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Supplemental Data

The Genome-wide Patterns of Variation

Expose Significant Substructure

in a Founder Population

Eveliina Jakkula, Karola Rehnström, Teppo Varilo, Olli P. H. Pietiläinen, Tiina Paunio, Nancy L. Pedersen,5 Ulf deFaire, Marjo-Riitta Järvelin, Juha Saharinen, Nelson Freimer, Samuli Ripatti, Shaun Purcell, Andrew Collins, Mark J Daly, Aarno Palotie, and Leena Peltonen

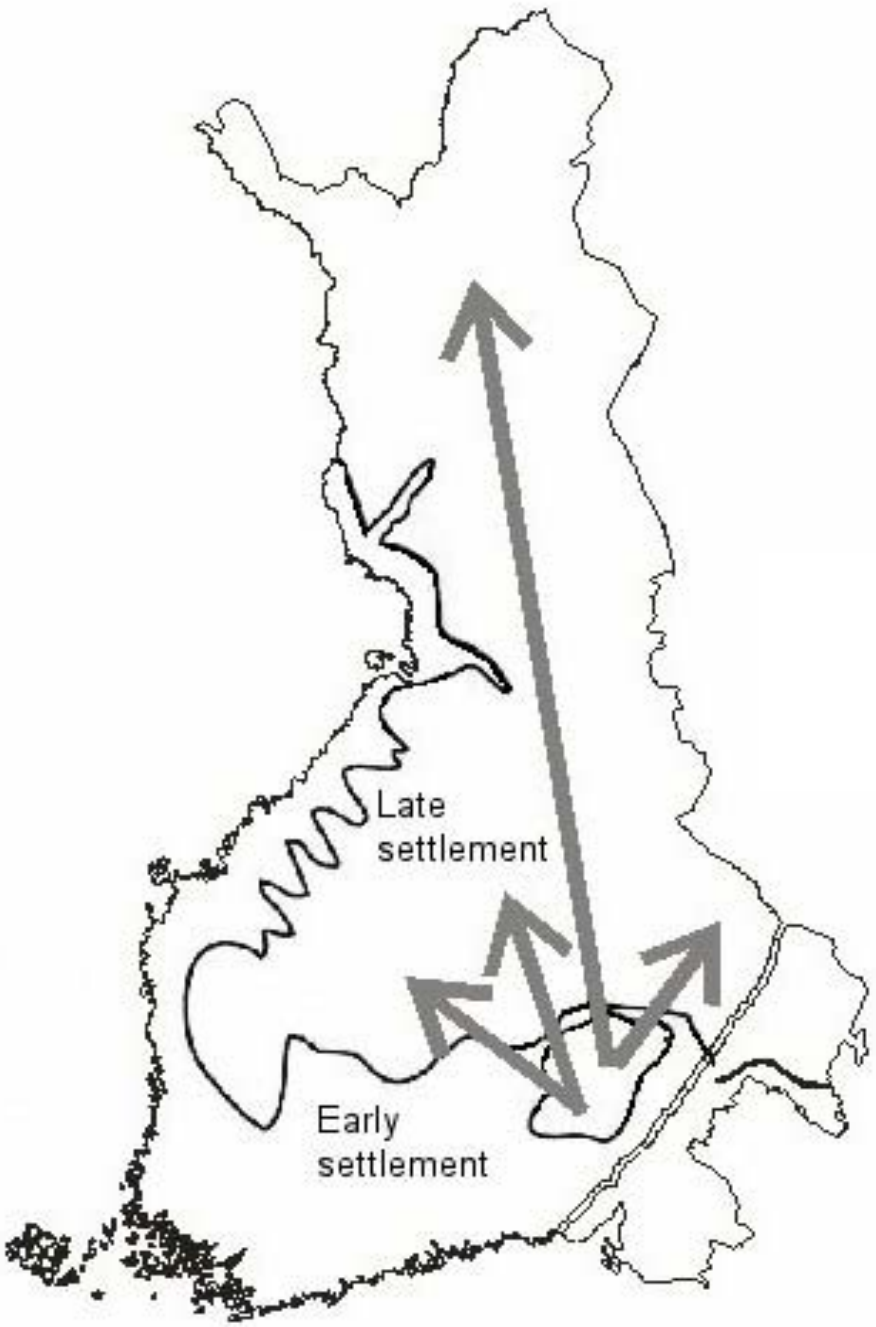

Figure S1. Division of Finland into early and late settlement.

The South Savo region is marked and arrows indicate the internal migration from South Savo to the rest of Finland.

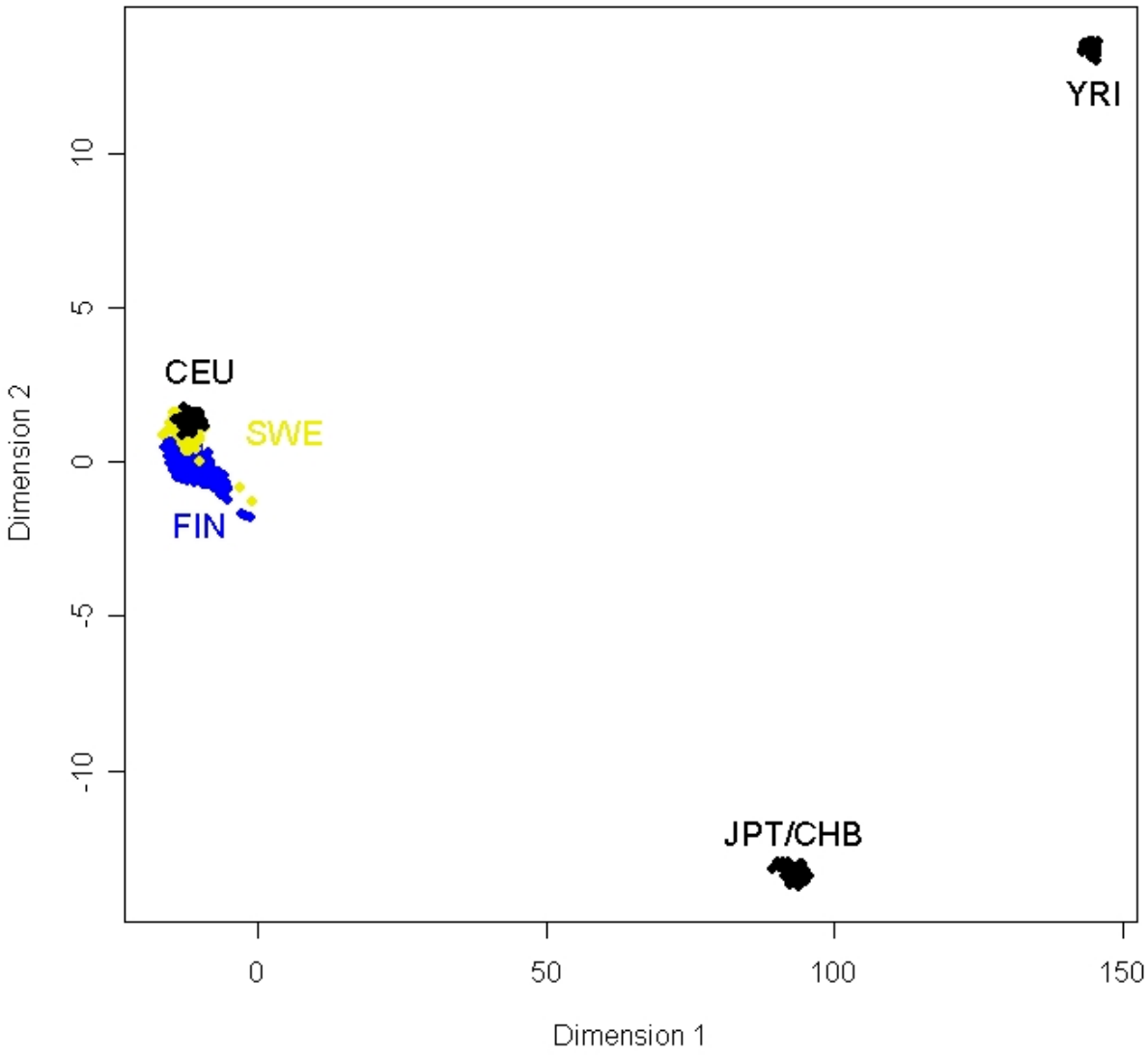

Figure S2. The first two dimensions of variation in the Finnish and Swedish populations compared to the three HapMap populations.

All Finnish samples, including the subpopulations as well as the Helsinki (HEL) samples have been grouped together to form the FIN population. CEU – CEPH individuals of European Ancestry, CHB – Han Chinese, FIN –Finland, JPT – Japanese, SWE – Sweden, YRI – Yoruba.

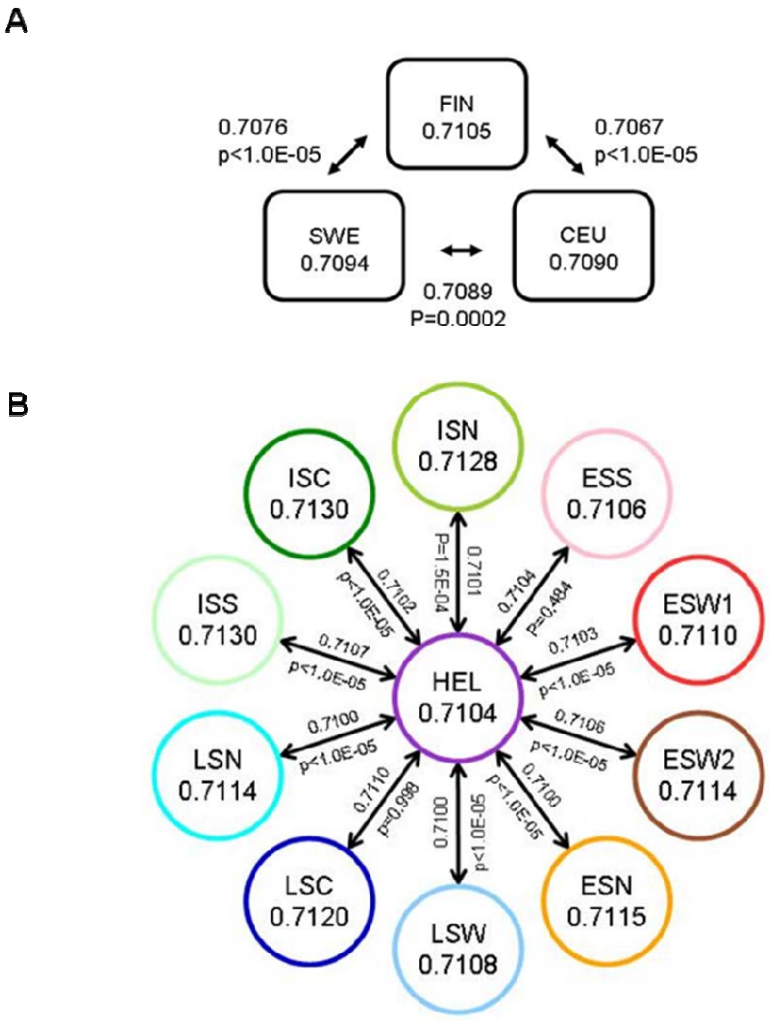

Figure S3. The average genome-wide IBS pairwise identities within and between groups. Note that absolute values of the IBS sharing are not informative, but the values are only meaningful in relation to each other (A) IBS-sharing within and between the Finnish, Swedish and CEU groups. (B) IBS-sharing within all Finnish subgroups and between all subgroups and the Helsinki (HEL) population, also the p-value for the difference between groups are indicated (p-values also indicated in table 1). CEU – HapMap CEPH, SWE – Sweden, HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Central (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

