

Supplementary Materials for

**Proteomic signatures of smoking and their associations with risk
of incident diseases and mortality in diverse populations**

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The file includes:

Figure S1 to S15

Other Supplementary Materials for this manuscript include the following:

Table S1 to S30

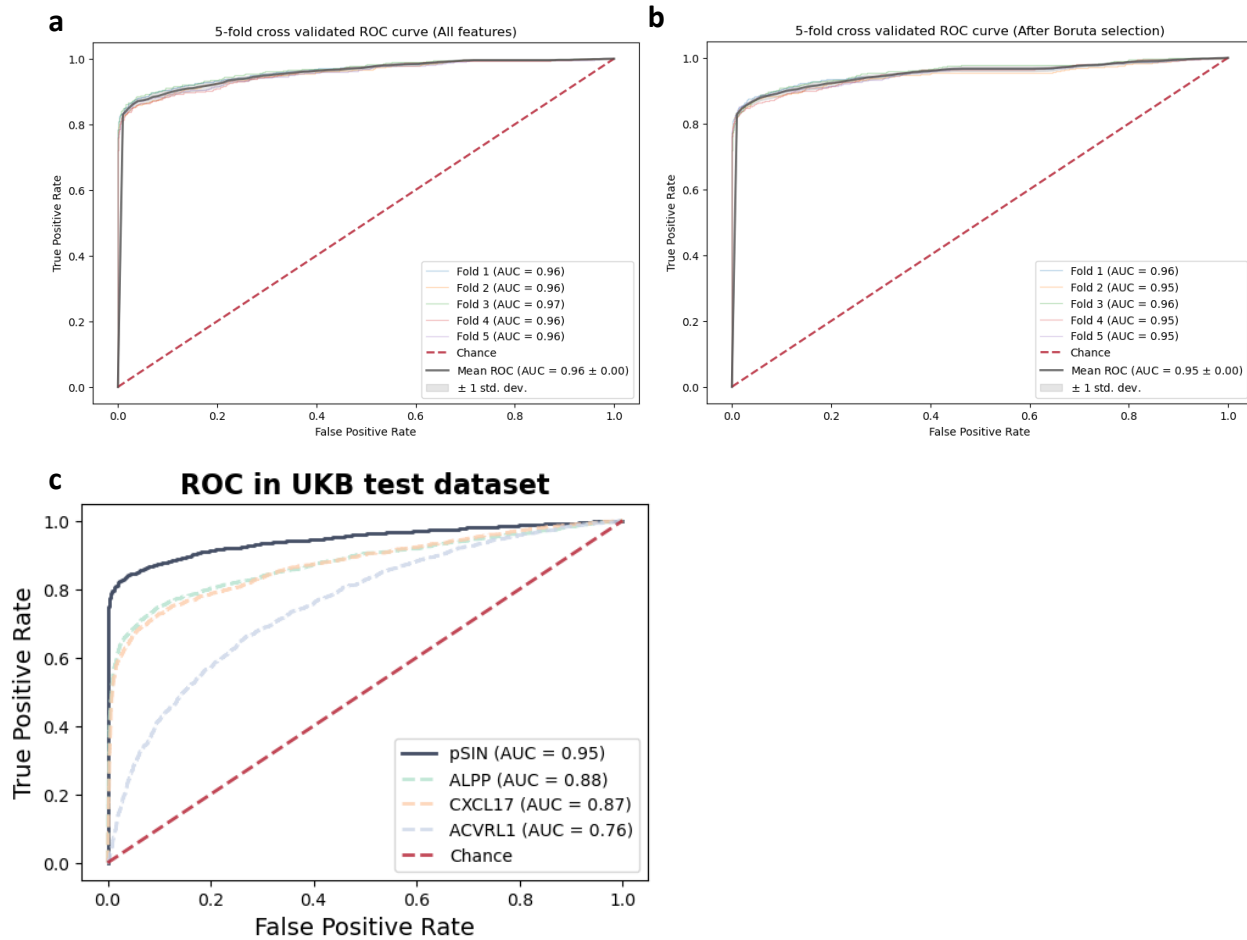


Figure s1 Performance of the classification model.

a) 5-fold cross validated ROC curve of models trained using all proteins and **b)** 5-fold cross validated ROC curve of models trained using Boruta selected 51 proteins only **c)** ROC curve comparison of the gradient boosting model comprising 51 proteins in the UKB test dataset comparing to the performance of the top3 single protein when differentiating current smokers from never smokers.

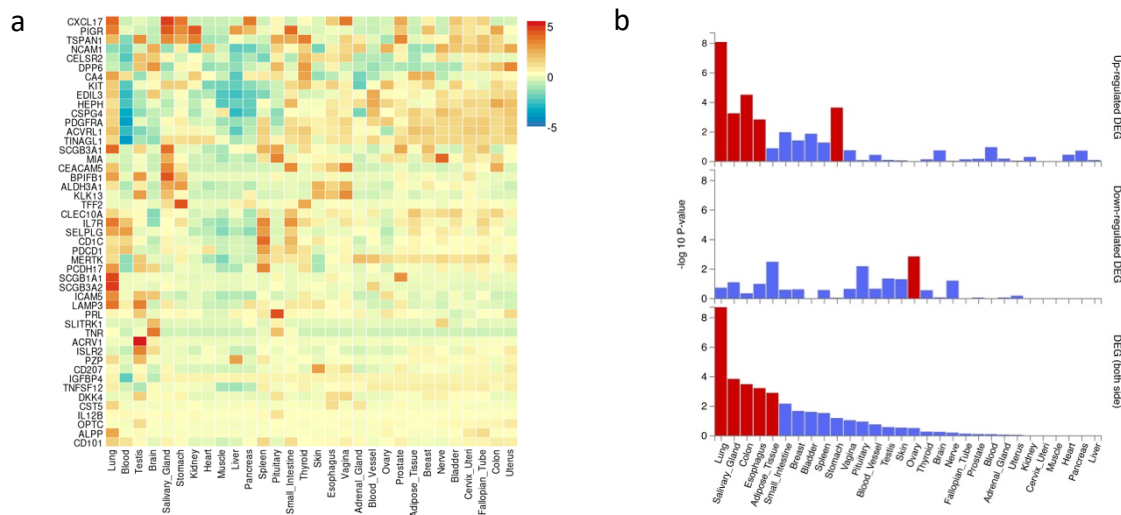
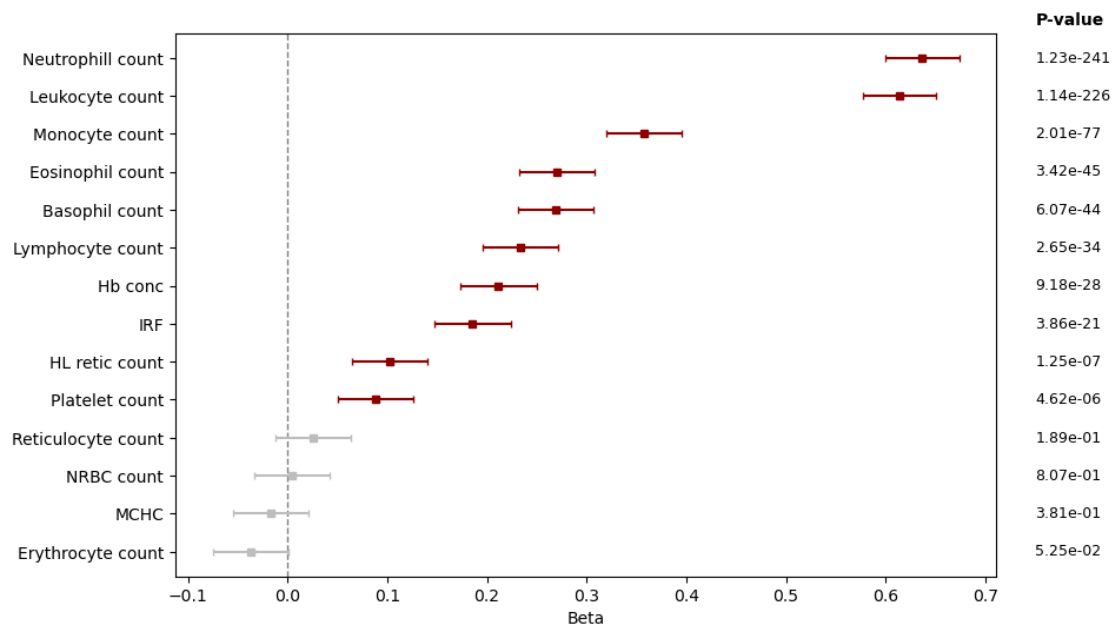


Figure s2 Tissue specific expression of the Boruta selected proteins.

