Age: 41y (mean) 21.0% < 55y – 79.0% ≥55y at diagnosis	T-C	Serum Storage conditions: Not stated Fasting: Not stated	No
Moorman et al (1998)[22]	Name: KPMCP USA 1964-1971 Length of follow-up: Not stated Design: Nested case-control	N=492 N=196 cases Ethnicity: Not stated Age: 41y (mean) 46.4% pre-menopausal – 53.6%	HDL-C	Serum Storage conditions: Blood sample storage at -23°C up to the 80’s, when HDL-C concentration was assessed	Yes: exclusion of the first 2 years of follow-up tested

		post-menopausal		Fasting: Not stated	
Furberg et al (2004)[23]	Name: 977–1983 and 1985–1987 Norwegian Cohort Norway 1977–1983 and 1985–1987 Length of follow-up: 17.7 years Design: Cohort	N=38823 N=708 cases Ethnicity: Not stated Age: 17-54y 28.2% pre-menopausal - 71.8% post-menopausal	HDL-C	Serum Storage conditions: Cholesterol analysis performed maximum two weeks after blood drawn, except for samples from the Finnmark county, in the 77- 83 survey, which have been stored frozen during 12 months before analysis Fasting: No	No
Eliassen et al (2005)[19]	Name: Nurses' Health Study USA 1988-1994 Length of follow-up: 9.5 years Design: Cohort	N=71921 N=2468 cases Ethnicity: Not stated Age: 30-55y 7.7% pre-menopausal – 92.3% post-menopausal Nurse	T-C	Serum Storage conditions: Not stated Fasting: Not stated	Yes: exclusion of the first 2 years of follow-up tested
Kucharska- Newton et al (2008)[24]	Name: ARIC USA 1987-1989 Length of follow-up: 13 years Design: Cohort	N=7575 N=359 cases Ethnicity: 71% white – 29% black Age: 45-64y 32.1% pre-menopausal, 67.9% post-menopausal	HDL-C	Plasma Storage conditions: Storage at -70°C Fasting: Yes	Yes: exclusion of the first 5 years of follow-up tested
Inoue et al (2008)[25]	Name: JPHC Japan	N=18176 N=120 cases	HDL-C	Serum Storage conditions: Not	No

	1990-1994 Length of follow-up: 10 years Design: Cohort	Ethnicity: 100% Asian Age: 40-69y Not stated		stated Fasting: No	
Iso et al (2009)[20]	Name: JPHC Japan 1990-1994 Length of follow-up: 12.4 years Design: Cohort	N=21685 N=178 cases Ethnicity: Not stated Age: 40-69y Not stated	T-C	Serum Storage conditions: Not stated Fasting: No	No
Kabat et al (2009)[26]	Name: WHI USA 1993-1998 Length of follow-up: 8 years Design: Cohort	N=4888 N=165 cases Ethnicity: 54.2% non-Hispanic white Age: 50-79y 100% post-menopausal non-diabetic	HDL-C	Not stated Storage conditions: Storage at -70°C Fasting: Yes	Yes: exclusion of the first year of follow-up tested
Agnoli et al (2010)[27]	Name: ORDET Italy 1987-1992 Length of follow-up: 13.5 years Design: Nested Case-control	N=792 N=163 cases Ethnicity: Not stated Age: 35-69y 100% post-menopausal	HDL-C	Serum Storage conditions: Storage at -80°C Fasting: Yes	No
Bjorge et al (2010)[33]	Name: Me-Can Austria, Norway, Sweden 1974-2005 Length of follow-up: 11 years Design: Cohort	N=287320 N=4862 cases Ethnicity: Not stated Age: 44y (mean) 30.0% <50y – 70.0% ≥50y	T-C	Serum Storage conditions: Not stated Fasting: Not for all subjects	Yes: exclusion of the first year of follow-up tested
Fagherazzi et al (2010)[21]	Name: E3N France 1990-1991	N=69088 N=2932 cases Ethnicity: Not stated	T-C	Serum Storage conditions: Not stated	No

	Length of follow-up: 12 years Design: Cohort	Age: 40-65y 21.8% pre-menopausal – 78.2 post-menopausal		Fasting: Not stated	
Kitahara et al (2011)[5]	Name: NHIC Korea 1992-1995 Length of follow-up 12.7 years Design: Cohort	N=433115 N=3805 cases Ethnicity: Not stated Age: 30-95y Not stated	T-C	Serum Storage conditions: Not stated Fasting: Yes	Yes: exclusion of the first 5 years of follow-up tested
Bosco et al (2012)[6]	Name: BWHs USA 1995 Length of follow-up: 10.5 years Design: Cohort	N=49172 N=1228 cases Ethnicity: 100% black Age: 21-69y 48.7% pre-menopausal – 51.3% post-menopausal	HDL-C	Not stated Storage conditions: Not stated Fasting: Not stated	No
Osaki et al (2012)[8]	Name: 1992-2000 Japanese Cohort Japan 1992-2000 Length of follow-up: 9.1 years Design: Cohort	N=15386 N=77 cases Ethnicity: Not stated Age: >20y Not stated	HDL-C	Serum Storage conditions: Blood specimens were preserved in a refrigeration box for 2– 3 h and then analyzed Fasting: Not stated	No
Melvin et al (2012)[7]	Name: AMORIS Sweden 1985–1996 Length of follow-up: 8.3 years Design: Cohort	N=34494 N=6105 cases Ethnicity: Not stated Age: >25y Not stated	T-C HDL-C LDL-C ApoA1/ ApoB	Serum Storage conditions: Not stated Fasting: Not for all subjects	No
Strohmaier et al (2013)[10]	Name: Me-Can Austria, Norway, Sweden 1972-2005	N=288057 N=5228 cases Ethnicity: Not stated	T-C	Serum Storage conditions: Not stated	Yes: exclusion of the first 5 years of follow-up tested

	Length of follow-up: 11.7 years Design: Cohort	Age: 44y (mean) Not stated		Fasting: Not for all subjects	
His et al (2014)[9]	Name: SU.VI.MAX France 1994–1995 Length of follow-up: 11.5 years Design: Cohort	N=4453 N=141 cases Ethnicity: Not stated Age: 60y (mean) 70.5% pre-menopausal – 29.5 post-menopausal	T-C HDL-C LDL-C ApoA1 ApoB	Serum Storage conditions: Not stated Fasting: Yes	Yes: exclusion of the first 2 years of follow-up tested

Studies are chronologically ordered

AMORIS: Apolipoprotein related MOrtality RISk; ARIC: Atherosclerosis Risk in Communities; BWHS: Black Women’s Health Study; E3N: Etude Epidémiologique auprès de femmes adhérentes à la Mutuelle Générale de l’Education Nationale ; GPS: Glostrup Population Studies; JPHC: Japan Public Health Center-based; KPMCP: Kaiser Permanente Medical Care Program; Me-Can : MEtabolic syndrome and CANcer; NHANES: National Health and Nutrition Survey; NHIC: National Health Insurance Corporation; ORDET: Hormones and Diet in the Etiology of Breast Cancer; SU.VI.MAX: SUPplémentation en Vitamines et Minéraux Anti-oXydants; WHI: Women’s Health Initiative ;

* Study name, country (region or town), recruitment period, median follow-up, cohort or nested case-control

†Number of participants, numbers of breast cancer cases, ethnicity (%), mean age or age range (years), percentage of pre-menopausal and post-menopausal cases, other specific information

‡ Biofluid (serum, plasma), time between blood drawn and cholesterol analysis; storage condition, fasting status