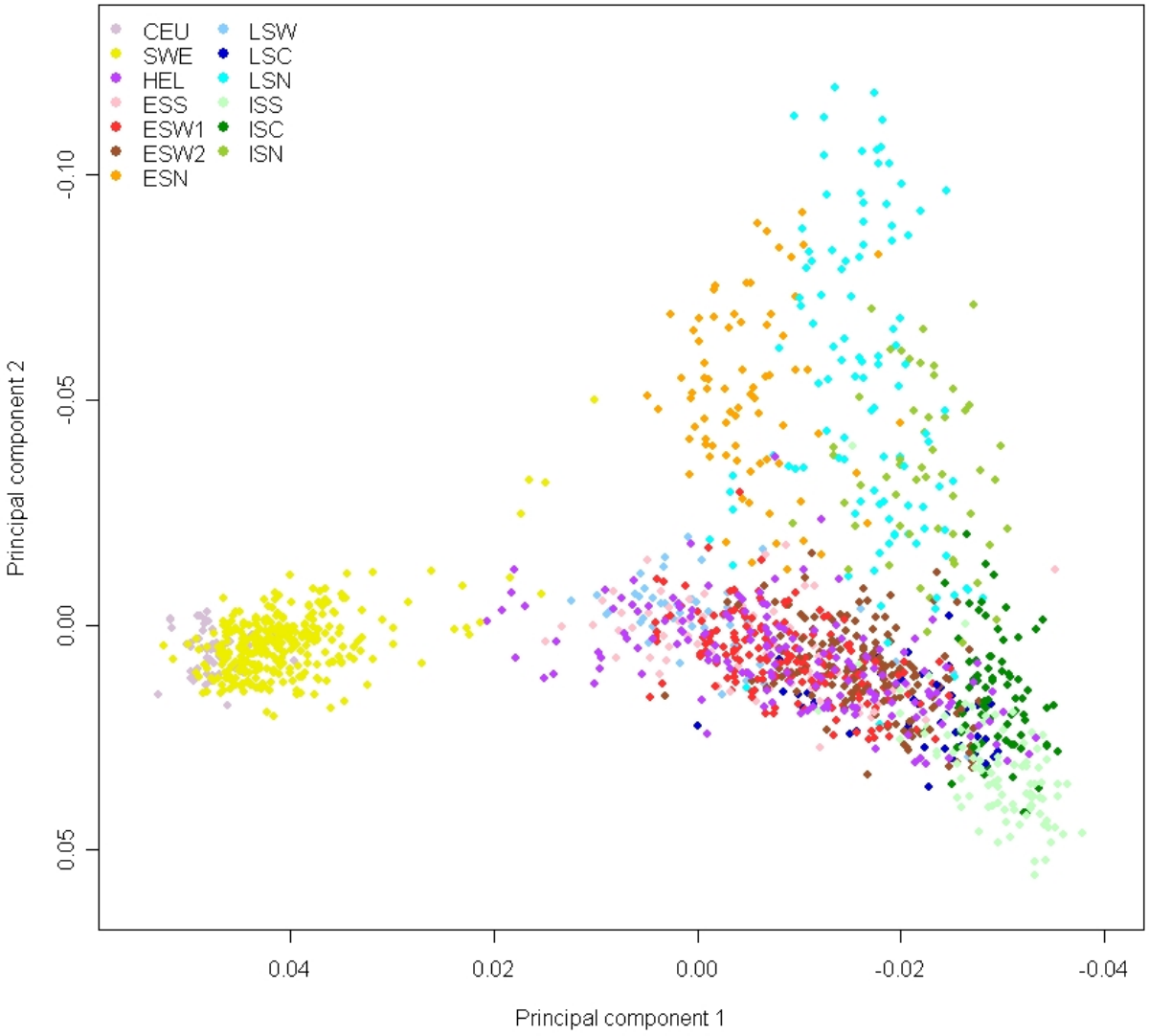

Figure S4. Substructure analysis using the first two eigenvectors from Eigensoft analysis. CEU – HapMap CEPH, SWE – Sweden, HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Central (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

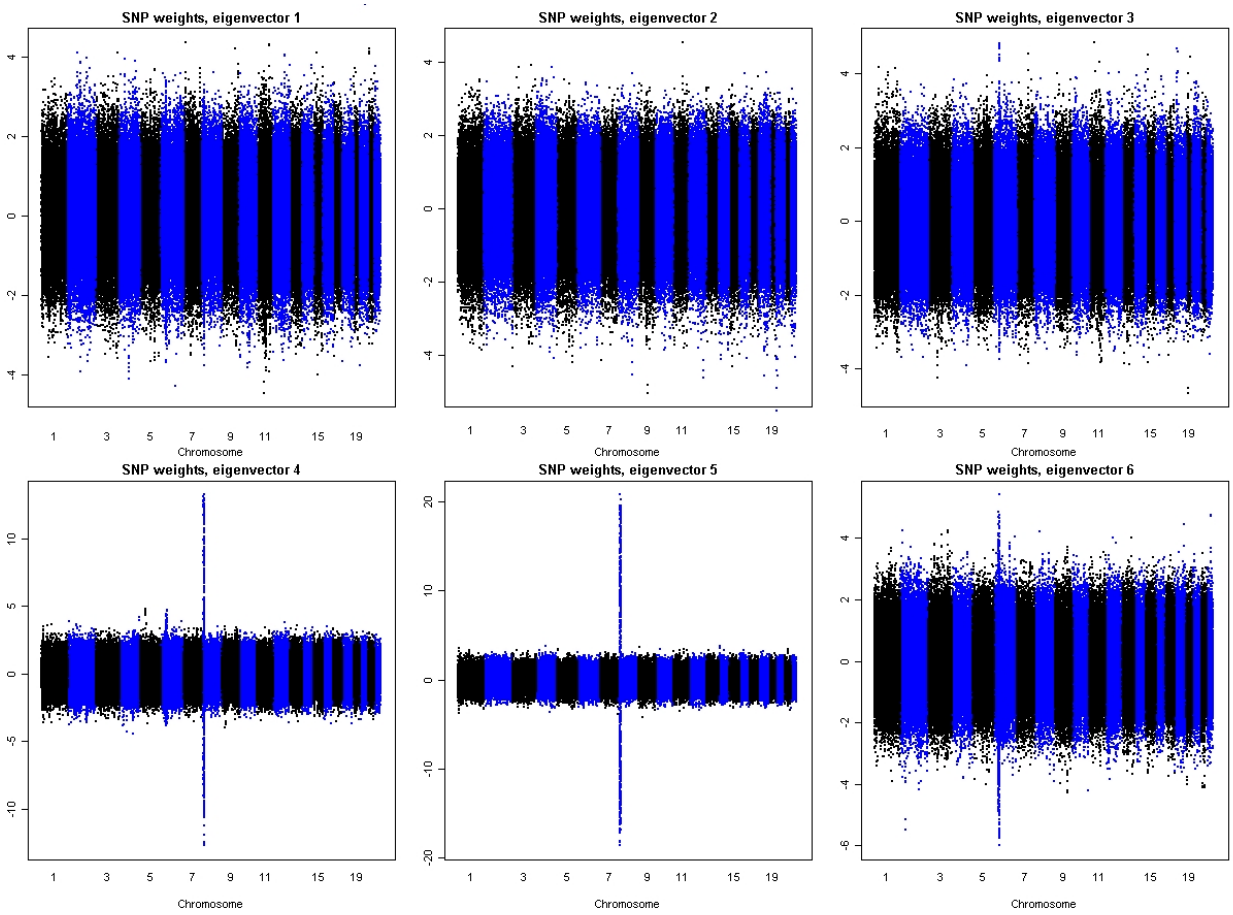

Figure S5. SNP weights for all autosomal SNPs.

Weights were estimated from principal component analysis using Eigensoft for the first six eigenvectors for all samples including all Finns, Swedes and HapMap CEU. The region showing high significance in eigenvectors 4 and 5 is located at the 8p23 inversion.

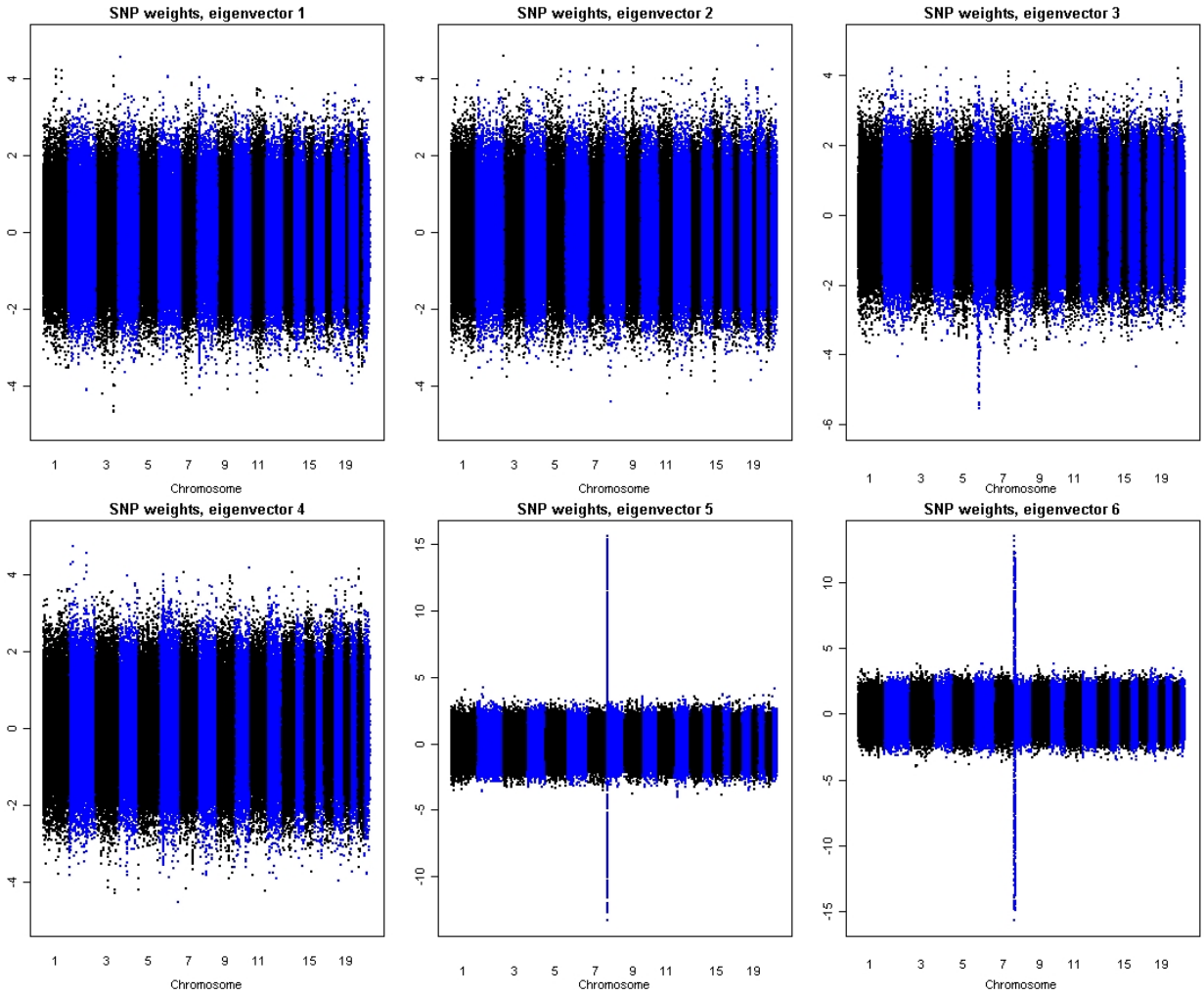

Figure S6. SNP weights for all autosomal SNPs.

Weights were estimated from principal component analysis using Eigensoft for the first six eigenvectors for all samples including only the Finnish samples. The region showing high significance in eigenvectors 5 and 6 is located at the 8p23 inversion.