Tissue specific protein expression data was extracted from the Genotype-Tissue Expression (GTEx) project2 database v.8 and the heatmap was plotted using FUMAGWAS webtool. Values showed on the heatmap were average of normalized expression per gene. Differential expression genes (DEG) were identified by 2-sided t-test per tissue type versus all other tissue types. Genes with a Bonferroni corrected p-value < 0.05 and absolute log fold change > 0.58 were selected as DEG and were shown as red color. **a)** heatmap of average of normalized expression per gene per tissue. X-axis denotes the corresponding tissue and Y-axis denotes each of the selected proteins. **b)** differential expression genes (DEG) were identified by 2-sided t-test per tissue type versus all other tissue types. Genes with a Bonferroni corrected p-value < 0.05 and absolute log fold change > 0.58 were selected as DEG and were shown as red color

A Association between haematological measurements to pSIN



B Association between haematological measurements to pSIN

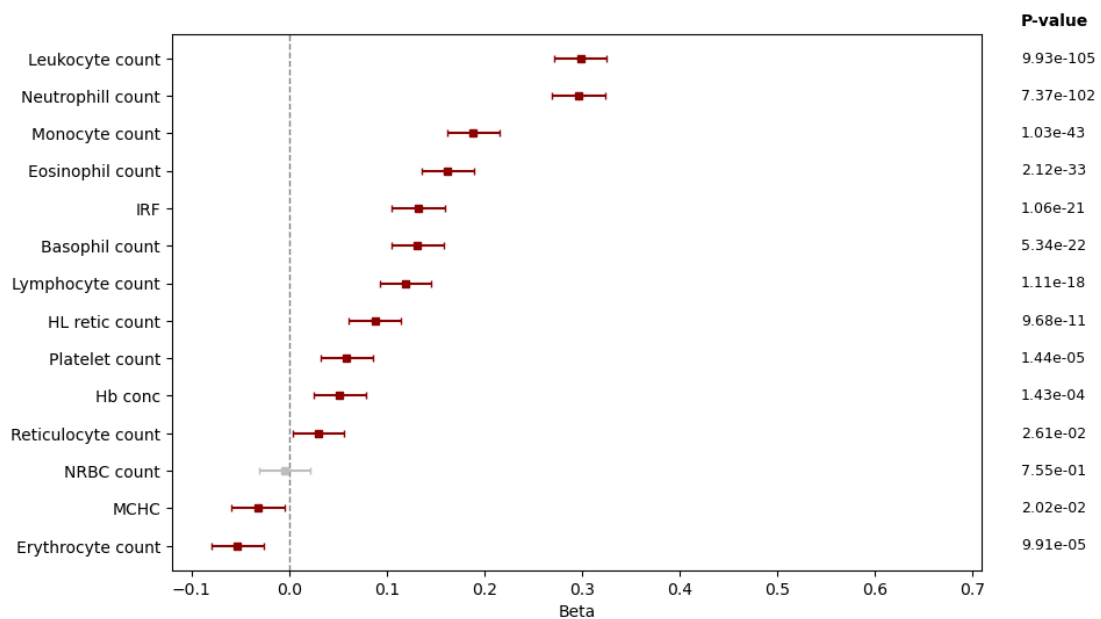


Figure s4 haematological measurements showed significant association with pSIN.

A) Linear regression analysis between individual haematological measurements and pSIN was performed within the whole UKB population adjusting for recruitment center, Townsend deprivation index, IPAQ physical activity group, ethnicity, alcohol frequency, and education. Red colour denotes the association is significant after correcting for FDR multiple testing. Hb, haemoglobin, IRF, immature reticulocyte fraction; HL retic count, reticulocyte (red blood cell) count; NRBC, nucleated red blood cells; MCHC, mean corpuscular haemoglobin concentration. **B)** Model adjust additionally for smoking status.

Association between clinical biomarkers and risk factors to pSIN

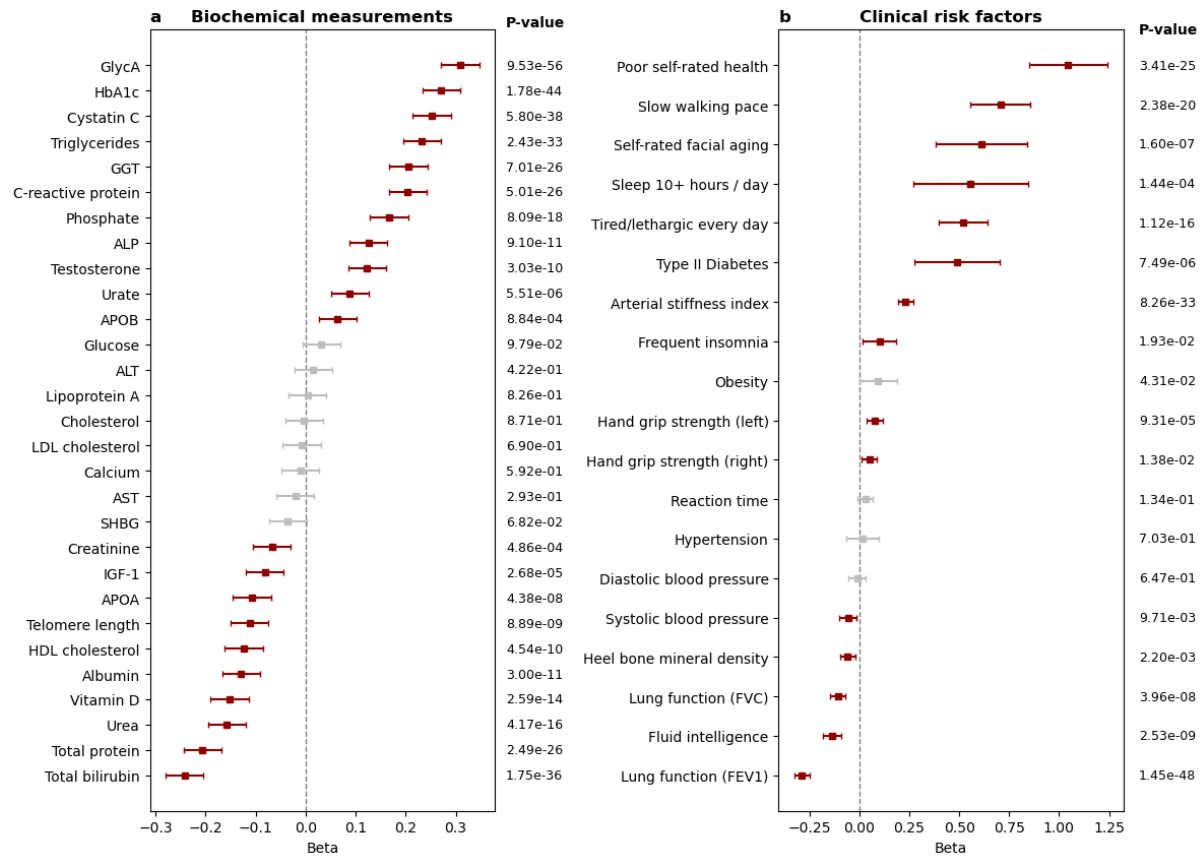


Figure s5 Relationship between blood biomarkers and clinical risk factors with pSIN.

Linear regression analysis was performed within the whole UKB population adjusting for recruitment center, Townsend deprivation index, IPAQ physical activity group, ethnicity, alcohol frequency, and education. Red colour denotes the association is significant after correcting for FDR multiple testing. **a)** Association between biochemical measurements and pSIN. **b)** Association between clinical risk factors and pSIN.

Association between clinical biomarkers and risk factors to pSIN

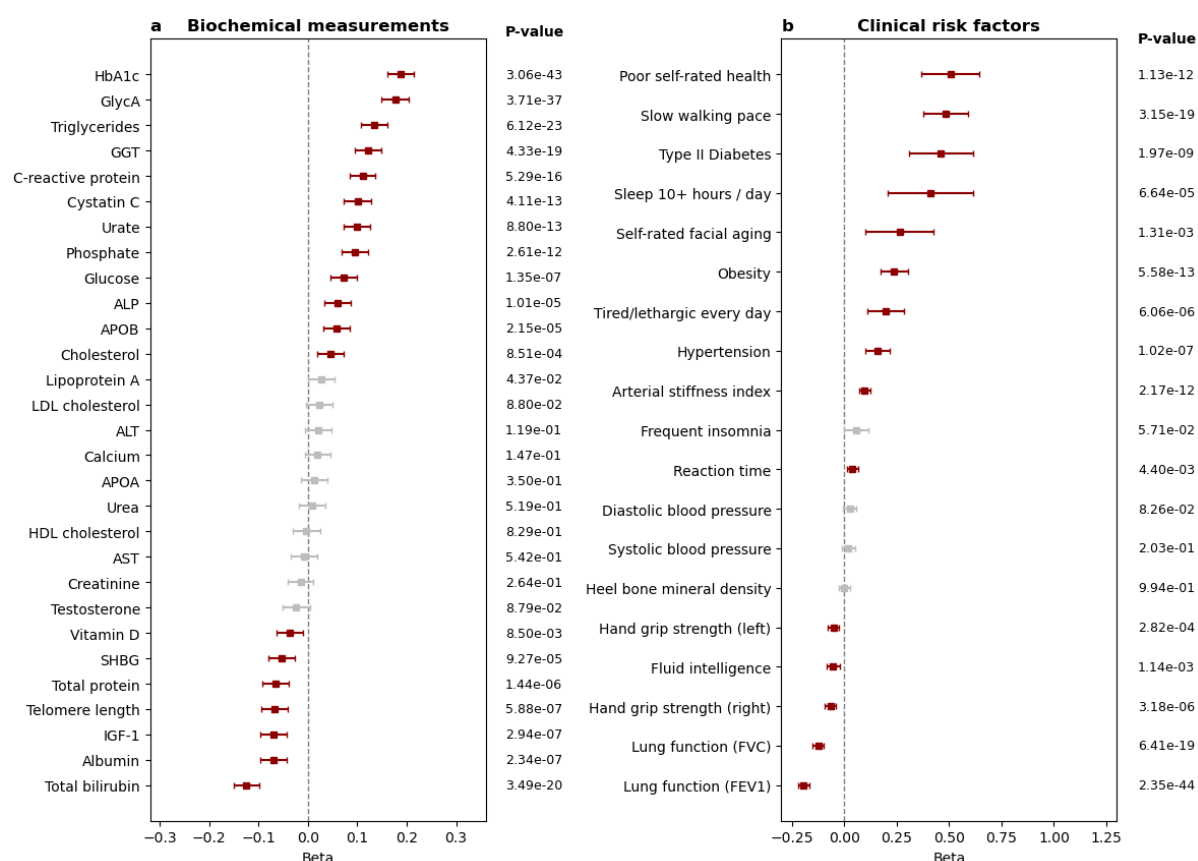


Figure s6 Relationship between blood biomarkers and clinical risk factors with pSIN independent of smoking status.

Linear regression analysis was performed within the whole UKB population adjusting for recruitment center, Townsend deprivation index, IPAQ physical activity group, ethnicity, alcohol frequency, education and smoking status. Red colour denotes the association is significant after correcting for FDR multiple testing. **a)** Association between biochemical measurements and pSIN. **b)** Association between clinical risk factors and pSIN.

