

**Supplementary Table 1.** Description and count of participants in the participation studies.

Study Acronym	Study Name	Study Design	Country	Genotyping Platform	N Cases	N Controls
ASTERISK	Association Study Evaluating RISK for sporadic colorectal cancer	case-control	France	Illumina 300K	860	937
ATBC	Alpha-Tocopherol, Beta Carotene Cancer Prevention Study	cohort	Finland	Illumina Oncoarray	140	31
CCFR_1	Colon Cancer Family Registry	case-control	USA, Canada, Australia	Illumina 1M, 1M duo	1005	926
CCFR_3	Colon Cancer Family Registry	case-control	USA, Canada, Australia	Affymetrix Axiom	869	622
CCFR_4	Colon Cancer Family Registry	case-control	USA, Canada, Australia	Illumina Oncoarray	1131	604
CLUEII	Campaign against Cancer and Heart Disease II	cohort	USA	Illumina Oncoarray+ custom iSelect	225	239
Colo2&3	Hawai'i Colorectal Cancer Studies 2&3	case-series	USA	Illumina 300K	87	121
CPSII_1	American Cancer Society Cancer Prevention Study II nested case-control study	cohort	USA	Affymetrix Axiom	531	527
CPSII_2	American Cancer Society Cancer Prevention Study II nested case-control study	cohort	USA	Illumina Oncoarray+ custom iSelect	339	341
CRCGEN	Colorectal Cancer Genetics & Genomics, Spanish study	case-control	Spain	Illumina Oncoarray	800	995

DACHS_1	Darmkrebs: Chancen der Verhütung durch Screening	case-control	Germany	Illumina 300K	1647	1673
DACHS_2	Darmkrebs: Chancen der Verhütung durch Screening	case-control	Germany	Illumina OmniExpress	651	487
DACHS_3	Darmkrebs: Chancen der Verhütung durch Screening Study	case-control	Germany	Illumina OmniExpressExome	1211	619
DALS_1	Diet, Activity and Lifestyle Study	case-control	USA	Illumina 300K	700	702
DALS_2	Diet, Activity and Lifestyle Study	case-control	USA	Illumina 550K, 610K	399	461
EPIC	European Prospective Investigation into Cancer and Nutrition	cohort	Europe	Illumina OmniExpressExome	1916	2218
HPFS_1	Health Professionals Follow-Up Study	cohort	USA	Illumina OmniExpressExome	223	226
HPFS_2	Health Professionals Follow-Up Study	cohort	USA	Illumina OmniExpressExome	172	166
HPFS_4	Health Professionals Follow-Up Study	cohort	USA	Illumina OmniExpress	179	197
Kentucky	Kentucky Case-Control Study	case-control	USA	Affymetrix Axiom	853	1023
LCCS	Leeds Colorectal Cancer Study	case-control	UK	Illumina Oncoarray+ custom iSelect	1180	675
MCCS_1	Melbourne Collaborative Cohort Study	cohort	Australia	Affymetrix Axiom	534	460
MCCS_2	Melbourne Collaborative Cohort Study	cohort	Australia	Affymetrix Axiom	218	212
MEC_1	Multiethnic Cohort Study	cohort	USA	Illumina 300K	307	328

MEC_2	Multiethnic Cohort Study	cohort	USA	Illumina 300K	63	89
MECC_1	Molecular Epidemiology of Colorectal Cancer study	case-control	Israel	Illumina Omni 2.5	433	430
MECC_2	Molecular Epidemiology of Colorectal Cancer study	case-control	Israel	Affymetrix Axiom	1041	942
MECC_3	Molecular Epidemiology of Colorectal Cancer study	case-control	Israel	Illumina Oncoarray Illumina Infinium	3420	2683
NCCCSI	North Carolina Colon Cancer Study, I	case-control	USA	Oncoarray+ custom iSelect	236	448
NCCCSII	North Carolina Colon Cancer Study, II	case-control	USA	Illumina Oncoarray+ custom iSelect	590	686
NHS_1	Nurses' Health Study	cohort	USA	Illumina OmniExpress	355	694
NHS_2	Nurses' Health Study	cohort	USA	Illumina OmniExpress	137	155
NHS_4	Nurses' Health Study	cohort	USA	Illumina OmniExpressExome	265	264
NHSII	Nurses' Health Study II	cohort	USA	Illumina Oncoarray	105	98
PHS	Physicians' Health Study	cohort	USA	Illumina OmniExpress	366	378
PLCO_1_R ematch	Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial	cohort	USA	Illumina 300/240S & 610K	430	285
PLCO_2	Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial	cohort	USA	Illumina 300K	411	330

PLCO_3	Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial	cohort	USA	ILLUMINA 300K	128	3083
SELECT	Selenium and Vitamin E Prevention Trial	clinical trial	USA	ILLUMINA ONCOARRAY+ CUSTOM ISELECT	262	268
SMC_COS M	Swedish Mammography Cohort and Cohort of Swedish Men	cohort	Sweden	ILLUMINA ONCOARRAY	530	850
UKB_1	UK Biobank	cohort	UK	UK Biobank Axiom	2740	10904
VITAL	VITamins And Lifestyle	cohort	USA	ILLUMINA 300K	240	258
WHI_1_Re match	Women's Health Initiative Study	cohort	USA	ILLUMINA 550K, 550KDUO, 610K	451	519
WHI_2	Women's Health Initiative Study	cohort	USA	ILLUMINA 300K	976	991
WHI_3	Women's Health Initiative Study	cohort	USA	ILLUMINA ONCOARRAY+ CUSTOM ISELECT	556	559