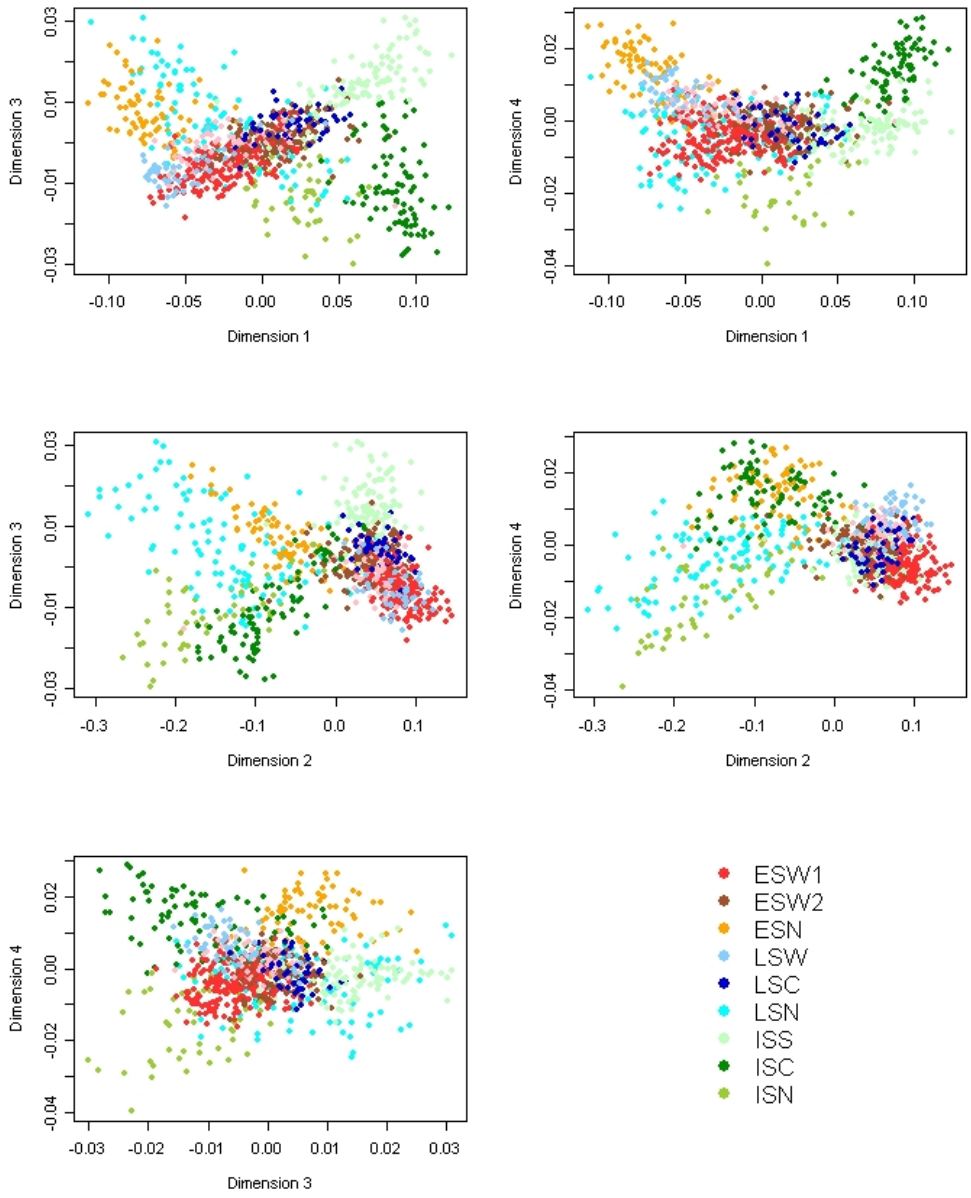

Figure S7. Visualization of the third and fourth dimensions of the multidimensional scaling (MDS) analysis.

ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Central (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

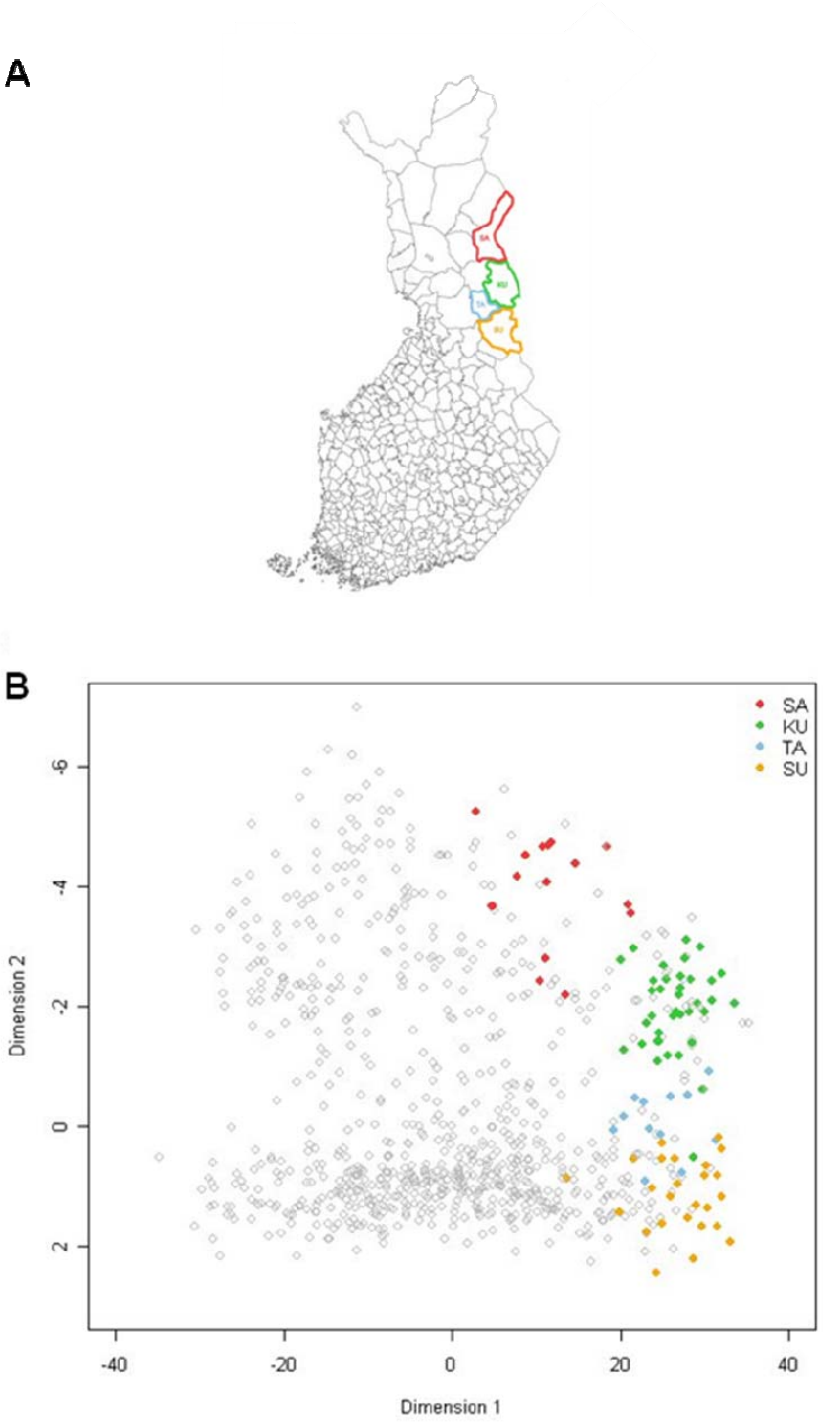

Figure S8. Results of MDS analysis of the IBS-sharing matrix in the youngest subisolates in northeastern Finland.

Individuals with both parents from four municipalities show clustering and separation on a north-south gradient. SA – Salla, KU – Kuusamo, TA – Taivalkoski, SU – Suomussalmi

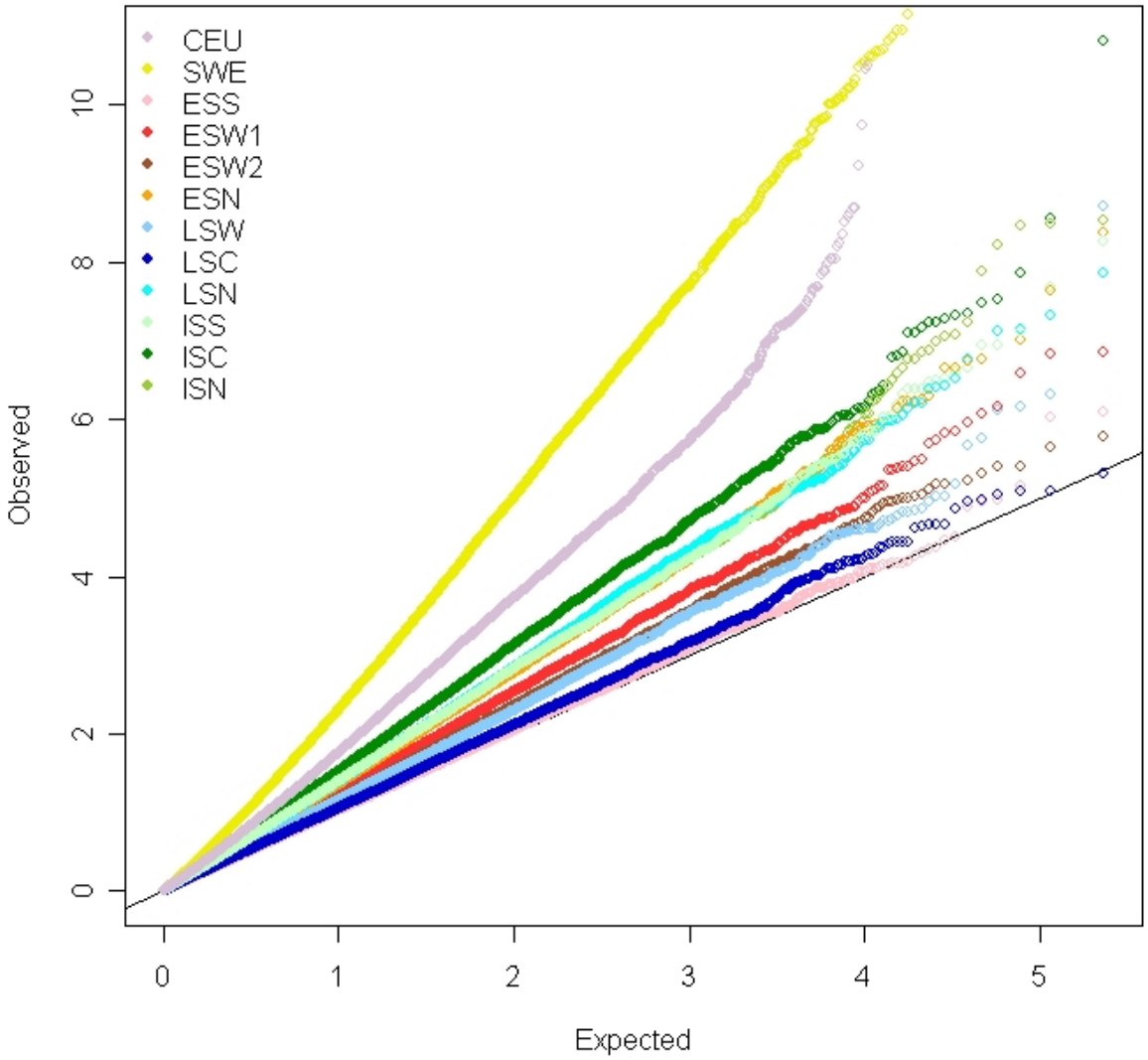

Figure S9. Quantile-quantile plots of uncorrected p-values of association tests for each subisolate, Swedes and CEU versus the Helsinki population.

The most extreme p-values for CEU and SWE have been omitted. CEU – HapMap CEPH, SWE – Sweden, HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Central (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

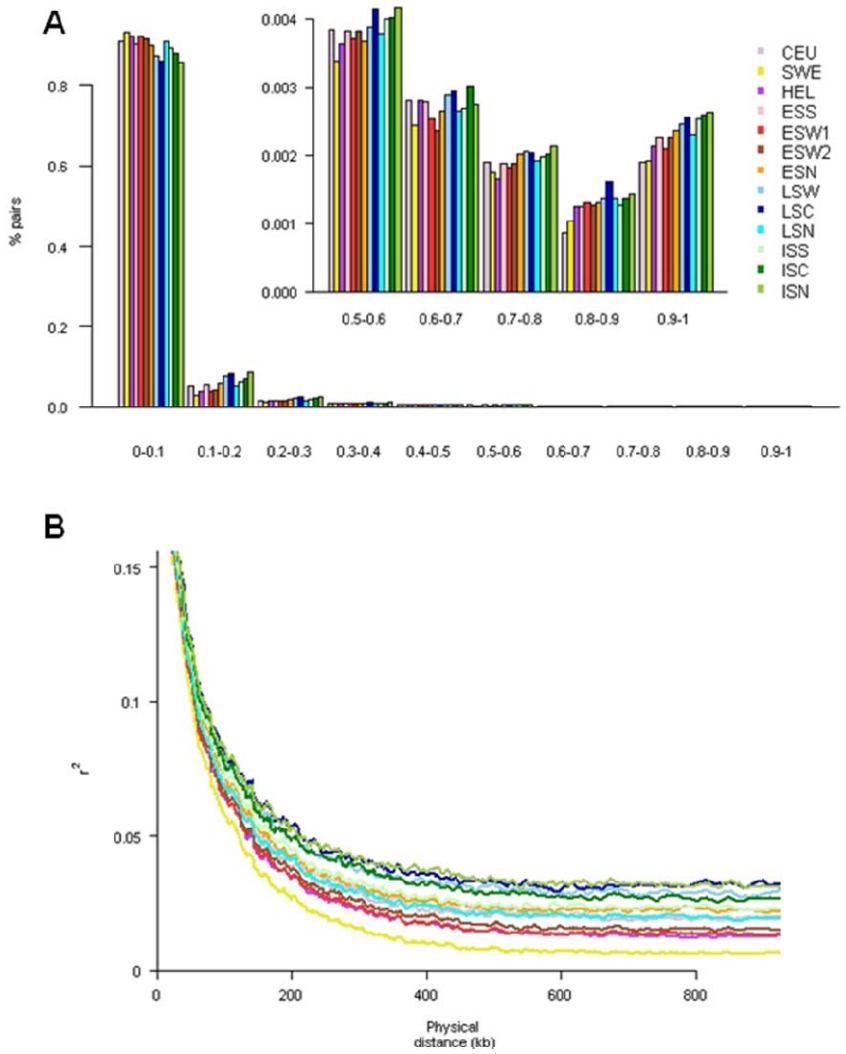

Figure S10. Distribution of correlation (r^2) between pairs of SNPs on chromosome 3q.