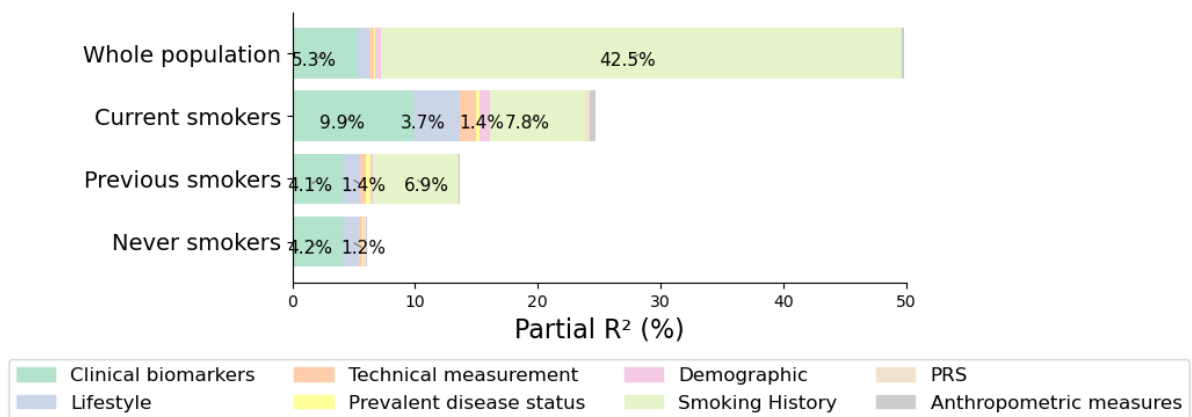


Figure s7 Relative contribution of each category to pSIN when competing in one model.

Linear regression followed by ANOVA was performed to study the contribution of each category to pSIN stratified by smoking status. Partial R^2 was shown, and the exact percentage was annotated if it is larger than 1%. For smoking history, smoking status and pack years were included for the whole population, pack years, smoking years, tobacco type, number of cigarettes per day were included for current smokers, pack years, smoking years, smoking cessation years, tobacco type, number of cigarettes per day were included for previous smokers, and passive smoking exposure was included for never smokers.

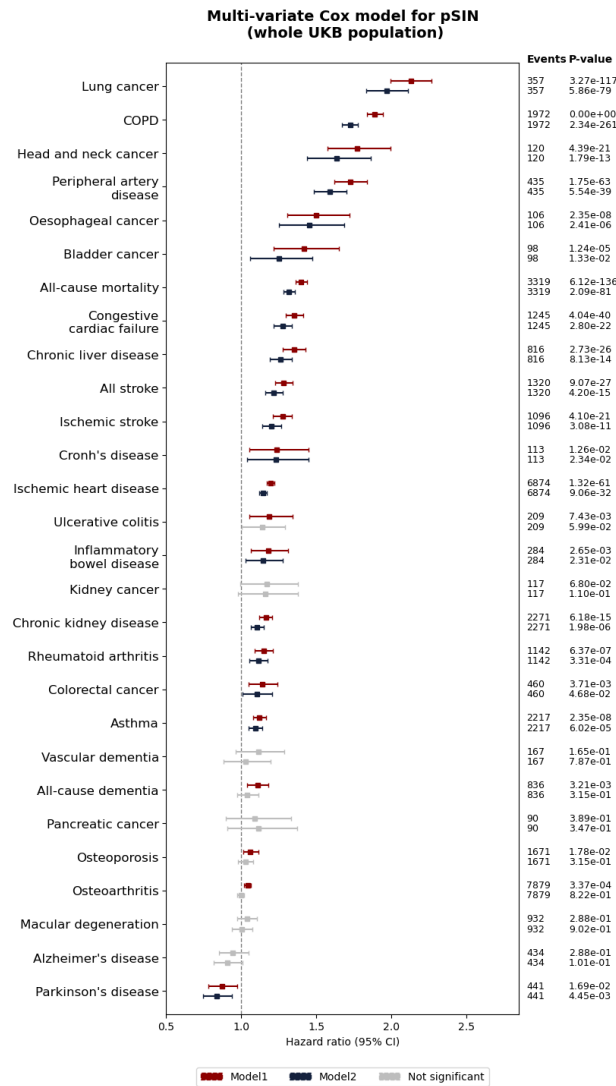


Figure s8 pSIN is associated with future risks of morbidities and mortality.

Forest plot shows association between pSIN and 24 morbidities and mortality which has at least 80 cases during follow-up time using multi-variate cox proportional hazard model. In model 1, the exposure was pSIN without adjusting for any covariate as age and sex already been regressed out in protein level. Model 2 was adjusted for recruitment centre, Townsend deprivation index, IPAQ physical activity group, ethnicity, alcohol frequency, BMI, and education years. P-values were corrected for FDR multiple testing and non-significant associations after corrections were shown as grey colour.

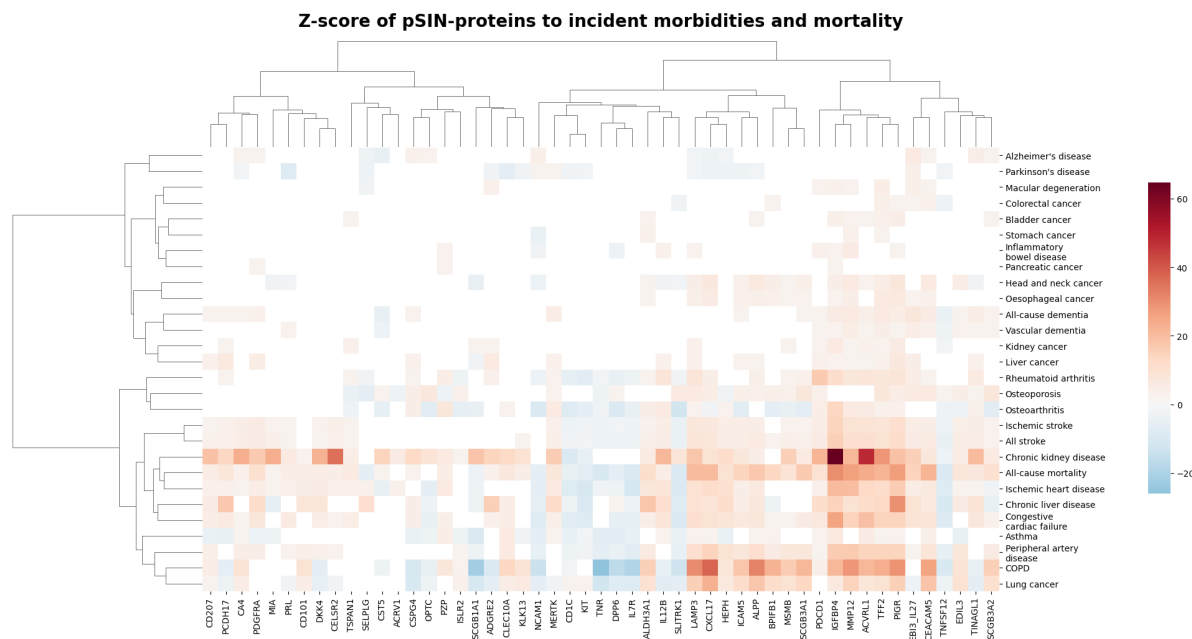


Figure s9 Association between individual proteins and major diseases, and mortality.

COX proportional hazard model was used to assess the association between each of the 51 protein and diseases and mortality. Model was adjusted for recruitment centre, ethnicity, education years, and Townsend deprivation index. Z-score was shown on the heatmap. Association p value was corrected for FDR multiple testing and non-significant associations were shown as white colour.

