Supplementary Table 1. Criteria used by individual studies to match case patients and control subjects*

Study (ref.)	Case/control ratio	Age at recruitment	Date of recruitment	Time of blood draw	Other matching criteria
ATBC (17)	2:1	±1 y	±28 days		Trial intervention group and local study center
BLSA (11,24)†	1:1	±6 mo	Same age at first visit. Follow-up time > time to diagnosis of case patient		
CARET (21)	1:1	Within 5 y	Month from enrollment to blood draw	Within 2 h	Study center, year of randomization, and race
CLUE (9,10)	1:1	±1 y	±3 wk		
EPIC (27)	1:1	±6 mo	Matched for follow-up time	±1 h	Recruitment center and time between blood draw and last food or drink consumption
FMC (18)	2:1	Nearest available	Matched by municipality (±1 mo)		
HHS (NBSBWG) (22)	4:1	±2 y	±2 mo		Use of trial medication and local study center
HPFS (25)	1:1	Year of birth ±1 y	Exact year	Midnight–9 am; 9 am–12 pm; 12 pm–4 pm; and 4 pm–midnight	PSA test before blood draw and season; control subjects had at least one screening PSA test after the date of blood draw
JACC (23)	3:1	As close as possible			Recruitment area
Janus (16)	3:1	Year of birth ±1 y	±6 mo		N/A
Janus (NBSBWG) (22)	4:1	Year of birth ±2 y	±6 mo		County of residence and Red Cross blood donor status (Oslo)
JHCS (7,14)	1:1	Same age	Same month or year of recruitment	Same hour of recruitment	
KPMCP (12)	3:1	Same age			
MCCS (26)†	3:1	±60 mo			Batch number and country of birth
NSHDC (22)	2:1	±6 mo	±2 mo		Town or area of residency
PHS (13)	2:1	±1 year			Had not had a total or partial prostatectomy and smoking status
ProtecT (28)	2:1	2-y bands	Closest calendar date		Primary care physician practice
RBS (8)†	3:1	±24 mo	±18 mo	±2 h	Race and smoking status

*ATBC = Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study; BLSA = Baltimore Longitudinal Study of Aging; CARET = Carotene and Retinol Efficacy Trial; CLUE = CLUE Study; Washington County, MD; EPIC = European Prospective Investigation into Cancer and Nutrition; FMC = Finnish Mobile Clinic Health Examination Survey; HHS = Helsinki Heart Study; HPFS = Health Professionals Follow-up Study; JACC = Japan Collaborative Cohort Study; Janus = Janus Serum Bank; JHCS = Japan–Hawaii Cancer Study; KPMCP = Kaiser Permanente Medical Care Program; MCCS = Melbourne Collaborative Cohort Study; NBSBWG = Nordic Biological Specimen Biobank Working Group; NSHDC = Northern Sweden Health and Disease Cohort; PHS = Physician's Health Study; ProtecT = Prostate Testing for Cancer and Treatment; RBS = Rancho Bernardo Study; PSA = prostate-specific antigen.

†Used a case–cohort design that was subsequently converted into nested case–control design.

Supplementary Table 2. Assay method, manufacturer, and reported coefficients of variation for each study*