(A) Distribution of r^2 for SNP pairs. The inset shows an enhanced view of the high-LD bins for the different populations. (B) Correlation between physical distance and correlation between pairs of SNPs. r^2 was estimated in successive windows of 5000 SNP-SNP pairs (4000 SNP pair overlap). CEU – HapMap CEPH, SWE – Sweden, HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Central (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

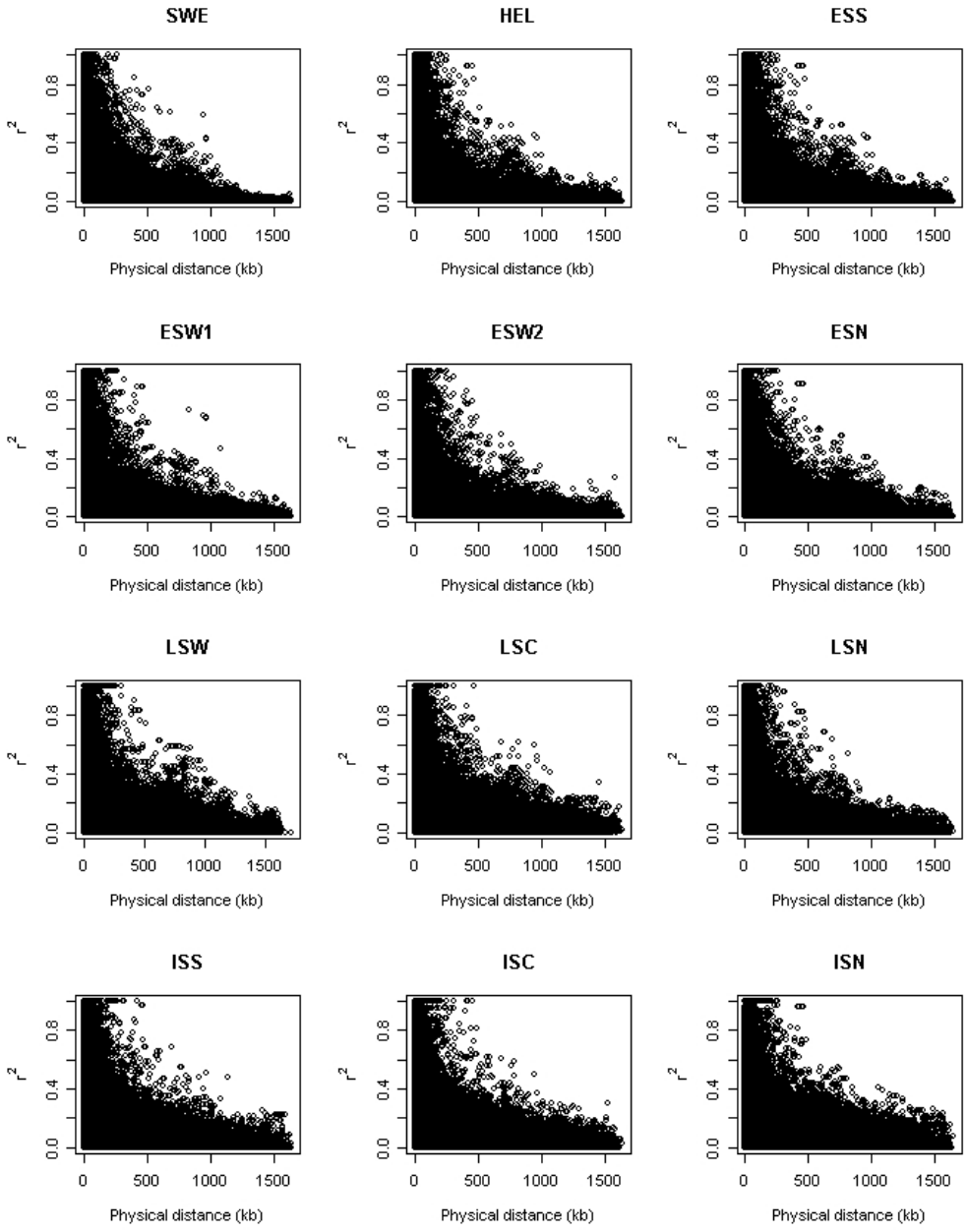

Figure S11. Distribution of LD measured in r^2 versus distance in the different populations on chromosome 22.

SWE – Sweden, HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Central (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

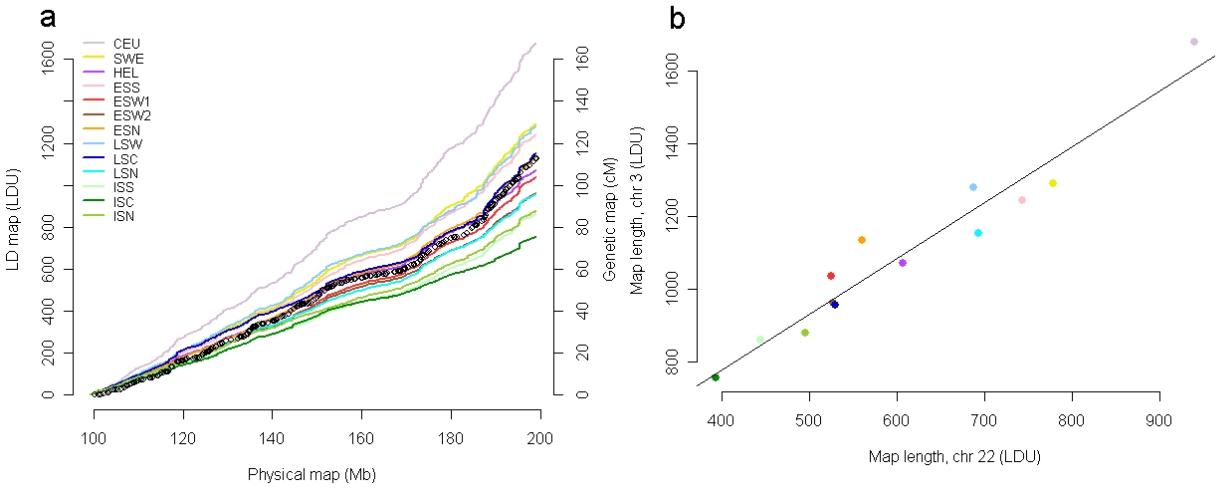

Figure S12. LD-maps for the long arm of chromosme 3.

(a) The length of LD-maps for chromosome 3q. Open circles indicate the genetic map. (b) Correlation between map lengths of chromosome 22 and chromosome 3. The map lengths show high correlation (Adjusted r^2=0.94). CEU – HapMap CEPH, SWE – Sweden, HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Central (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

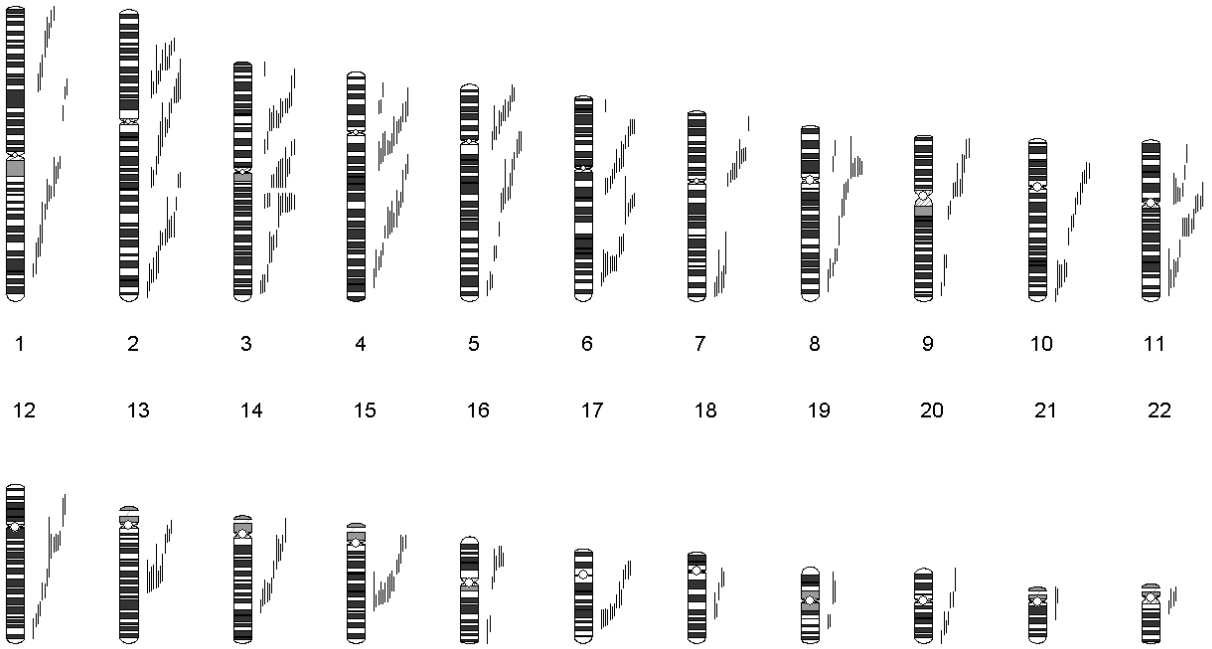

Figure S13. Chromosomal distribution of homozygous stretches >10Mb.

Homozygous stretches were determined for all Finns, including all subisolates as well as the Helsinki population.

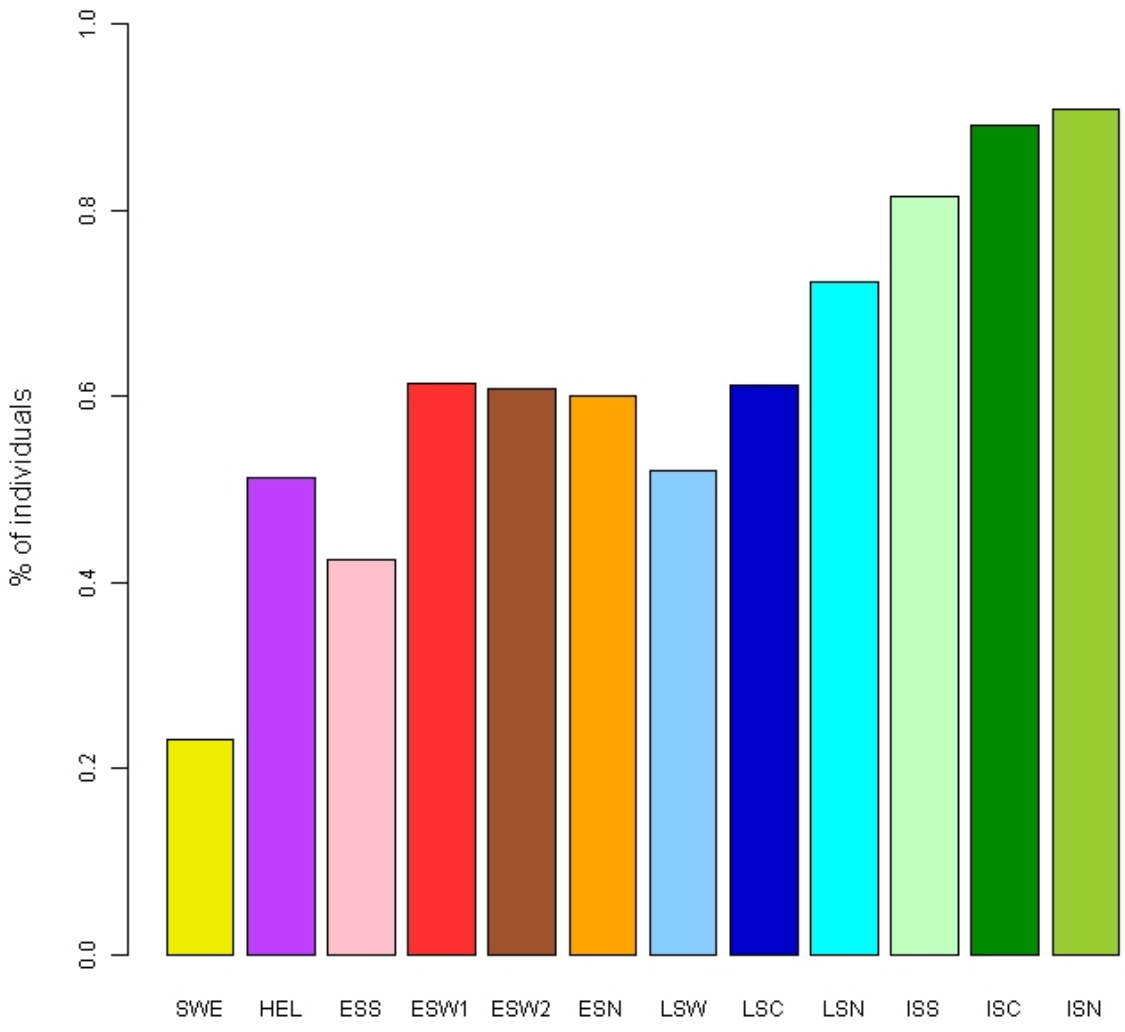

Figure S14. Percentage of individuals within the subpopulations who have at least one homozygous stretch >5Mb.