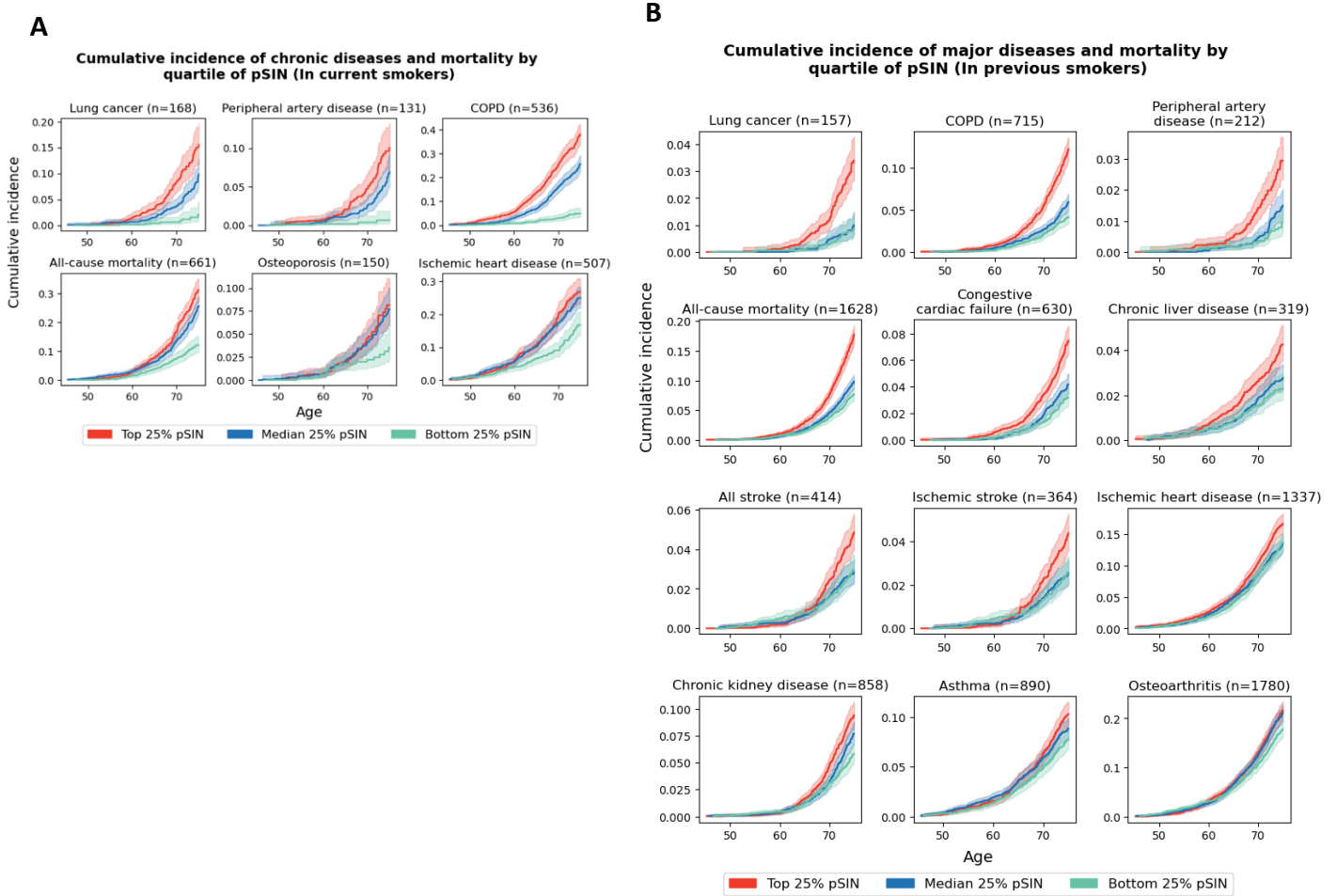


Figure s10 pSIN differentiates future risks of morbidities and mortality in current and previous smokers. **a)** shows cumulative incidence plot of top, median and bottom 25% of the pSIN in the current smokers with 95% confidence interval shown as lighter shading. X-axis denotes the chronological age and Y-axis denotes the cumulative incidence. Cumulative incidence and number at risk at each age point is shown in **Table s17** and **Table s18**. **b)** shows cumulative incidence plot of top, median and bottom 25% of the pSIN in the previous smokers with 95% confidence interval shown as lighter shading. Cumulative incidence and number at risk at each age point is shown in **Table s20** and **Table s21**. Only outcomes that were significant in all three cox models were displayed here.

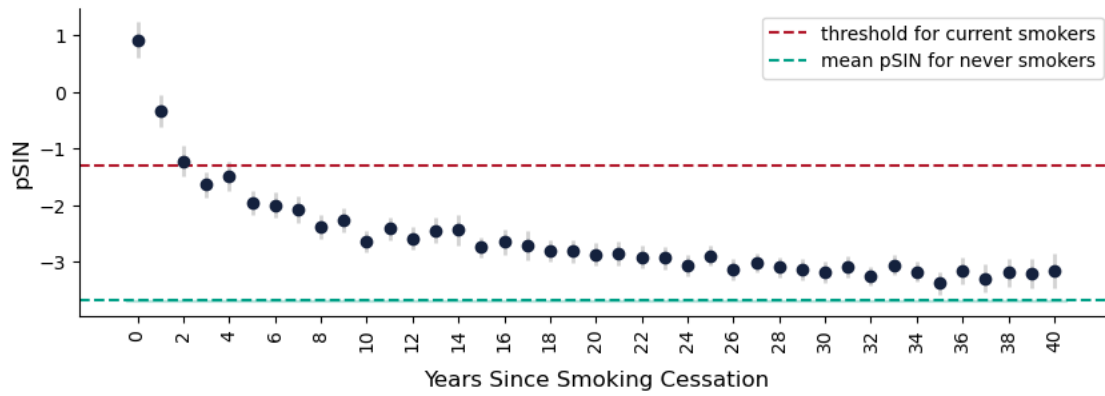


Figure s11 Mean pSIN by years since smoking cessation.

Mean pSIN in each year since cessation bin was shown in the plot with 95%CI. Red dashed line shows the threshold of differentiating current smoker from never smokers with FPR of 0.05. Green dashed line shows the mean pSIN of self-reported never smokers with 95%CI shown in green shadow.

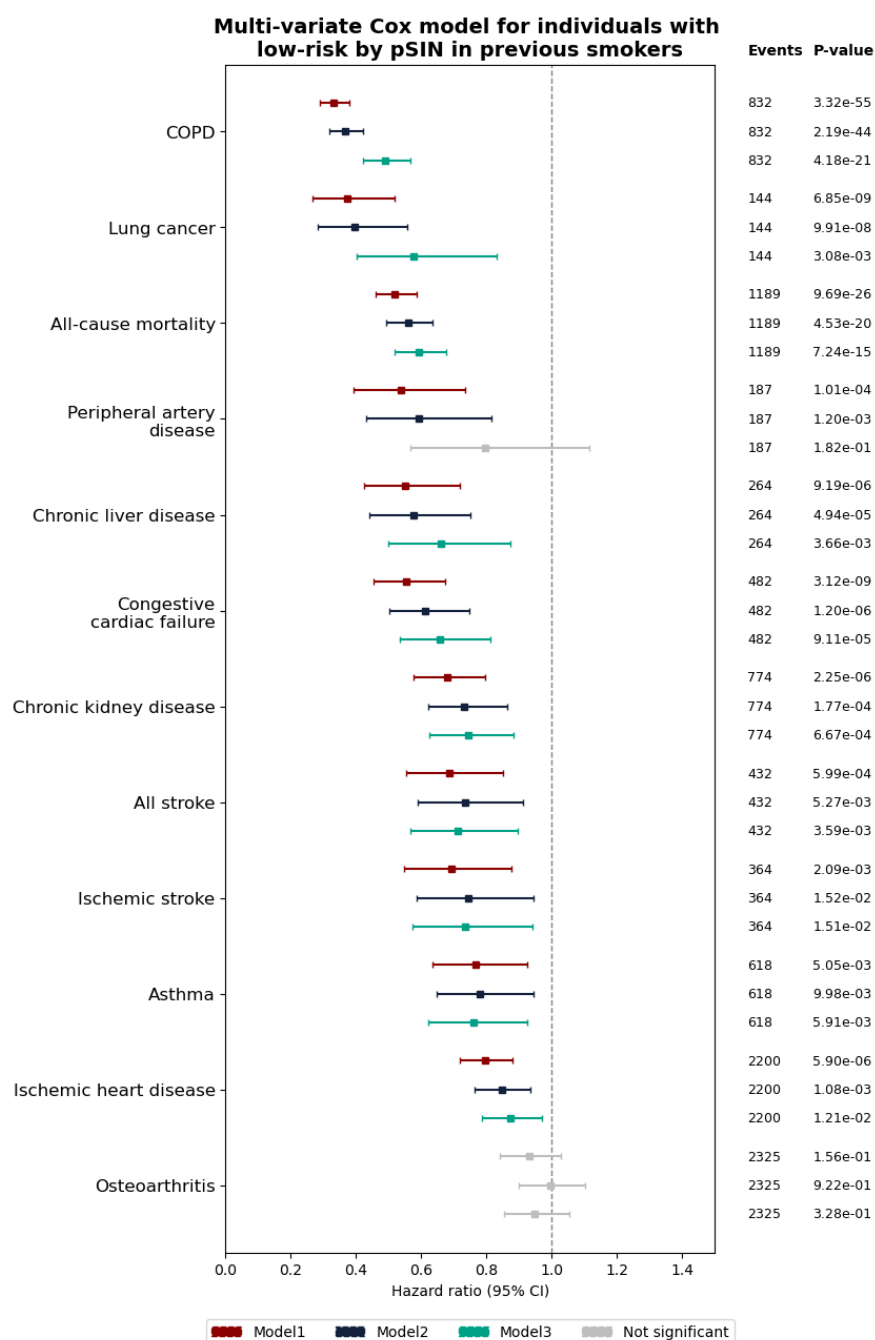


Figure s12 previous smokers with pSIN similar to never smokers were associated with lower morbidity and mortality risks.

Forest plot shows association between low-risk group in previous smokers and health outcomes which has at least 80 cases during follow-up time and were significant in previous smoker model using multi-variate cox proportional hazard model. The comparisons are made between previous smokers with low-risk based on pSIN (i.e., those whose proteomic profiles resemble never smokers) and high-risk based pSIN. In model 1, the exposure was pSIN without adjusting for any covariate as age and sex already been regressed out in protein level. Model 2 was adjusted for recruitment centre, Townsend deprivation index, IPAQ physical activity group, ethnicity, alcohol frequency, BMI, and education years. Model 3 further adjusted for smoking pack years and smoking cessation time. P-values were corrected for FDR multiple testing and non-significant associations after corrections were shown as grey colour.