Study (ref.)	Type of CV reported	Testosterone	DHT	Androstanediol glucuronide	DHEA-S	Androstenedione	Estradiol	SHBG
ATBC (17)	Intra-assay	RIA† (Endocrine Sciences, Calabasas Hills, CA), CV = 5.5%	RIA† (Endocrine Sciences), CV = 8.9%	RIA† (Endocrine Sciences), CV = 12.3%	RIA (Endocrine Sciences), CV = 11.3%	RIA‡ (Endocrine Sciences), CV = 7.0%	RIA† (Quest Diagnostics, San Juan Capistrano, CA), CV = 13.7%	IRMA (Endocrine Sciences), CV = 4.2%
BLSA (11,24)	None	RIA			U/K			RIA (Radim)
CARET (21)	Intra- and interassay range	RIA† (Diagnostic Systems Laboratories Inc, Webster, TX), CV = 1%–12%		Double-antibody (Diagnostic Systems Laboratories Inc), CV = 1.5%–4.8%	Double-antibody (Diagnostic Systems Laboratories Inc), CV = 0.8%–1.9%	RIA† (Diagnostic Systems Laboratories Inc), CV = 5%–9%	RIA† (Pantex, Santa Monica, CA), CV = 5%–13%	RIA (Diagnostic Systems Laboratories Inc), CV = 2%–7%
CLUE (9,10)	U/K	RIA, CV = 8%	RIA, CV = 20%		RIA (Wein Labs, Succasunna, NJ), CV<10%		RIA, CV = 26%	RIA, CV N/A
EPIC (27)	Intra-assay	RIA (Immunotech, Marseilles, France), CV = 10.8%–14.8%		RIA (Diagnostic Systems Laboratories Inc), CV = 4.1%–9.9%		RIA (Diagnostic Systems Laboratories Inc), CV = 3.5%–11.1%		IRMA (Cis-Bio International, Gif-Sur-Yvette, France), CV = 7.7%–12.2%
FMC (18)	Interassay	RIA (Diagnostic Products Corporation, Los Angeles, CA), CV = 4.5%–7.2%				RIA (Diagnostic Products Corporation), CV = 9.5%–11.7%		FIA (Wallace, Turku, Finland), CV = 6.6%–8.7%
HPFS (25)	Intra-assay	Chemiluminescence (Roche Diagnostics, Indianapolis, IN), CV = 4.9%	RIA (Diagnostic Systems Laboratories Inc), CV = 9.7%	RIA (Diagnostic Systems Laboratories Inc), CV = 6.7%			RIA (Diagnostic Systems Laboratories Inc), CV = 5.2%	IRMA (Diagnostic Systems Laboratories Inc), CV = 10.7%
JACC (23)	U/K	RIA (Diagnostic Products Corporation), CV = 5%–12%						IRMA (Diagnostic Products Corporation), CV = 5.6%–6.9%
Janus (16)	Intra- and interassay range	RIA†, CV = 5%–15%	RIA†, CV = 5%–15%	RIA§, CV = 5%–15%				Ammonium sulfate precipitation, CV = 5%–15%
JHCS (7,14)	Intra- and interassay range	RIA† (in-house), CV = 5%–15%	RIA† (in-house), CV = 5%–15%	RIA† (in-house), CV = 5%–15%		RIA† (in-house), CV = 5%–15%	RIA (in-house)	Ammonium sulfate precipitation, CV = 5%–15%
KPMCP (12)	None				RIA			
MCCS (26)	U/K	Chemiluminescence (Roche, Mannheim, Germany), CV = 1.6%		RIA (Diagnostic Systems Laboratories Inc), CV = 4.3%	Immunoassay (Diagnostic Products Corporation), CV = 12.4%	RIA (Diagnostic Systems Laboratories Inc), CV = 3.3%	Chemiluminescence (Roche), CV = 11.1%	Immunometric (Diagnostic Products Corporation), CV = 6%
NBSBWG (HHS and Janus) (22)	Intra- and interassay range	FIA (Delfia, Turku, Finland), CV = 5.5%–13%						IMFR (Delfia), CV = 1.3%–10.1%
NSHDC (22)	None	RIA (Orion Diagnostica, Espoo, Finalnd)					U/K	IRMA (Delfia)
PHS (13)	Intra-assay	Direct RIA (ICN Biomedicals, Costa Mesa, CA), CV = 8.7%	RIA†, CV = 5.3%	RIA (Diagnostic Systems Laboratories Inc), CV = 7.6%			RIA (Diagnostic Products Corporation), CV = 6.8%	RIA (Orion Diagnostica, Oulu, Finland), CV = 8.9%
ProtecT (28)	None	U/K						U/K
RBS (8)	Intra- and interassay range	RIA† (in-house), CV = 4.1%–10%	U/K, CV N/A			RIA† (in-house), CV = 4%–8%	RIA† (in-house), CV = 8%–12%	

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†Organic extraction and celite column chromatography before RIA.

‡After organic extraction and centrifugation.

§After β-glucuronidase hydrolysis.