SWE – Sweden, HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Central (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

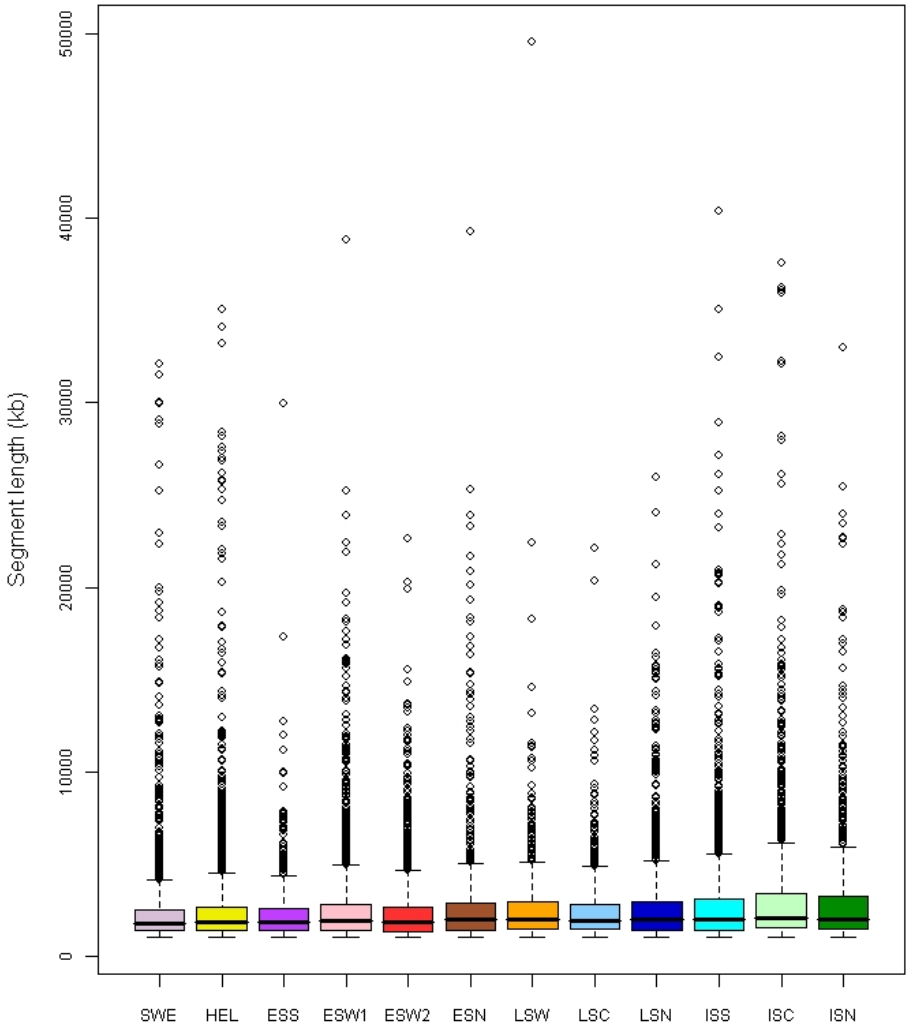

Figure S15. Distribution of the length of homozygous segments within the different subpopulations.

Equal to figure 4b, however the outliers have been included. SWE – Sweden, HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Central (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

Table S1. Summary of population groups used in the study including details of genotyping and QC procedures.

Group	n of individuals	n of individuals after QC	Females / males	% females	Chip type	Average genotyping rate per indiv	n of SNPs with HWE p < 0.001
SWE	302	302	302/0	100	318K duo	0.998	0
HEL	162	162	91/71	56	370K	0.999	166
ESS	73	73	30/43	41	318K duo, 370K	0.999	126
ESW1	184	179	94/85	53	370K, 318K duo	0.998	152
ESW2	153	145	81/64	65	370K, 318K duo	0.998	163
ESN	80	76	35/41	46	370K	0.998	115
LSW	48	48	24/24	50	317K, 318K duo, 370K	0.997	115
LSC	47	46	24/22	52	317K, 370K	0.998	69
LSN	111	107	51/56	48	370K	0.998	119
ISS	97	96	44/52	46	318K duo, 370K	0.998	135
ISC	83	78	35/43	45	318K duo, 370K	0.998	138
ISN	55	53	30/23	57	370K	0.998	94

SWE – Sweden, HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Cental (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland), QC – Quality control , 317K – Illumina HumanHap 300, 318K duo – Illumina HumanHap 300 duo, 370K – Illumina HumanCNV370-duo, HWE – Hardy Weinberg Equilibrium.

Table S2. Eigenvalues and statistical significance of top ten principal components from Eigenstrat analysis.

	All populations				Finnish subpopulations			
Number	Eigenvalue	TW statistic	TW p-value	ANOVA p-value	Eigenvalue	TW statistic	TW p-value	ANOVA p-value
1	7.79	2120.32	0	0	2.813116	586.12	0	3.59E-17
2	2.46	506.64	0	0	2.3897	437.30	0	5.10E-17
3	2.21	395.93	0	3.32E-17	1.862958	215.45	0	9.00E-18
4	1.80	197.60	0	1.68E-16	1.693716	141.89	0	0
5	1.78	190.12	0	0	1.636356	117.74	0	8.28E-17
6	1.68	141.38	0	0	1.622584	113.37	0	1.48E-16
7	1.65	124.53	0	0	1.550314	81.20	6.39E-214	1.04E-16
8	1.61	107.77	0	5.88E-11	1.509571	63.29	8.55E-148	4.01E-17
9	1.56	82.31	2.91E-218	1.41E-16	1.485165	52.82	3.73E-113	1.14E-13
10	1.52	61.69	2.65E-142	1.37E-16	1.468755	46.00	2.47E-92	3.05E-16

All values are reported for two sets, “all populations” which includes all Finns as well as Swedes and HapMap CEU, and “Finnish subpopulations” which includes the Finnish subpopulations without Swedes or CEU. TW – Tracy-Widom statistics.

Table S3. P-values for test of population differentiation using Eigensoft.

	HEL	ESS	ESW1	ESW2	ESN	LSW	LSN	LSC	ISS	ISC	ISN
HEL		0.031	4.11E-142	5.23E-93	4.07E-197	3.75E-61	2.28E-123	3.95E-27	1.07E-168	5.43E-217	9.31E-195
ESS	0.031		3.61E-103	3.17E-93	1.82E-133	3.61E-45	1.88E-83	5.31E-41	2.64E-149	9.07E-154	1.49E-132
ESW1	4.11E-142	3.61E-103		3.84E-128	5.24E-273	2.24E-116	2.95E-151	6.76E-103	5.32E-257	1.83E-283	7.03E-225
ESW2	5.23E-93	3.17E-93	3.84E-128		3.37E-213	8.66E-151	1.43E-89	3.24E-57	1.01E-133	1.01E-227	4.31E-159
ESN	4.07E-197	1.82E-133	5.24E-273	3.37E-213		3.91E-121	2.55E-102	3.28E-126	8.58E-207	5.00E-161	1.71E-160
LSW	3.75E-61	3.61E-45	2.24E-116	8.66E-151	3.91E-121		1.37E-101	1.33E-86	5.16E-133	2.53E-151	5.43E-131
LSN	2.28E-123	1.88E-83	2.95E-151	1.43E-89	2.55E-102	1.37E-101		1.43E-57	2.39E-131	4.91E-147	8.08E-60
LSC	3.95E-27	5.31E-41	6.76E-103	3.24E-57	3.28E-126	1.33E-86	1.43E-57		8.64E-76	1.00E-136	7.93E-104
ISS	1.07E-168	2.64E-149	5.32E-257	1.01E-133	8.58E-207	5.16E-133	2.39E-131	8.64E-76		5.25E-173	1.15E-165
ISC	5.43E-217	9.07E-154	1.83E-283	1.01E-227	5.00E-161	2.53E-151	4.91E-147	1.00E-136	5.25E-173		1.31E-146
ISN	9.31E-195	1.49E-132	7.03E-225	4.31E-159	1.71E-160	5.43E-131	8.08E-60	7.93E-104	1.15E-165	1.31E-146	

The test is a summary of Anova statistics across the first 10 eigenvectors, and corresponds approximately to a chi-square test with 10 degrees of freedom. HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Cental (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).

Table S4. Common regions of homozygosity (ROHs) in Finnsh datasets.

Median start and end points for the most common regions of homozygosity of over 1 Mb containing 100 SNPs (ROH)									Corresponding ROHs in
chr	Median start (bp)	Median end (bp)	Median length (kb)	Median n of SNPs	Range start (bp)	Range end (bp)	N of individuals	%	Lencz et al. 2007
6p22.1	27634876	29621771	1886.4	164	16661905	42509970	294	0.274	roh134
11q11-q12.1*	54847844	56608674	1612.8	110	54847844	69680337	108	0.101	roh242
2q21.2-q21-3	134674699	136914881	2292.4	134	114633578	149732466	101	0.094	roh45
6p22.1-p21.33	29233258	31051974	2699.6	372	16661905	42509970	88	0.082	roh135
11p11.2-p11.12*	46192202	51171349	4910.1	119	36762573	51171349	74	0.069	roh241
3p21.31-p21.2	46723457	52222150	4802.2	150	31825667	59534529	65	0.061	roh67, roh68
7q31.2-q31.31	117005747	119959341	2936.0	127	103431741	134965377	64	0.060	roh161
5q23.3	128895709	132158923	3028.4	136	119697356	141425958	64	0.060	roh125
21q21.3	28699920	30144382	1506.9	129	19329569	46909175	63	0.059	roh337
7q31.33-q32.1	125281446	127463642	1832.0	181	110890180	134965377	60	0.056	roh162, roh163
15q21.2-q21.3	47988823	50775480	2423.8	177	27014674	60526755	56	0.052	roh297, roh298
9q33.3-q34.11	126585163	127972499	1406.0	119	119161372	135749021	53	0.049	-
6p21.33-p21.32	30527810	33080865	3167.6	482	16661905	42509970	53	0.049	-
5p12-p11*	43624705	46141920	2517.2	114	33612359	46141920	52	0.048	roh116
3p12.2-3p12.1	83149702	87131092	2671.5	139	62070731	90277042	50	0.047	roh75
2q32.3-q33.1	195792579	198787749	2559.9	128	168470913	215165289	49	0.046	roh56
7q21.13	89010429	90424659	1412.9	141	82794215	94936200	48	0.045	-
11q14.1-q14.2	83692371	86288053	2182.7	191	74746415	106868669	48	0.045	-
12q21.31-q21.33	83736199	86846945	3322.1	171	55541402	105140343	47	0.044	roh271, roh272
8q11.1-q11.21*	47901302	52501487	4089.4	124	47062007	71033622	47	0.044	roh172

Segments >1Mb and 100 SNPs and present In ≥47 individuals are included. * centromeric region

Table S5. Homozygous segments of ≥ 10 Mb on the autosomes in Finnish samples.

