Supplementary Table #1.
SNPs Genotyped in Study. All SNPs genotyped around *MSMB* (chr10:51219559-51232598), with genomic position on chromosome 10 (all positions given as hg18 assembly), nucleotide corresponding to minor and major alleles in the study population, minor allele frequency in both the study population and the HapMap CEU population (NA = not available), genotyping success rate, and whether the SNP was discarded due to failure to pass quality control standards.

Chr	Position	SNP ID	Minor Allele	Major Allele	Study MAF	HapMap CEU MAF	Genotyping Success Rate	Failed QC Due To
10	51185540	rs2611512	T	C	0.46	0.43	99.5%	
10	51194977	rs3123078	C	T	0.43	0.4	99.3%	
10	51197376	rs10826075	G	C	0.25	NA	100%	
10	51202534	rs4630240	A	G	0.4	NA	99.3%	
10	51202627	rs7920517	G	A	0.44	0.4	99.5%	
10	51208182	rs11006207	T	C	0.43	0.4	88%	Genotyping
10	51209768	rs10763588	G	T	0.43	0.4	100%	
10	51212450	rs4306255	A	G	0.34	NA	60.2%	Genotyping
10	51213834	rs16914424	C	T	0.019	NA	99.5%	
10	51214149	rs7075009	T	G	0.44	0.4	99.1%	
10	51214481	rs7098889	C	T	0.43	0.4	100%	
10	51214719	rs4304717	G	A	0.0045	NA	100%	MAF
10	51217377	rs7075697	C	G	0.41	0.38	99.3%	
10	51218843	rs11812658		G	0	NA	99.5%	MAF
10	51219205	rs12247790	G	T	0.0011	NA	100%	MAF
10	51219320	rs12770171	T	C	0.23	NA	66.8%	Genotyping
10	51219502	rs10993994	T	C	0.38	0.33	99.3%	
10	51219539	rs41274660	G	T	0.014	NA	99.5%	
10	51219551	rs4935176		T	0	NA	100%	MAF
10	51219673	rs7921336		A	0	NA	99.5%	MAF
10	51219717	rs12246321		A	0	NA	100%	MAF
10	51226455	rs2072701	G	A	0.15	0.2	99.1%	
10	51228131	rs7076948	C	T	0.37	0.38	100%	
10	51229942	rs7094791	C	T	0.32	0.35	98.9%	
10	51231805	rs17178655	A	G	0.23	0.27	99.5%	

Supplementary Table #2.
Results of entire empirical permutation test for association of SNPs at *MSMB* with blood and semen biomarkers as well as tests of independence from rs10993994 for β-MSP levels. For each SNP genotyped in the study, empirical p-values are reported for each blood and semen biomarker measured. For those SNPs nominally associated with β-MSP levels in either semen or blood, the association of that SNP with β-MSP levels independent of rs10993994 is also reported, both uncorrected and corrected for all 16 SNPs. The strongest second independent effect is bolded in red. N.D. = not done because the SNP is not nominally associated with β-MSP levels. REF.=rs10993994 reference, so test of independence would be meaningless.

	β-MSP		**Total PSA**		**Free PSA**		**hK2**		**β-MSP (Independence from rs10993994)**		**β-MSP (Independence from rs10993994, (Sidak corrected)**	
SNP ID	**Blood**	**Semen**	**Blood**	**Semen**	**Blood**	**Semen**	**Blood**	**Semen**	**Blood**	**Semen**	**Blood**	**Semen**
rs2611512	4.25E-05	0.003505	0.5236	0.09143	0.4327	0.09764	1	0.004991	0.89	0.17	1.0	0.95
rs3123078	2.02E-05	0.001621	0.8671	0.1009	0.8744	0.1059	1	0.006635	0.055	0.041	0.60	0.49
rs10826075	0.001384	0.01265	0.6667	1	0.5858	1	0.9991	0.9984	0.42	0.039	1.0	0.47
rs4630240	0.0368	0.07926	0.5288	0.9481	0.5058	0.9427	1	0.2404	0.045	N.D.	0.52	N.D.
rs7920517	3.65E-05	0.002988	0.3773	0.1366	0.3691	0.1393	1	0.01122	0.014	0.0084	0.21	0.13
rs10763588	3.78E-05	0.003383	0.3975	0.1249	0.3588	0.1259	0.9999	0.009726	**0.013**	0.0074	0.19	0.11
rs16914424	0.9743	0.8118	0.9967	1	0.9995	1	0.8677	0.9648	N.D.	N.D.	N.D.	N.D.
rs7075009	3.65E-05	0.002988	0.3616	0.1366	0.3615	0.1393	0.9998	0.01122	0.060	0.0020	0.63	0.032
rs7098889	3.78E-05	0.003383	0.3975	0.1249	0.3588	0.1259	0.9999	0.009726	0.055	**0.0018**	0.60	0.028
rs7075697	3.74E-05	0.001684	0.3236	0.1416	0.3012	0.148	0.9962	0.004048	0.15	0.087	0.93	0.77
rs10993994	6.00E-07	6.60E-06	0.03498	0.02677	0.04161	0.03125	0.9593	0.004578	REF.	REF.	N.D.	N.D.
rs41274660	0.9981	0.9989	1	0.9637	0.9998	0.9633	1	0.9551	N.D.	N.D.	N.D.	N.D.
rs2072701	0.03423	0.1072	0.7476	0.1077	0.8368	0.13	1	0.5352	0.18	N.D.	0.96	
rs7076948	0.9406	0.811	0.9998	0.3269	1	0.3294	1	0.9999	N.D.	N.D.	N.D.	N.D.
rs7094791	0.9941	0.9949	1	0.04614	1	0.04867	1	0.8516	N.D.	N.D.	N.D.	N.D.
rs17178655	1	1	0.4425	0.01777	0.5734	0.01898	0.998	0.3541	N.D.	N.D.	N.D.	N.D.