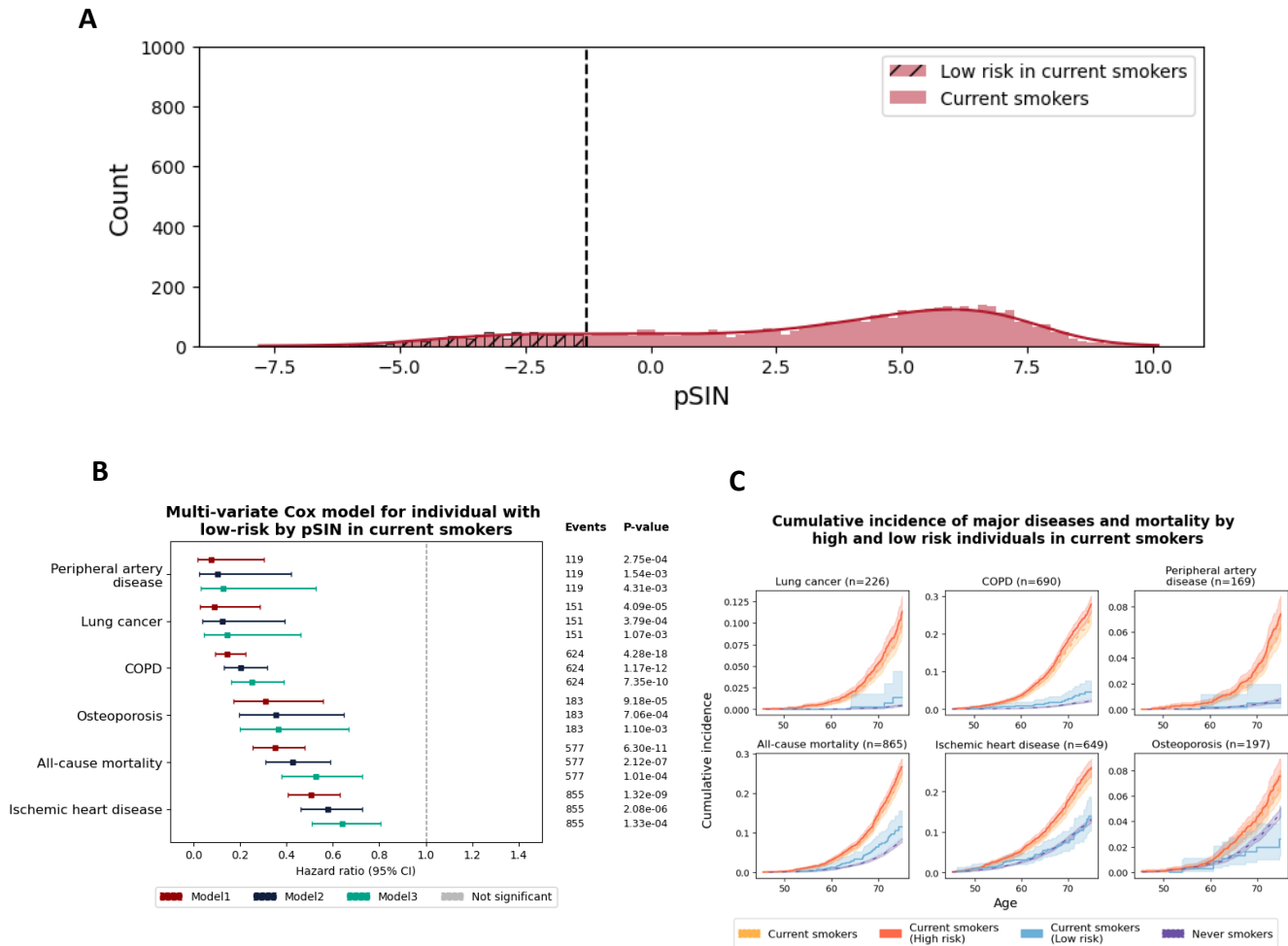


Figure s13 people in current smokers with pSIN similar to never smokers were associated with lower morbidity and mortality risks.

(a) shows the distribution of pSIN in current smokers. Dotted line denotes the cut-off when differentiating current smokers from never smokers at FPR of 0.05 dividing current smokers into two groups. Hashed part denotes the group in current smokers with a similar pSIN as never smokers. (b) Forest plot shows association between low-risk group in current smokers and 5 morbidities and mortality which has at least 80 cases during follow-up time and were significant in current smoker model using multi-variate cox proportional hazard model. In model 1, the exposure was pSIN without adjusting for any covariate as age and sex already been regressed out in protein level. Model 2 was adjusted for recruitment centre, Townsend deprivation index, IPAQ physical activity group, ethnicity, alcohol frequency, BMI, and education years. Model 3 further adjusted for smoking pack years. P-values were corrected for FDR multiple testing and non-significant associations after corrections were shown as grey colour. (c) shows cumulative incidence plot of low and high-risk group defined by pSIN in current smokers (orange and blue) with self-reported current smokers as positive control (yellow) and self-reported never smokers as negative control (purple). Cumulative incidence and number at risk charts are shown in **Table S27, S28** respectively.

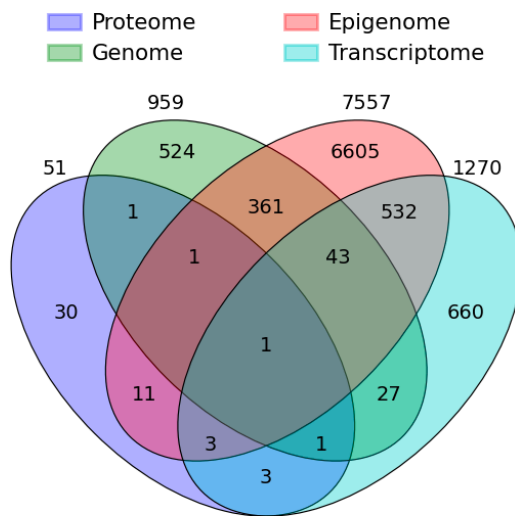


Figure s14 Over lapping genes selected by pSIN and major genomic, transcriptomic and epigenomic studies
pSIN selected 51 proteins were compared against three major studies each for genomic, transcriptomic and epigenomic wide association study of smoking initiation. 30 proteins were not found in previous omics study. Comparing against individual studies of biomarkers of smoking (also including protein biomarkers) 15 of the proteins selected by pSIN were not seen in the previous studies.

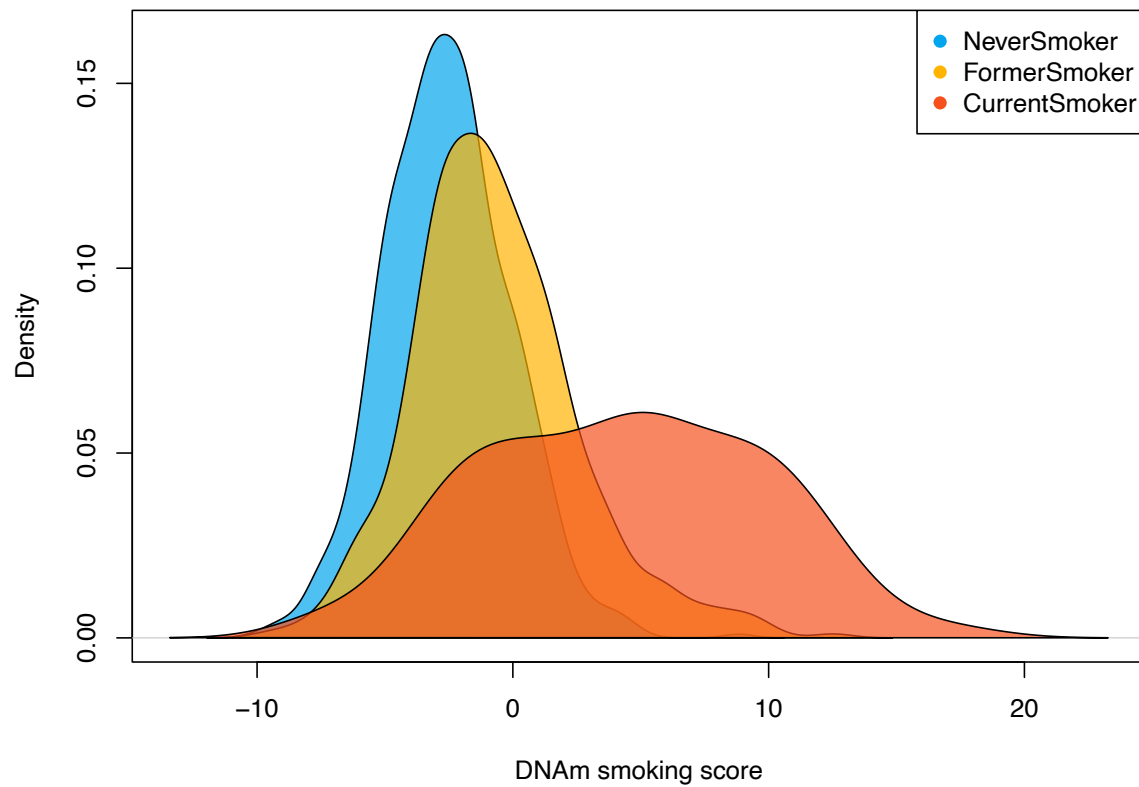


Figure s15 Distribution of DNA methylation score from Elliott et al.

DNA methylation score was built in current smokers versus never smokers of the Elliott et al study. DNA methylation score was then calculated for previous smokers. The overall distribution showed similarity comparing to the pSIN in the current smokers, previous smokers and never smokers in UKB.

Table S1: Baseline characteristics of participants in the UK Biobank cohort.

	UKB				p
	Current smokers	Previous smokers	Never smokers	All	
Number, n (%)	4732	15404	23778	43914	
Recruitment age, mean (SD)	54.72 (8.07)	58.59 (7.76)	56.09 (8.27)	56.82 (8.19)	3.44E-26
Male, n (%)	2592 (54.78%)	7903 (51.30%)	10672 (44.88%)	20187 (45.817%)	1.64E-71
BMI, mean (SD)	27.271(4.877)	27.898(4.677)	27.016(4.794)	27.463(4.810)	1.28E-02
Townsend Deprivation index, mean (SD)	0.35 (3.57)	-1.20 (3.11)	-1.46 (3.07)	-1.17 (3.19)	2.82E-236
Ethnicity, n (%)					6.13E-05
White	4360 (92.51%)	14848 (96.64%)	21775 (91.65%)	40983 (93.49%)	
Black	128 (2.72%)	173 (1.13%)	769 (3.27%)	1070 (2.44%)	
Asian	107 (2.27%)	129 (0.84%)	746 (3.14%)	968 (2.21%)	
Other	71 (1.51%)	115 (0.75%)	332 (1.40%)	532 (1.21%)	
Mixed	47 (1.00%)	99 (0.64%)	138 (0.58%)	284 (0.65%)	
Alcohol frequency, n (%)					1.85E-60
Daily or almost daily	1178 (24.94%)	4177 (27.13%)	3566 (15.0%)	8921 (20.31%)	
Three or four times a week	886 (18.76%)	3803 (24.70%)	5149 (21.65%)	9838 (22.4%)	
Once or twice a week	1103 (23.35%)	3719 (24.16%)	6573 (27.64%)	11395 (25.95%)	
One to three times a month	505 (10.69%)	1380 (8.96%)	2879 (12.11%)	4764 (10.85%)	
Special occasions only	635 (13.44%)	1419 (9.22%)	3101 (13.04%)	5155 (11.74%)	
Never	417 (8.83%)	897 (5.83%)	2492 (10.48%)	3806 (8.67%)	
IPAQ Physical activity group, n (%)					3.93E-14
High	1417 (29.95%)	5109 (33.17%)	7661 (32.22%)	14187 (32.31%)	
Moderate	1414 (29.88%)	4955 (32.17%)	7847 (33.0%)	14216 (32.37%)	
Low	870 (18.39%)	2384 (15.48%)	3556 (14.96%)	6810 (15.51%)	
Education years, n (%)					4.33E-98
7 years	1141 (24.11%)	3103 (20.14%)	3557 (14.93%)	7801 (17.74%)	
10 years	910 (19.23%)	2530 (16.42%)	3858 (16.19%)	7298 (16.6%)	
13 years	270 (5.71%)	822 (5.33%)	1304 (5.47%)	2396 (5.45%)	
15 years	433 (9.15%)	1827 (11.86%)	2970 (12.47%)	5230 (11.9%)	
19 years	821 (17.35%)	2355 (15.28%)	3369 (14.14%)	6545 (14.89%)	
20 years	1102 (23.29%)	4607 (29.90%)	8499 (35.67%)	14208 (32.32%)	

Note: P value shown here is the comparison between current smokers and never smokers

Table S2: Baseline characteristics of participants in the China Kadoorie Biobank cohort.