Sample ID	Chr	Start (bp)	End (bp)	Length (Mb)	SNPs (n)	Start SNP	End SNP	SNP density
ESW2_5	1	20729860	31056811	10.327	738	rs640742	rs6425689	13.993
HEL_7	1	22591578	48302845	25.711	1795	rs6426752	rs728864	14.324
LSN_26	1	37239880	52554291	15.314	943	rs709303	rs1983833	16.24
HEL_1	1	38048389	63317837	25.269	1933	rs473279	rs10749737	13.073
HEL_11	1	48255784	82334147	34.078	2692	rs1693258	rs962249	12.659
ISC_26	1	68357929	80994194	12.636	849	rs2419659	rs11576922	14.884
ESW1_36	1	76660065	101901271	25.241	1858	rs7536778	rs2289810	13.585
ESW1_4	1	83728341	96827070	13.099	1009	rs1038148	rs6673531	12.982
ISC_34	1	85774932	95857288	10.082	747	rs4949911	rs12120304	13.497
ISS_11	1	87528817	119987689	32.459	2386	rs1336945	rs539426	13.604
ISC_12	1	98476453	112400064	13.924	1058	rs12120750	rs155646	13.16
LSN_21	1	102776195	115384849	12.609	963	rs967554	rs1321110	13.093
ISC_8	1	110781375	120902276	10.121	788	rs6700661	rs12146056	12.844
LSN_23	1	150214737	162786304	12.572	1115	rs3006423	rs10800183	11.275
LSN_9	1	168501896	179015009	10.513	742	rs11587288	rs2494467	14.169
ISN_23	1	172383443	185366707	12.983	935	rs4233164	rs12024989	13.886
LSW_6	1	174729366	189293369	14.564	930	rs946817	rs1407818	15.66
ESN_19	1	176491040	198139439	21.648	1412	rs3905112	rs6697016	15.332
LSC_2	1	176932841	197666089	20.733	1301	rs6425616	rs4915471	15.936
ISN_16	1	186548614	204902123	18.354	1314	rs2176360	rs6695225	13.968
ISC_15	1	203097930	225411880	22.314	1803	rs7523985	rs603404	12.376
ISS_24	1	211508748	236714517	25.206	2172	rs1377185	rs7520065	11.605
ESN_6	1	218983453	231397143	12.414	1032	rs1906273	rs10910534	12.029
HEL_12	1	228495766	242616608	14.121	1472	rs751645	rs1471764	9.593
ISC_25	1	234099468	245420458	11.321	1072	rs1717783	rs6704311	10.561
HEL_17	2	3281969	16245423	12.963	1334	rs4546035	rs10201439	9.718
ESW1_6	2	8512337	30938388	22.426	1944	rs1872603	rs7597567	11.536
ESS_3	2	15149566	26294996	11.145	910	rs1430802	rs13383267	12.248
ESN_7	2	16169308	36275815	20.107	1702	rs4669035	rs305175	11.813
ISN_7	2	18683965	41299772	22.616	1943	rs2346137	rs9309065	11.64
ISN_10	2	23596040	45933257	22.337	2009	rs4665594	rs4952775	11.119
LSN_11	2	43270712	58342819	15.072	1589	rs12466022	rs1404460	9.485
LSN_16	2	46830983	57093281	10.262	1065	rs970711	rs1035974	9.636
LSN_2	2	47020802	60317142	13.296	1332	rs935378	rs2160069	9.982
ISC_18	2	49421428	86970238	37.549	3233	rs1365862	rs4832054	11.614
ISS_14	2	52396670	67922352	15.526	1411	rs6735211	rs881645	11.003
ESN_7	2	53507998	70783948	17.276	1525	rs2059315	rs880848	11.328
LSC_7	2	53771448	74137089	20.366	1731	rs1468984	rs13416937	11.765

ISN_4	2	75589189	86970238	11.381	894	rs12619807	rs4832054	12.73
LSN_10	2	94851298	111236974	16.386	1000	rs11885687	rs4556988	16.386
LSN_23	2	94851298	107252764	12.401	830	rs11885687	rs2215482	14.942
ISC_18	2	94851298	105494098	10.643	636	rs11885687	rs1914748	16.734
ISS_26	2	96584846	109141380	12.557	904	rs2118836	rs260658	13.89
ISS_22	2	105524024	120782541	15.259	1005	rs884876	rs2043722	15.183
ESN_10	2	114633578	137950065	23.316	1569	rs1367423	rs1453293	14.861
HEL_7	2	121208022	149615204	28.407	1924	rs707482	rs922860	14.765
ISC_37	2	128895469	165175409	36.280	2424	rs4662808	rs3828191	14.967
LSN_12	2	136871118	152574121	15.703	1084	rs4954599	rs13421962	14.486
ISC_4	2	140786202	151321205	10.535	717	rs10496837	rs2341081	14.693
LSN_23	2	144468402	165684504	21.216	1399	rs1868078	rs10497256	15.165
ISN_25	2	157373875	168451388	11.078	717	rs6740709	rs6741880	15.45
ISC_37	2	165244516	178485690	13.241	1092	rs1474249	rs6737872	12.126
ISC_7	2	165286311	185105923	19.820	1592	rs6707635	rs10931138	12.45
ISS_5	2	165935141	189894682	23.960	1756	rs10182570	rs10755002	13.644
ISN_13	2	168470913	201429942	32.959	2180	rs836692	rs951183	15.119
LSC_8	2	169955143	192055098	22.100	1540	rs830995	rs13431098	14.351
LSW_9	2	172498960	182678712	10.180	833	rs6716901	rs1196290	12.221
ESN_16	2	174092788	213384735	39.292	2617	rs1865236	rs7580519	15.014
LSC_2	2	177665143	192215438	14.550	898	rs1113669	rs10208726	16.203
ISN_9	2	181134445	192209472	11.075	584	rs4894185	rs2356653	18.964
ESW1_3	2	183921485	197900971	13.979	662	rs1462531	rs2697307	21.117
ISS_1	2	192640829	209699494	17.059	1096	rs10170778	rs2364820	15.564
ISN_11	2	192806544	215165289	22.359	1515	rs6434535	rs4673830	14.758
ESW1_34	2	192827369	203865712	11.038	581	rs10166176	rs7600392	18.999
ISS_23	2	194714006	213584623	18.871	1351	rs7600163	rs1482581	13.968
HEL_4	2	204762286	216922309	12.160	1061	rs7607984	rs1877104	11.461
ISN_1	2	208825676	219093286	10.268	854	rs4375849	rs2227255	12.023
ESW1_19	3	6188499	17165593	10.977	1186	rs10510331	rs17043135	9.256
LSN_12	3	7001341	22549173	15.548	1543	rs670764	rs2358693	10.076
ESW1_32	3	8234491	22074790	13.840	1316	rs9312006	rs779158	10.517
ESN_10	3	16302913	30200327	13.897	1261	rs6777976	rs2196131	11.021
ISS_13	3	31825667	57932080	26.106	1737	rs7649767	rs1658367	15.03
ISS_27	3	32980234	53584650	20.604	1164	rs6795737	rs709317	17.701
ESW1_14	3	42509046	55324472	12.815	732	rs342520	rs358810	17.507
LSN_2	3	45220637	59534529	14.314	939	rs7648149	rs6765225	15.244
HEL_9	3	62070731	90277042	28.206	2157	rs17632018	rs6551454	13.077
ISC_32	3	71490580	87259104	15.769	1054	rs4677611	rs1497418	14.961
HEL_7	3	74346155	90277042	15.931	854	rs6780663	rs6551454	18.654
ISS_8	3	74412529	90277042	15.865	837	rs12492560	rs6551454	18.954

ESW2_7	3	74562933	86350757	11.788	650	rs12488030	rs2048590	18.135
HEL_4	3	74970471	90277042	15.307	796	rs941304	rs6551454	19.229
LSW_5	3	77090819	90277042	13.186	694	rs6766804	rs6551454	19
LSN_15	3	77104959	88039468	10.935	603	rs6764089	rs2919270	18.134
LSC_7	3	77237123	88945744	11.709	633	rs9859970	rs10511142	18.497
HEL_6	3	78371380	90277042	11.906	595	rs7623262	rs6551454	20.01
ISS_12	3	79482170	90277042	10.795	520	rs13073607	rs6551454	20.759
ISS_8	3	95136682	106125780	10.989	555	rs8178607	rs10511232	19.8
ESW1_15	3	95136682	105164123	10.027	490	rs8178607	rs6782375	20.464
ESN_11	3	95136682	111483418	16.347	980	rs8178607	rs2713001	16.68
HEL_4	3	95136682	118416541	23.280	1507	rs8178607	rs9856565	15.448
HEL_6	3	95136682	128383804	33.247	2369	rs8178607	rs11710590	14.034
HEL_7	3	95136682	118638930	23.502	1529	rs8178607	rs6806321	15.371
HEL_9	3	95136682	116924298	21.788	1366	rs8178607	rs7638530	15.95
ISC_21	3	103725414	117938404	14.213	1006	rs1151324	rs9841113	14.128
ISS_16	3	106853033	119478154	12.625	965	rs9857831	rs10934444	13.083
LSN_20	3	121734795	132871718	11.137	832	rs1370743	rs7613777	13.386
ESS_2	3	122690866	134672014	11.981	962	rs3218651	rs9289448	12.454
ESW1_12	3	123563437	134655072	11.092	885	rs4491840	rs2078262	12.533
ESN_12	3	126302983	141597182	15.294	1196	rs2788462	rs1383019	12.788
ISS_11	3	142044163	160655776	18.612	1452	rs2139269	rs4142769	12.818
ISN_19	3	142529557	156955436	14.426	1148	rs4683600	rs4680216	12.566
ISN_11	3	144349211	163025373	18.676	1434	rs6805378	rs7620420	13.024
HEL_4	3	144576607	158559548	13.983	1132	rs1525006	rs10513512	12.352
ISN_20	3	144965571	156312609	11.347	873	rs1349001	rs9853221	12.998
HEL_16	3	148479699	168770372	20.291	1426	rs7645827	rs4552347	14.229
LSC_6	3	153739442	166504936	12.765	803	rs6771654	rs9872521	15.897
ESN_10	3	157237923	168980146	11.742	692	rs9810320	rs9815034	16.969
ESW2_9	3	157487656	168603702	11.116	650	rs13082914	rs1403646	17.102
LSN_22	3	161179700	173568967	12.389	788	rs9811792	rs9917745	15.722
HE_10	3	163310454	188001830	24.691	1878	rs1397235	rs1648703	13.148
ISC_30	3	177899841	193587757	15.688	1417	rs6787082	rs1525910	11.071
HEL_2	3	187843103	199278302	11.435	1153	rs3733159	rs12639242	9.918
ESW1_18	4	11203025	26799216	15.596	1438	rs1994958	rs969949	10.846
LSW_10	4	20255641	42706036	22.450	1918	rs7666974	rs10012449	11.705
ESW1_7	4	26681504	37225175	10.544	720	rs4692137	rs12646961	14.644
LSC_4	4	28724473	42107001	13.383	1057	rs7677192	rs13103573	12.661
ISC_31	4	38322884	48902776	10.580	793	rs4833063	rs12696828	13.342
LSN_19	4	52524535	62568307	10.044	704	rs1910739	rs6551665	14.267
ISC_31	4	52524535	78111798	25.587	1529	rs1910739	rs12500486	16.735
ESW1_20	4	56312479	75436762	19.124	1049	rs3805382	rs556808	18.231

ESN_7	4	58051742	83332524	25.281	1460	rs2691390	rs971825	17.316
ESW1_30	4	61776620	73629403	11.853	603	rs1486506	rs10019624	19.656
ESS_1	4	62222412	92173961	29.952	1858	rs186750	rs11946311	16.12
ESW1_34	4	71569311	83332524	11.763	716	rs7660807	rs971825	16.429
LSN_3	4	78183268	90526003	12.343	894	rs904050	rs7672015	13.806
LSN_19	4	82991989	108957150	25.965	1716	rs6834681	rs727137	15.131
LSC_3	4	95611908	110902300	15.290	977	rs10516950	rs6832174	15.65
HEL_1	4	101873020	113848055	11.975	747	rs10010359	rs4555714	16.031
LSN_24	4	106766530	122501269	15.735	1018	rs11097891	rs6835704	15.457
ESW1_20	4	109391583	133290461	23.899	1582	rs10022956	rs4863859	15.107
ESW2_8	4	114672302	127053913	12.382	859	rs2037673	rs4394015	14.414
ESN_13	4	116246842	140125102	23.878	1543	rs2165543	rs2135290	15.475
ISC_11	4	121245610	141090559	19.845	1307	rs10518347	rs795991	15.184
ESN_18	4	122281203	133789026	11.508	733	rs12503473	rs2013016	15.7
ESW2_1	4	123021065	133423137	10.402	658	rs4283687	rs13118884	15.809
ESW2_12	4	124125548	139659349	15.534	959	rs308420	rs12505439	16.198
ISN_25	4	129942768	153427388	23.485	1465	rs11098979	rs6823091	16.03
ISC_38	4	131451159	149614719	18.164	1139	rs6827503	rs7680420	15.947
ISS_14	4	140936647	151333605	10.397	653	rs3755992	rs4835617	15.922
ISC_1	4	142332954	153843037	11.510	647	rs2042630	rs4696324	17.79
ISN_3	4	149562396	164202986	14.641	1007	rs4087963	rs4317161	14.539
ISN_8	4	149642030	166604790	16.963	1183	rs2137330	rs7698056	14.339
ISS_29	4	154246245	177454523	23.208	1651	rs1018316	rs2128422	14.057
ESW1_8	4	156497670	167032117	10.534	768	rs9990860	rs191644	13.717
LSC_8	4	157011974	168212437	11.200	775	rs1483030	rs6846723	14.452
HEL_7	4	170172456	181612624	11.440	848	rs1458292	rs7674341	13.491
ISS_12	5	4686409	17246633	12.560	1215	rs10512742	rs585991	10.338
HEL_2	5	9443217	24826796	15.384	1152	rs390322	rs1835228	13.354
LSN_17	5	11601147	22229724	10.629	703	rs2561596	rs6883351	15.119
ESW1_22	5	33612359	46141920	12.530	836	rs3813474	rs7720482	14.988
ISS_11	5	36067627	46141920	10.074	619	rs2453299	rs7720482	16.275
LSN_4	5	54277851	65639395	11.362	894	rs6450264	rs10515005	12.709
ISN_12	5	74028637	89658424	15.630	1177	rs10805890	rs1434599	13.279
LSN_22	5	76485946	94355556	17.870	1241	rs6864250	rs722722	14.399
ISC_20	5	82054027	118011511	35.957	2516	rs6863156	rs2972219	14.292
LSN_25	5	84112061	95001348	10.889	599	rs1158242	rs6890832	18.179
ISS_21	5	85958923	106877573	20.919	1252	rs17476583	rs152555	16.708
ESW1_5	5	96376466	118288687	21.912	1657	rs2303138	rs2377127	13.224
ISN_4	5	109631231	123826877	14.196	1195	rs4505994	rs4574539	11.879
ESW1_6	5	119697356	134858680	15.161	1146	rs1368183	rs7714565	13.23
HEL_6	5	123543628	141371716	17.828	1261	rs4836064	rs164080	14.138

ISS_24	5	125915614	141259534	15.344	978	rs12514417	rs9324859	15.689
ISC_10	5	126168249	141425958	15.258	981	rs968355	rs252152	15.553
ISC_16	5	134605656	162604595	27.999	2288	rs6896456	rs2964350	12.237
HEL_15	5	134637721	145265514	10.628	755	rs4976285	rs3995498	14.077
LSN_22	5	139370651	158804399	19.434	1703	rs265158	rs7721176	11.411
ESN_4	5	146733197	157316100	10.583	960	rs4235731	rs10515756	11.024
ESW1_33	5	150848938	162876986	12.028	1033	rs2278372	rs4869089	11.644
ESW1_9	5	150881806	167727354	16.846	1452	rs2053028	rs1030182	11.602
LSN_23	5	153692360	165994213	12.302	1044	rs6580074	rs6878847	11.783
HE_10	5	159077687	170918445	11.841	1093	rs6867494	rs7720865	10.833
ESN_8	5	165819398	179998061	14.179	1460	rs1799594	rs4700745	9.711
ESW1_10	5	166692434	178004940	11.313	1193	rs4868792	rs3925517	9.482
ISN_9	6	12643097	23466218	10.823	1090	rs2504853	rs9379502	9.929
HEL_1	6	16661905	42514998	25.853	2956	rs2237182	rs694148	8.746
HEL_6	6	20521796	39151970	18.630	2198	rs9465734	rs2268645	8.476
ESN_15	6	22146505	41479096	19.333	2247	rs1207774	rs17538671	8.604
LSN_19	6	24136382	36814135	12.678	1478	rs7761213	rs12196180	8.578
ESW2_12	6	25475689	37707940	12.232	1446	rs10456044	rs6926735	8.459
ESW2_5	6	25607874	37201464	11.594	1355	rs7760799	rs10807178	8.556
ISS_19	6	25787939	38847145	13.059	1501	rs2205935	rs13219077	8.7
HEL_4	6	37145648	53772666	16.627	1537	rs4714034	rs4342426	10.818
ESW1_24	6	39285552	53574759	14.289	1249	rs9462492	rs492381	11.441
ISN_15	6	42259213	56223185	13.964	1133	rs1997980	rs6931381	12.325
ISS_12	6	64044694	104441372	40.397	2980	rs1320102	rs9499687	13.556
LSW_2	6	71374792	81935474	10.561	739	rs2691511	rs7773268	14.291
LSW_8	6	74434186	85169956	10.736	705	rs3846752	rs10484975	15.228
LSC_8	6	77978621	88572771	10.594	736	rs4265000	rs722903	14.394
ESN_2	6	79231356	89911155	10.680	790	rs6927933	rs12215916	13.519
LSN_1	6	89353589	102165584	12.812	1001	rs9294406	rs513216	12.799
ESN_14	6	90679134	102219857	11.541	902	rs690824	rs1415483	12.795
HEL_8	6	94139844	104147362	10.008	676	rs351328	rs9399834	14.804
LSW_3	6	98347163	109689879	11.343	899	rs595074	rs1040285	12.617
ISC_14	6	102732985	115165540	12.433	1002	rs9485630	rs4946020	12.408
ISS_25	6	107567039	126478941	18.912	1480	rs4946815	rs10499133	12.778
LSN_5	6	108415352	118880302	10.465	773	rs2050042	rs11153748	13.538
ISN_9	6	110788572	133494118	22.706	1797	rs12664330	rs3904628	12.635
ISC_33	6	112757899	130577705	17.820	1346	rs1935681	rs6934450	13.239
ISC_20	6	127560927	138379900	10.819	951	rs10457487	rs6570205	11.376
HEL_13	6	128634827	145667901	17.033	1497	rs6923988	rs9386110	11.378
ESW1_28	6	138291449	151350224	13.059	1125	rs9402927	rs2073189	11.608
ESW2_2	6	139678865	151373681	11.695	989	rs7770507	rs1771798	11.825

LSW_3	6	139733915	151245619	11.512	956	rs9495456	rs803410	12.042
ISS_22	6	157993104	168285060	10.292	1129	rs16900291	rs9295041	9.116
ISS_13	7	3951077	15677745	11.727	1157	rs582046	rs38191	10.135
ISS_11	7	4496775	20288995	15.792	1544	rs9791644	rs6461502	10.228
ISC_20	7	7123923	43197352	36.073	3720	rs10486157	rs10246620	9.697
ESW1_16	7	7561382	24705586	17.144	1843	rs1541549	rs10486438	9.302
ESW1_10	7	11438971	29591212	18.152	2031	rs3846988	rs2041755	8.938
HEL_12	7	22799595	57834528	35.035	3149	rs4722187	rs6959914	11.126
ISN_12	7	96090911	106922488	10.832	768	rs767198	rs1858930	14.104
LSN_8	7	98816100	108939772	10.124	757	rs952319	rs990943	13.373
ISS_8	7	101382289	114540520	13.158	888	rs10243429	rs10233079	14.818
ESW2_11	7	101507570	114763138	13.256	895	rs1725604	rs11983531	14.811
ISC_25	7	103431741	124695615	21.264	1373	rs6950715	rs1316624	15.487
LSN_9	7	110890180	134965377	24.075	1654	rs2613577	rs17810062	14.556
ISC_29	7	115084230	126306069	11.222	695	rs2896169	rs1156653	16.147
LSN_16	7	116433901	127047977	10.614	683	rs193579	rs737242	15.54
ESW1_35	7	117161442	128332495	11.171	721	rs1548460	rs4728152	15.494
LSN_25	7	142627599	153882109	11.255	871	rs11771145	rs7787632	12.921
HEL_4	8	8135489	26054360	17.919	2154	rs2955587	rs2976271	8.319
ISS_24	8	20013209	35185764	15.173	1420	rs16842	rs1451360	10.685
ISS_30	8	21642357	31944674	10.302	1003	rs4506202	rs1023911	10.272
ISN_2	8	31241311	43910848	12.670	749	rs7812391	rs10958798	16.915
ISN_26	8	33359626	43910848	10.551	574	rs11996351	rs10958798	18.382
ISN_26	8	47062007	71033622	23.972	1713	rs7836486	rs389540	13.994
LSN_8	8	69803337	85163427	15.360	1385	rs12544474	rs4285486	11.09
ISN_10	8	71611999	97095554	25.484	2081	rs10106858	rs261579	12.246
ISC_2	8	85163427	99219109	14.056	1134	rs4285486	rs717229	12.395
LSN_7	8	91255894	101738096	10.482	913	rs10956500	rs1693586	11.481
ISS_24	8	102611617	137655262	35.044	3636	rs2127035	rs305291	9.638
ISS_18	8	103762929	114534332	10.771	885	rs2513924	rs2954898	12.171
LSN_3	8	103784402	118830681	15.046	1218	rs2511694	rs1396353	12.353
ISC_32	8	104319015	120364973	16.046	1321	rs11785583	rs2033042	12.147
ESN_10	8	105874665	118629672	12.755	967	rs10505066	rs922587	13.19
HEL_16	8	106193547	116239753	10.046	744	rs1460586	rs7836816	13.503
ISS_11	8	108213610	121010709	12.797	992	rs2022943	rs4871793	12.9
ISN_14	8	121424143	133549511	12.125	1408	rs2290524	rs6997998	8.612
ESW1_1	9	4866997	15520283	10.653	1450	rs913259	rs7871956	7.347
HEL_2	9	12916571	39088698	26.172	2811	rs1412296	rs4961901	9.311
ESW1_34	9	27634077	39088698	11.455	1012	rs7847656	rs4961901	11.319
LSC_5	9	68213926	79111961	10.898	1141	rs449851	rs4486277	9.551
ESW2_16	9	73039947	83316154	10.276	1089	rs4581121	rs7850633	9.436

ESW1_28	9	85937273	98413008	12.476	1163	rs11141229	rs928425	10.727
ISC_14	9	87185012	99096446	11.911	1096	rs4878060	rs438824	10.868
HEL_6	9	87204305	114586263	27.382	2803	rs2841452	rs7044734	9.769
ISS_13	9	87276537	101706263	14.430	1292	rs7025941	rs1012203	11.169
ISC_4	9	89942040	122072378	32.130	3312	rs4744096	rs3808899	9.701
ISC_6	9	107839477	121170338	13.331	1539	rs673985	rs306770	8.662
ISC_14	9	119161372	134720764	15.559	1372	rs10118663	rs7020813	11.341
ESW1_9	9	119704780	135749021	16.044	1487	rs10984729	rs1333235	10.79
HEL_1	10	125853	10672427	10.547	1374	rs7906287	rs10508408	7.676
ISC_5	10	5329074	33508462	28.179	2959	rs1344354	rs2506144	9.523
ISN_21	10	11289246	30043229	18.754	1791	rs10795851	rs11007707	10.471
ESW1_10	10	12567873	30824637	18.257	1725	rs2768431	rs7081639	10.584
ESW1_2	10	16754472	34330002	17.576	1551	rs10795412	rs1740713	11.332
ESN_20	10	20550170	32069270	11.519	929	rs878584	rs11008620	12.399
ISC_19	10	47065283	61465914	14.401	996	rs747421	rs10761445	14.458
ISS_4	10	58677748	70868490	12.191	940	rs1614490	rs768498	12.969
ESW2_11	10	61683073	72910610	11.228	988	rs17806245	rs2394800	11.364
ESN_10	10	73015070	85929011	12.914	948	rs7093128	rs11200905	13.622
ISN_26	10	80543614	90773300	10.230	807	rs17557872	rs4934436	12.676
ISC_21	10	81058202	98248861	17.191	1382	rs1650169	rs12569424	12.439
LSN_18	10	91293960	107497352	16.203	1218	rs12415606	rs2111995	13.303
ESW2_3	10	98406314	109362304	10.956	787	rs3827867	rs10509839	13.921
ISS_12	10	98423410	115634030	17.211	1283	rs10509712	rs7913176	13.414
ESN_1	10	102498567	114720787	12.222	866	rs4244341	rs12573128	14.113
ESW1_23	11	4548315	43376486	38.828	3425	rs10768096	rs17508783	11.337
ISS_23	11	11032632	26611157	15.579	1442	rs1586381	rs7938949	10.803
HEL_1	11	12210124	34238805	22.029	1730	rs2131771	rs10836178	12.733
ISC_29	11	20723082	32818969	12.096	846	rs1401792	rs7944652	14.298
ISN_18	11	24489680	36361306	11.872	890	rs1995837	rs330255	13.339
ISC_28	11	36762573	51171349	14.409	830	rs925922	rs1603756	17.36
ISC_38	11	54847844	69540606	14.693	856	rs7102501	rs990177	17.164
ESW2_15	11	54847844	69680337	14.832	869	rs7102501	rs3781660	17.068
ESN_9	11	54847844	72989900	18.142	1084	rs7102501	rs10751226	16.736
HEL_2	11	54847844	69222159	14.374	840	rs7102501	rs3737463	17.112
ESW2_10	11	56868269	68857753	11.989	661	rs10732882	rs6606672	18.138
ISC_20	11	60449795	77155604	16.706	1027	rs628632	rs569072	16.267
ESW2_6	11	73806781	87301357	13.495	1175	rs645184	rs1205609	11.485
LSN_14	11	74746415	88879523	14.133	1234	rs11236401	rs319024	11.453
ISN_27	11	76428054	87312529	10.884	977	rs12422079	rs2155105	11.141
ISS_28	11	78884823	99126002	20.241	1678	rs7358419	rs1441381	12.063
ISC_9	11	80770821	106868669	26.098	2128	rs1458081	rs1728909	12.264