CKB males						CKB females					
	Current smokers	Previous smokers	Never smokers	All	p	Current smokers	Previous smokers	Never smokers	All	p	
Number, n (%)	1110 (60.33%)	270 (14.67%)	460 (25.00%)	1840		89 (4.17%)	34 (1.59%)	2014 (94.24%)	2137		
Recruitment age, mean (SD)	56.83 (11.40)	63.51 (9.97)	58.83 (12.25)	58.31 (11.65)	4.46E-04	64.19 (9.59)	64.72 (8.15)	56.03 (11.62)	56.61 (11.65)	3.92E-11	
BMI, mean (SD)	23.17 (3.33)	24.83 (3.61)	24.20 (3.26)	23.67 (3.42)	2.10E-08	22.93 (3.91)	25.36 (4.00)	24.19 (3.79)	24.16 (3.81)	3.52E-03	
Physical activity, mean Metabolic Equivalent of Task (MET) hours/day (SD)	18.67 (15.18)	13.91 (13.33)	15.82 (13.44)	17.26 (14.61)	8.51E-04	12.51 (8.66)	12.33 (6.97)	17.55 (12.29)	17.25 (12.15)	9.00E-05	
Alcohol frequency, n (%)					2.56E-10					4.59E-04	
Never regular	246 (22.16%)	63 (23.33%)	151 (32.83%)	460 (25.0%)		46 (51.69%)	17 (50.0%)	1348 (66.93%)	1411 (66.03%)		
Ex-regular	53 (4.77%)	18 (6.67%)	19 (4.13%)	90 (4.89%)		1 (1.12%)	1 (2.94%)	7 (0.35%)	9 (0.42%)		
Occasional	321 (28.92%)	74 (27.41%)	171 (37.17%)	566 (30.76%)		33 (37.08%)	11 (32.35%)	585 (29.05%)	629 (29.43%)		
Monthly	55 (4.95%)	8 (2.96%)	22 (4.78%)	85 (4.62%)		0 (0.00%)	1 (2.94%)	26 (1.29%)	27 (1.26%)		
Reduced intake	52 (4.68%)	28 (10.37%)	13 (2.83%)	93 (5.05%)		0 (0.00%)	1 (2.94%)	5 (0.25%)	6 (0.28%)		
Weekly	383 (34.50%)	79 (29.26%)	84 (18.26%)	546 (29.67%)		9 (10.11%)	3 (8.82%)	43 (2.14%)	55 (2.57%)		
Highest education, n (%)					6.23E-09					7.18E-01	
No formal school	141 (12.7%)	41 (15.19%)	44 (9.57%)	226 (12.28%)		29 (32.58%)	17 (50.0%)	607 (30.14%)	653 (30.56%)		
Primary School	406 (36.58%)	76 (28.15%)	128 (27.83%)	610 (33.15%)		33 (37.08%)	9 (26.47%)	654 (32.47%)	696 (32.57%)		
Middle School	315 (28.38%)	82 (30.37%)	131 (28.48%)	528 (28.7%)		18 (20.22%)	7 (20.59%)	419 (20.8%)	444 (20.78%)		
High School	174 (15.68%)	35 (12.96%)	79 (17.17%)	288 (15.65%)		8 (8.99%)	0 (0.00%)	237 (11.77%)	245 (11.46%)		
Technical school / college	36 (3.24%)	18 (6.67%)	33 (7.17%)	87 (4.73%)		1 (1.12%)	1 (2.94%)	60 (2.98%)	62 (2.90%)		
University	38 (3.42%)	18 (6.67%)	45 (9.78%)	101 (5.49%)		0 (0.00%)	0 (0.00%)	37 (1.84%)	37 (1.73%)		
Note: P value shown here is the comparison between current smokers and never smokers						Note: P value shown here is the comparison between current smokers and never smokers					

Table S3: Annotation of proteins included in the study, including functions and pathways.

[illegible]

Table S4: Self-reported smoking behavior characteristics in the UK Biobank participants.

Association between smoking habits and pSIN in current smokers				
Traits	effect_size	ci_low	ci_high	p_value
Smoking duration (years)	0.03	0.02	0.04	2.68E-06
Traits	effect_size	ci_low	ci_high	p_value
Smoking exposure (pack years)	0.06	0.05	0.07	1.58E-82
Traits	effect_size	ci_low	ci_high	p_value
Smoking intensity (Number of cigarettes/day)	0.13	0.12	0.14	2.11E-96
Traits	effect_size	ci_low	ci_high	p_value
Cigars or pipes	-1.47	-1.86	-1.09	8.46E-14
Hand-rolled cigarettes	0.54	0.30	0.77	1.05E-05
Smoking intensity	effect_size	ci_low	ci_high	p_value
10-20 cigarettes/day	1.99	1.79	2.19	1.61E-78
20-30 cigarettes/day	2.59	2.29	2.90	6.50E-59
30+ cigarettes/day	2.76	2.18	3.35	5.30E-20
Smoking intensity	effect_size	ci_low	ci_high	p_value
20-40 pack years	1.85	1.65	2.05	2.04E-70
40+ pack years	2.29	2.04	2.54	6.38E-70

Association between smoking habits and pSIN in previous smokers				
Traits	effect_size	ci_low	ci_high	p_value
Smoking session duration (years)	-0.05	-0.05	-0.04	7.49E-189
Traits	effect_size	ci_low	ci_high	p_value
Smoking intensity (Number of cigarettes/day)	0.02	0.01	0.02	3.52E-18
Traits	effect_size	ci_low	ci_high	p_value
Smoking exposure (pack years)	0.03	0.02	0.03	2.99E-138
Traits	effect_size	ci_low	ci_high	p_value
Smoking duration (years)	0.05	0.05	0.05	3.11E-208
Smoking types	effect_size	ci_low	ci_high	p_value
Cigars or pipes	0.14	-0.04	0.32	1.19E-01
Hand-rolled cigarettes	0.47	0.32	0.62	1.88E-09
Smoking intensity	effect_size	ci_low	ci_high	p_value
10-20 cigarettes/day	0.34	0.25	0.43	5.70E-13
20-30 cigarettes/day	0.58	0.45	0.71	2.59E-18
30+ cigarettes/day	0.63	0.47	0.79	1.01E-14
Smoking exposure	effect_size	ci_low	ci_high	p_value
20-40 pack years	0.72	0.63	0.80	5.17E-60
40+ pack years	1.39	1.27	1.52	6.30E-104
Smoking session years	effect_size	ci_low	ci_high	p_value
30+ years	-1.55	-1.66	-1.43	1.98E-139
20-30 years	-1.39	-1.50	-1.28	2.13E-124
10-20 years	-1.05	-1.16	-0.93	4.52E-69
5-10 years	-0.77	-0.90	-0.64	1.55E-30

Association between smoking habits and pSIN in never smokers				
Traits	effect_size	ci_low	ci_high	p_value
Passive exposure	0.07	0.02	0.11	8.14E-03

Table S5: Self-reported smoking behavior characteristics in the China Kadoorie Biobank participants

Association between smoking habits and pSIN in current smokers				
traits	effect size	ci_low	ci_high	p_value
Smoking duration (years)	0.01	0.00	0.03	6.68E-02
traits	effect size	ci_low	ci_high	p_value
Smoking exposure (pack years)	0.02	0.01	0.03	5.08E-06
traits	effect size	ci_low	ci_high	p_value
Smoking intensity (Number of cigarettes/day)	0.05	0.03	0.06	2.33E-08

Association between smoking habits and pSIN in previous smokers				
traits	effect size	ci_low	ci_high	p_value
Smoking session duration (years)	-0.04	-0.06	-0.02	1.18E-04
traits	effect size	ci_low	ci_high	p_value
Smoking intensity (Number of cigarettes/day)	-0.01	-0.02	0.01	4.03E-01
traits	effect size	ci_low	ci_high	p_value
Smoking exposure (pack years)	0.00	-0.01	0.01	7.75E-01
traits	effect size	ci_low	ci_high	p_value
Smoking duration (years)	0.02	0.00	0.03	1.69E-02

Association between smoking habits and pSIN in never smokers				
traits	effect size	ci_low	ci_high	p_value
Passive exposure	0.06	0.02	0.10	6.78E-03

Table S6: Top genome-wide association study hits for the proteomic Smoking Index (pSIN).