ISS_27	11	82032626	102816825	20.784	1711	rs1793025	rs684308	12.147
HEL_3	11	83565887	95364211	11.798	894	rs1454027	rs623543	13.197
HEL_5	11	83684158	94319471	10.635	761	rs4944478	rs4753644	13.975
ISC_13	11	87351683	98391541	11.040	824	rs7925150	rs6589849	13.398
ISS_20	11	101895031	113510423	11.615	863	rs7935378	rs909168	13.459
ISC_23	11	115743244	130797173	15.054	1588	rs491111	rs7481514	9.48
HEL_4	12	3729335	20185426	16.456	1615	rs11062786	rs7970511	10.19
ESW1_26	12	13759774	24449587	10.690	919	rs2300257	rs1396208	11.632
ESW1_19	12	16289001	32216277	15.927	1551	rs1852450	rs11051829	10.269
ISC_9	12	23074232	34327658	11.253	1134	rs11046743	rs11053191	9.924
ESW2_5	12	36528296	50187657	13.659	970	rs12306932	rs7305599	14.082
ISC_15	12	37736758	49711619	11.975	894	rs1947234	rs4471501	13.395
ISS_17	12	47462849	61541258	14.078	955	rs3730064	rs10506452	14.742
LSW_4	12	55541402	105140343	49.599	3954	rs4759035	rs3782699	12.544
ISS_6	12	70698761	90904837	20.206	1287	rs1386483	rs4402333	15.7
ISC_36	12	75809630	88617211	12.808	815	rs1962167	rs17782889	15.715
ESN_5	12	77073654	90582383	13.509	797	rs1020461	rs1493762	16.949
HEL_7	12	77551551	89729173	12.178	695	rs10778102	rs1847459	17.522
ISN_5	12	81640340	93061715	11.421	734	rs11115376	rs3843641	15.56
ISC_3	12	97792781	120653105	22.860	2061	rs201412	rs1976656	11.092
ISS_24	12	107827075	124320871	16.494	1348	rs7313861	rs326363	12.236
ISS_28	13	42363831	69503764	27.140	1968	rs1359186	rs2501200	13.791
ISC_35	13	42928966	59374237	16.445	1209	rs9525776	rs7339062	13.602
ESW2_14	13	43687180	63950463	20.263	1436	rs1330101	rs4883740	14.111
ISC_39	13	45719117	65295362	19.576	1337	rs1230491	rs9285252	14.642
ISC_24	13	46049964	82292172	36.242	2753	rs3742269	rs1113104	13.165
LSN_2	13	46999437	60179190	13.180	903	rs1326481	rs10507655	14.596
ESW1_17	13	50417173	64752936	14.336	926	rs7336417	rs10507720	15.481
ISC_29	13	52307163	74058654	21.751	1624	rs1323103	rs4883975	13.394
ISS_22	13	75370156	90557402	15.187	1042	rs9530488	rs9301708	14.575
ISS_28	13	84070950	98245006	14.174	1051	rs1446778	rs812808	13.486
LSN_2	13	84824370	94833884	10.010	725	rs9531778	rs7982352	13.806
ISC_1	13	91305888	102725899	11.420	1085	rs7984514	rs1529277	10.525
LSN_13	14	25774000	36110079	10.336	852	rs2064835	rs427490	12.132
ISS_11	14	31597271	45149027	13.552	1047	rs1295907	rs4906584	12.943
ESW1_2	14	33293885	52982584	19.689	1459	rs1958050	rs1954333	13.495
ESW1_25	14	34406943	50387168	15.980	1065	rs3783316	rs7493885	15.005
ISC_27	14	36561587	49144270	12.583	821	rs2022725	rs7148147	15.326
ESW1_16	14	42251644	54188545	11.937	944	rs1777082	rs2025130	12.645
ISS_3	14	54252157	68440958	14.189	1063	rs1957364	rs3742888	13.348
ISS_13	14	61508365	90427626	28.919	2503	rs2610541	rs3783834	11.554

ESN_3	14	68227881	86598814	18.371	1657	rs1007841	rs10498611	11.087
ESS_4	14	69638564	82344601	12.706	1101	rs7144954	rs2372236	11.54
ESW2_4	14	76409748	90025813	13.616	1257	rs11628027	rs1294497	10.832
ISC_22	14	84568918	104135502	19.567	1793	rs856627	rs11160812	10.913
ISC_23	15	27014674	59255759	32.241	2655	rs6493239	rs1437543	12.144
ISN_6	15	30057610	40077489	10.020	959	rs10152238	rs3743016	10.448
ESW1_13	15	32424988	43635213	11.210	824	rs8031404	rs8042811	13.605
LSW_1	15	32863970	51156742	18.293	1324	rs17818087	rs1156234	13.816
HEL_2	15	33236262	44485438	11.249	816	rs11854457	rs8039174	13.786
ESW1_34	15	34349005	50483360	16.134	1137	rs1474084	rs2693467	14.19
ISS_9	15	34836718	55531372	20.695	1508	rs7183966	rs2271406	13.723
ISS_15	15	37530269	57737182	20.207	1490	rs7171244	rs1871500	13.562
ISN_4	15	44053780	60526755	16.473	1449	rs2460626	rs1066677	11.369
ISN_21	15	44085750	55534072	11.448	874	rs2460620	rs1280409	13.099
ISS_7	15	57906822	69331029	11.424	970	rs7181522	rs4776542	11.778
ESN_7	15	59199434	73913426	14.714	1076	rs8032023	rs12050778	13.675
ESW2_13	15	67236901	89898112	22.661	1736	rs1553251	rs4932554	13.054
LSW_7	15	77068279	88461363	11.393	962	rs8024521	rs4436756	11.843
ISS_6	15	79161506	90424349	11.263	926	rs10519308	rs8031518	12.163
ESW2_12	16	37354	19936499	19.899	1808	rs8466	rs2521478	11.006
ISN_22	16	9654131	23094518	13.440	990	rs2540165	rs7202243	13.576
LSN_6	16	45096893	55296627	10.200	781	rs9935841	rs4538013	13.06
HEL_12	16	51232553	78062240	26.830	2301	rs6498990	rs889474	11.66
HEL_8	16	60799721	72599222	11.800	823	rs6498842	rs2526063	14.337
ISN_17	16	63842529	80986044	17.144	1591	rs889447	rs1844711	10.775
ESN_7	16	64414885	81239767	16.825	1555	rs28098	rs3910229	10.82
ISS_19	16	64451567	75427238	10.976	709	rs12373039	rs8063580	15.48
LSC_1	17	10169540	24238116	14.069	949	rs1859999	rs8081659	14.825
ISC_15	17	12000976	27857275	15.856	930	rs7212043	rs11655031	17.05
ISS_10	17	13619560	28014863	14.395	766	rs1867231	rs2640837	18.793
ESW1_11	17	14542928	29188282	14.645	790	rs2075442	rs183412	18.538
LSC_8	17	15797465	27930828	12.133	499	rs2535609	rs7225669	24.315
ISC_1	17	19398101	33248878	13.851	823	rs2453568	rs2376366	16.83
LSN_9	17	20125093	30694916	10.570	643	rs3850783	rs1554046	16.438
LSN_25	17	22953163	33147733	10.195	702	rs4332787	rs3110642	14.522
ISS_11	17	29850474	40523800	10.673	635	rs213137	rs2269744	16.808
ESN_10	17	29865220	50724760	20.860	1344	rs1476773	rs7223639	15.52
ISC_5	17	32060753	44553242	12.492	713	rs975577	rs2898834	17.521
ESN_17	17	46229894	60946245	14.716	977	rs9807047	rs4340364	15.063
ESN_21	17	53271378	64839401	11.568	689	rs2685487	rs571598	16.79
ESN_22	17	53271378	68621519	15.350	1096	rs2685487	rs11656399	14.006

ESW1_27	17	56778202	68262269	11.484	885	rs1990293	rs1110614	12.976
HEL_1	18	20723488	42269641	21.546	2011	rs4800607	rs7232954	10.714
ISC_17	18	22275898	33328480	11.053	997	rs8098634	rs1791488	11.086
ESN_10	18	36246789	50592346	14.346	1489	rs1433870	rs7238224	9.634
ISN_13	18	46622254	63120564	16.498	1675	rs1036932	rs10503114	9.85
HEL_13	18	48231042	59384104	11.153	1260	rs347546	rs897438	8.852
HEL_1	19	12386102	24194887	11.809	653	rs889175	rs2160749	18.084
ISN_24	19	13926488	24194887	10.268	545	rs1056143	rs2160749	18.841
HEL_1	19	32702956	59697419	26.994	1977	rs8189785	rs7251986	13.654
ESS_1	19	34635060	51936370	17.301	1162	rs4805409	rs10401422	14.889
ESN_19	20	11799	10295418	10.284	1293	rs1418258	rs2327290	7.953
HEL_1	20	7542246	26145931	18.604	1875	rs6117883	rs845787	9.922
ISS_27	20	8942281	19209623	10.267	1196	rs2206264	rs1569767	8.585
ISC_16	20	15642503	26145931	10.503	906	rs6079936	rs845787	11.593
ISC_16	20	29297270	41830910	12.534	874	rs6059724	rs3091450	14.341
ISS_2	20	30549518	43154907	12.605	925	rs293554	rs6124684	13.627
ISS_13	20	43384230	62376958	18.993	1982	rs11696248	rs10485816	9.583
HEL_12	21	19329569	46909175	27.580	3435	rs2825303	rs15047	8.029
ESW1_21	21	33562658	45634312	12.072	1654	rs2834167	rs4819090	7.298
ISS_28	22	24742510	35654749	10.912	1426	rs761670	rs738149	7.652
ESW1_29	22	29382669	45241579	15.859	1863	rs8630	rs4823556	8.513
HEL_14	22	31173436	43209504	12.036	1415	rs4821063	rs8136745	8.506
ISC_8	22	35567720	46740955	11.173	1288	rs131838	rs5768286	8.675

HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Cental (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland), SNP density – average SNP density in the region (SNPs per kb).

Table S6. Extent of homozygosity in subpopulations.

Population	Genome homozygosity (%)			
	Mean	Median	Min	Max
SWE	0.59	0.45	0.08	6.09
HEL	1.17	0.92	0.25	7.08
ESS	0.89	0.82	0.21	3.12
ESW1	1.10	1.00	0.27	3.22
ESW2	1.18	1.14	0.34	3.36
ESN	1.23	1.05	0.31	5.51
LSW	1.16	1.05	0.43	2.82
LSC	1.37	1.30	0.49	2.95
LSN	1.34	1.21	0.19	4.48
ISS	1.82	1.63	0.61	6.38
ISC	2.03	1.85	0.41	5.96
ISN	1.59	1.33	0.52	3.94

Including only regions of homozygosity exceeding 1 Mb.

HEL – Helsinki, ESS – Early Settlement South, ESW1 – Early Settlement West 1 (South Oulu), ESW2 – Early Settlement West 2 (North Oulu), ESN – Early Settlement North (West Lapland), LSW – Late Settlement West (South Ostrobothnia), LSC – Late Settlement Cental (Central Finland), LSN – Late Settlement North (Central Lapland), ISS – Isolate South (South Kainuu), ISC – Isolate Central (North Kainuu), ISN – Isolate North (East Lapland).