unqiQID	rsID	chr	pos	non_effect_x_effect_allele	MAF	gwasP	r2	IndisigSNP	GenomicLoc	nearestGene	dist	func	CADD	RDB	minChrState	commonChr	posMapFit	eqtMapFit	cMapFit	PRS	
1.181491526	n576939210	1	181491526	C	T	0.000994	0.00026766	1	n565756652	4	CACNA1E	0	intronic	17.2	NA	5	15	1	0	10	
1.181337507	n514205407	1	181337507	A	A	0.000994	1.70E-052	4	CACNA1E	44730	intergenic	14.552	7	14	15	1	0	9			
1.45020295	n7797286	1	45020295	C	T	0.003976	0.00867749	0.7485	n184589510	2	RNF220	0	intronic	10.49	3a	5	1	0	8		
1.63825994	n552931944	1	63825994	T	G	0.000994	0.0236877	1	n561597383	3	RPA-792G4.3	0	ncRNA_exon	9.2	NA	7	14	1	0	7	
1.63837260	n540220728	1	63837260	C	CATTTT	0.000994	NA	1	n561597383	3	ALG6	0	intronic	9.104	NA	4	5	1	0	6	
1.181793256	n565756652	1	181793256	A	A	0.000994	6.41E-09	1	n565756652	4	RP11-33M22	10859	intergenic	7.446	NA	9	15	0	0	5	
1.64546547	n561597383	1	64546547	C	T	0.000994	3.89E-08	3	ROR1	0	intronic	6.768	NA	5	15	1	0	4			
1.18560234	n18560234	1	18560234	A	A	0.001988	NA	1	C1orf222	1	C1orf222	0	intronic	4.572	NA	5	15	0	3		
1.182102121	n139698371	1	182102121	C	T	0.000994	4.13E-05	1	n565756652	4	GS1-12H12.1	0	ncRNA_intra	4.489	5	5	15	0	2		
1.45706049	n182495032	1	45706049	G	G	0.002982	2.78E-07	1	n184589510	2	ZSWIM5	0	intergenic	3.249	7	9	15	0	1		
1.64794828	n520036487	1	64794828	A	AT	0.2366	0.00736723	1	n561597383	3	RNU7-62P	55252	intergenic	3.073	NA	5	15	0	0		
1.45342354	n541844915	1	45342354	C	G	0.002982	1.13E-05	1	n184589510	2	E1F2B3	0	intronic	1.038	NA	7	4	5	1	0	
1.45270634	n574368328	1	45270634	A	A	0.001988	1.00E-05	0.665336	n184589510	2	PLK3	0	intronic	0.781	NA	3	4	5	1	0	
1.45347151	n5184589510	1	45347151	C	T	0.002982	1.56E-08	1	n184589510	2	E1F2B3	0	intronic	0.607	5	4	5	1	0		
1.64363805	n535734855	1	64363805	T	T	0.000994	0.06611063	1	n561597383	3	ROR1	0	intronic	0.502	NA	5	15	1	0		
1.45391728	n5187198328	1	45391728	C	T	0.001988	0.00286126	0.665336	n184589510	2	E1F2B3	0	intronic	0.405	7	4	5	1	0		
1.45763506	n5188460107	1	45763506	T	T	0.002982	3.22E-07	1	n184589510	2	ZSWIM5	0	intergenic	0.356	2b	2	15	1	0		
1.45441048	n5189724903	1	45441048	C	T	0.002982	4.42E-06	1	n184589510	2	E1F2B3	0	intronic	0.21	7	4	5	1	0		
1.2721575C	n541950369	1	2721575C	T	T	0.001988	6.15E-09	0.001988	n541950369	1	TTCC4	3288	intergenic	0.157	689	4	15	1	0		
1.45445596	n5188374400	1	45445596	C	T	0.002982	8.87E-06	1	n184589510	2	E1F2B3	0	intronic	0.011	5	4	5	1	0		
2.233031535	n11886043	2	233031535	T	C	0.2247	2.62E-24	0.994156	n12478529	10	DIS3L2P1	5208	intergenic	0.093	5	5	15	0	0		
2.233235331	n2741309	2	233235331	C	C	0.2813	1.49E-13	1	n2741309	10	ALPP	7912	intergenic	2.856	5	5	14	1	0		
2.233271226	n58457058	2	233271226	C	C	0.08748	2.64E-12	1	n58457058	10	ALPPL2	326	upstream	1.534	5	4	14	1	0		
2.233241988	n73001977	2	233241988	T	T	0.1839	5.45E-08	0.694172	n2853373	10	ALPP	1225	intergenic	1.305	6	5	14	1	0		
2.23304352	n53458538	2	23304352	A	A	0.2276	2.22E-06	0.965157	n12478529	10	DIS3L2P1	2262	intergenic	0.42E-22	10	DIS3L2P1	2262	intergenic	0.42E-22	10	
2.233245026	n2853378	2	233245026	G	A	0.1004	2.69E-12	1	n2853378	10	ALPP-AC081	0.00	exonic	8.092	5	5	14	1	0		
2.233286654	n12478529	2	233286654	T	T	0.2237	1.84E-25	1	n12478529	10	AC08134.6	482	upstream	3.85	5	2	13	0	0		
2.233271697	n233271697	2	233271697	TAC	TACAC	0.04871	NA	0.962918	n58457058	10	ALPPL2	0	intronic	NA	NA	4	14	1	0		
2.233271697	n233271697	2	233271697	TAC	TACAC	0.08648	NA	0.962918	n58457058	10	ALPPL2	0	intronic	NA	NA	4	14	1	0		
2.233284285	n2678520	2	233284285	A	T	0.3926	0.00173483	0.691473	n13002718	10	AC08134.5	0	ncRNA_exon	15.65	4	1	13	1	0		
2.233230565	n744873	2	233230565	A	G	0.07753	2.50E-08	0.666104	n57847034	10	AC08134.5	0	ncRNA_exon	14.84	5	4	14	1	0		
2.233280822	n744874	2	233280822	A	T	0.07753	2.29E-08	0.666104	n52853378	10	AC08134.5	0	ncRNA_exon	11.98	5	4	14	1	0		
2.233278276	n73003851	2	233278276	G	A	0.0835	7.56E-06	0.627404	n2853378	10	AC08134.5	0	2251	intergenic	10.74	5	1	14	1	0	
2.233280979	n52082841	2	233280979	C	T	0.07753	2.49E-08	0.666104	n2853378	10	AC08134.5	0	ncRNA_intra	10.14	NA	4	14	1	0		
2.233237639	n73995640	2	233237639	C	T	0.1054	2.26E-08	0.942279	n118939605	10	ALPI	2896	intergenic	15.28	5	1	14	1	0		
2.23331750	n54699952	2	23331750	T	T	0.2813	1.38E-12	0.705747	n6708137	10	ALPI	7007	intergenic	13.14	4	1	14	1	0		
2.233245586	n1130335	2	233245586	C	T	0.07756	7.96E-08	0.697878	n2853378	10	ALPI	0	exonic	23.4	5	5	14	1	0		
2.233243981	n13026692	2	233243981	A	T	0.337	4.54E-09	0.75401	n13002718	10	ALPP	0	exonic	13.5	4	5	14	1	0		
2.233277326	n2697784	2	233277326	T	C	0.07753	4.44E-08	0.666104	n2853378	10	ALPPL2	1901	intergenic	10.81	5	2	14	1	0		
2.233307925	n13995493	2	233307925	C	T	0.79952	5.15E-10	0.878367	n58457058	10	DIS3L2P1	0	ncRNA_intra	11.59	5	5	15	0	0		
2.233338722	n73995651	2	233338722	A	G	0.1064	9.00E-08	0.932915	n118939605	10	ECEL1	5814	intergenic	15.02	5	7	14	1	0		
2.23335682	n53937062	2	23335682	A	G	0.2803	1.93E-07	0.951079	n2853373	10	ECEL1	954	intergenic	14.74	7	14	1	0			
2.23338201	n58558164	2	23338201	C	T	0.1064	9.20E-08	0.932915	n118939605	10	ECEL1	6335	intergenic	13.57	3a	7	14	1	0		
2.23338025	n111729429	2	23338025	TA	T	0.1064	1.04E-07	0.932915	n118939605	10	ECEL1	6511	intergenic	13.46	NA	7	14	1	0		
2.23337748	n112161538	2	23337748	TC	T	0.1064	7.88E-08	0.932915	n118939605	10	ECEL1	6788	intergenic	11.11	NA	7	14	1	0		
2.23337414	n56283912	2	23337414	C	C	0.1064	8.01E-08	0.932915	n118939605	10	ECEL1	7122	intergenic	10.65	6	9	14	1	0		
2.233338110	n73995649	2	233338110	C	T	0.1064	9.14E-08	0.932915	n118939605	10	ECEL1	6426	intergenic	10.28	4	7	14	1	0		
2.233251866	n73001995	2	233251866	A	T	0.07756	2.95E-08	0.707997	n2853378	10	ECEL1P2	0	ncRNA_exon	14.85	4	1	13	1	0		
2.233251706	n140642490	2	233251706	C	C	0.01193	1.63E-08	1	n140642490	10	ECEL1P2	0	ncRNA_exon	14.35	4	1	14	1	0		
2.233251534	n73001992	2	233251534	A	A	0.1849	7.72E-08	0.676939	n2853373	10	ECEL1P2	0	ncRNA_exon	12.76	3a	1	13	1	0		
2.233255052	n13386140	2	233255052	T	C	0.1859	9.43E-08	0.680994	n2853373	10	ECEL1P2	2884	intergenic	12.73	7	5	13	1	0		
2.233254052	n73002000	2	233254052	C	T	0.07356	1.42E-08	0.707997	n2853378	10	ECEL1P2	1884	intergenic	10.79	3a	2	13	1	0		
2.233253060	n4075405	2	233253060	C	T	0.07356	1.41E-08	0.707997	n2853378	10	ECEL1P2	892	upstream	13.14	4	1	13	1	0		
2.233215741	n11895338	2	233215741	G	C	0.1093	2.1E-07	0.939679	n57847034	10	ECEL1P3	0	ncRNA_exon	17.59	3a	7	13	1	0		
2.163099032	n184963013	2	163099032	A	G	0.000994	9.39E-09	1	n184963013	7	FAP	0	intronic	12.71	6	1	15	1	0		
2.233278865	n11883916	2	233278865	T	G	0.3091	8.78E-09	0.964327	n13002718	10	AC08134.5	1662	intergenic	9.914	5	5	14	1	0		
1.54211264	n516402375	2	154211264	T	C	0.001988	0.0156308	1	n539708834	6	AC079150.3	0	ncRNA_intra	9.871	2b	5	15	0	0		
2.233313185	n76708137	2	233313185	T	C	0.2535	2.52E-18	1	n6708137	10	DIS3L2P1	1056	intergenic	9.779	5	5	15	0	0		
2.233213862	n116812852	2	233213862	C	C	0.2853	2.59E-11	0.974836	n518939605	10	ECEL1P3	59E-11	downstream	9.314	5	1	14	1	0		
2.23331634	n2678485	2	23331634	T	C	0.1312	7.42E-07	0.755208	n118939605	10	ALPI	6891	intergenic	9.267	6	5	14	1	0		
2.23326378	n73104957	2	23326378	G	A	0.1272	9.67E-06	0.795485	n57847034	10	ECEL1P3	10358	intergenic	8.762	5	5	15	0	0		
2.233279920	n2741320	2	233279920	C	G	0.07753	2.50E-08	0.666104	n2853378	10	AC08134.5	607	downstream	8.759	4	14	1	0	0		
2.233318224	n3762521	2	233318224	T	C	0.2674	3.53E-15	0.898823	n6708137	10	ALPI	2608	intergenic	8.271	NA	1	14	1	0		
2.233387729	n554404087	2	233387729	GA	A	0.2435	1.08E-08	0.951079	n2853373	10	ALPP	4514	intergenic	7.983	NA	5	15	0	0		
2.233274475	n560807072	2	233274475	C	T	0.07853	2.74E-07	0.951079	n2853378	10	ALPI	0	exonic	5.15	5	4	14	1	0		
2.233307																					

2.233323205 rs2741269	2.233323205 C	T	0.1312	4.61E-07	0.755208 rs11893605	10 ALPI	0 intronic	2.827	5	3	14	1	0	0
2.2333232356 rs201896113	2.2333232356 T	G	0.1302	7.80E-07	0.742801 rs11893605	10 ALPI	7613 intergenic	2.768	5	14	1	0	0	
2.233324477 rs10262052	2.233324477 T	G	0.0565	1.85E-08	0.90654 rs11893605	10 ALPPAC0681	0 nRNA_intron	2.779	5	14	1	0	0	
2.233324248 rs156245891	2.233324248 A	G	0.1074	4.75E-08	0.906075 rs11893605	10 ECE11	2388 intergenic	2.627	7	5	14	1	0	0
2.233318028 rs60482662	2.233318028 A	G	0.2674	5.54E-15	0.898823 rs6708137	10 ALPI	2804 intergenic	2.619	5	5	14	1	0	0
2.233271763 rs111524519	2.233271763 C	A	0.07654	5.51E-09	0.653736 rs2853378	10 ALPLI2	0 intronic	2.602	5	4	14	1	0	0
2.233308325 rs20094473	2.233308325 GGA	G	0.07654	5.91E-07	0.610609 rs2853378	10 DIS3L2P1	0 nRNA_intron	2.597 NA	5	5	15	0	0	0
2.233271697 rs369374441	2.233271697 TAC	T	0.335 NA		0.962918 rs54857058	10 ALPLI2	0 intronic	2.49 NA	5	14	1	0	0	
2.233315878 rs1128166482	2.233315878 A	G	0.1071	9.91E-09	0.91189315	10 DIS3L2P1	2.47	7	5	14	1	0	0	0
2.233337956 rs73995647	2.233337956 G	A	0.1064	8.54E-08	0.932915 rs11893605	10 ECE11	6580 intergenic	2.468	4	7	14	1	0	0
2.233278457 rs2741318	2.233278457 A	C	0.0835	7.26E-06	0.627404 rs2853378	10 AC068134.5	2070 intergenic	2.461	6	5	14	1	0	0
2.233305284 rs56986123	2.233305284 A	A	0.3738	0.00617256	0.640485 rs13002718	10 DIS3L2P1	1459 intergenic	2.404	4	2	14	0	0	0
2.233317648 rs6738379	2.233317648 A	G	0.2684	1.67E-15	0.894063 rs6708137	10 ALPI	3184 intergenic	2.341	5	5	14	1	0	0
2.233317548 rs6738245	2.233317548 A	T	0.2674	1.62E-15	0.898823 rs6708137	10 ALPI	3284 intergenic	2.218	5	5	14	1	0	0
2.233341123 rs59891262	2.233341123 C	T	0.1123	2.62E-08	0.88116 rs11893605	10 ECE11	3413 intergenic	2.187	5	7	14	1	0	0
2.233222663 rs3171654873	2.233222663 T	A	0.1282	0.00014104	0.751961 rs57847034	10 ECE11P3	6643 intergenic	2.183	7	14	15	0	0	0
2.233272528 rs6728119	2.233272528 G	T	0.1789	1.98E-06	0.601233 rs2853378	10 ALPLI2	0 intronic	2.152	5	4	14	1	0	0
2.233286473 rs2853383	2.233286473 T	C	0.07753	2.61E-07	0.623205 rs2853378	10 AC068134.6	301 upstream	2.15	5	2	13	0	0	0
2.233222660 rs369177895	2.233222660 G	A	0.1282	0.00014767	0.751961 rs57847034	10 ECE11P3	6640 intergenic	2.132	7	14	15	0	0	0
2.233303536 rs1150147700	2.233303536 C	T	0.1064	3.72E-08	0.932915 rs11893605	10 ALPI	5793 intergenic	2.127	6	5	14	1	0	0
2.233306562 rs2578502	2.233306562 A	G	0.07753	2.36E-06	0.600562 rs2853378	10 DIS3L2P1	181 upstream	2.09	5	5	15	0	0	0
2.233343228 rs2853425	2.233343228 G	A	0.3052	9.23E-11	0.751665 rs36517043	10 ECE11	1308 intergenic	2.06	5	5	14	1	0	0
2.233274880 rs1009934	2.233274880 C	G	0.07753	5.91E-09	0.666104 rs2853378	10 ALPLI2	0 UTR3	1.932	5	4	14	1	0	0
2.233225957 rs34671371	2.233225957 TA	T	0.33	8.02E-11	0.755027 rs938866	10 ECE11P3	9937 intergenic	1.931 NA	9	15	0	0	0	
2.233315463 rs11893605	2.233315463 C	C	0.1074	1.55E-09	1 rs11893605	10 DIS3L2P1	3334 intergenic	1.895	7	5	14	1	0	0
2.233305281 rs252305181	2.233305281 A	G	0.3738	0.0001718	0.640485 rs13002718	10 AC068134.6	1594 intergenic	1.894 NA	5	4	14	1	0	0
2.23331042 rs71733485	2.23331042 C	A	0.1064	3.08E-08	0.932915 rs11893605	10 ALPI	6299 intergenic	1.893 3a	5	5	14	1	0	0
2.233234905 rs1112893316	2.233234905 T	T	0.02087	1.20E-10	1 rs112893316	10 ALPP	8338 intergenic	1.842	5	5	14	1	0	0
2.233304783 rs2741248	2.233304783 T	C	0.3357	0.00172987	0.669552 rs13002718	10 DIS3L2P1	1960 intergenic	1.819 NA	5	14	0	0	0	
2.233219509 rs59268864	2.233219509 A	T	0.3172	0.0002209	0.767671 rs57847034	10 ECE11P3	3489 intergenic	1.812	6	9	14	0	0	0
2.233232240 rs369978088	2.233232240 C	T	0.1193	2.93E-05	0.718925 rs57847034	10 ECE11P3	7220 intergenic	1.805	7	14	15	0	0	0
2.233218981 rs60581961	2.233218981 A	T	0.1312	0.00021252	0.767671 rs57847034	10 ECE11P3	3871 intergenic	1.793	4	5	14	1	0	0
2.233301853 rs2853412	2.233301853 A	G	0.07753	7.73E-07	0.603371 rs2853378	10 DIS3L2P1	4890 intergenic	1.758 3a	5	5	15	0	0	0
2.233271147 rs3828252	2.233271147 T	C	0.3847	4.20E-09	1 rs3828250	10 ALPLI2	405 upstream	1.749	5	4	14	1	0	0
2.23302590 rs2697787	2.23302590 G	T	0.07654	7.79E-07	0.610609 rs2853378	10 DIS3L2P1	4153 intergenic	1.746	7	5	15	0	0	0
2.233245045 rs28733638	2.233245045 C	T	0.07256	5.55E-08	0.697878 rs2853378	10 ALPPAC0681	0.00 nRNA_intron	1.744	5	5	14	1	0	0
2.233278737 rs37870737	2.233278737 A	G	0.3101	1.9E-09	0.580725 rs11893605	10 AC068134.5	1790 intergenic	1.741	5	5	14	1	0	0
2.233305296 rs2245452	2.233305296 C	G	0.3738	0.00613584	0.640485 rs13002718	10 DIS3L2P1	1447 intergenic	1.741	4	2	14	0	0	0
2.233327891 rs13036228	2.233327891 A	G	0.2515	2.04E-15	0.894734 rs6708137	10 ALPI	3148 intergenic	1.737 2b	5	14	1	0	0	0
2.233281802 rs1878691	2.233281802 T	C	0.3151	4.18E-10	0.909085 rs13002718	10 AC068134.5	0 nRNA_intron	1.73 NA	3	13	1	0	0	0
2.233304794 rs2741249	2.233304794 C	C	0.3926	0.00390647	0.681311 rs13002718	10 DIS3L2P1	1949 intergenic	1.682	4	5	14	0	0	0
2.233288721 rs2678521	2.233288721 T	T	0.07853	9.05E-07	0.61333 rs2853378	10 AC068134.6	2049 intergenic	1.623 NA	1	14	0	0	0	
2.233340110 rs149479797	2.233340110 A	G	0.1362	4.54E-07	0.740345 rs11893605	10 ALPI	5927 intergenic	1.603 NA	5	14	1	0	0	0
2.23320760 rs146104735	2.23320760 G	A	0.01789	4.61E-08	1 rs146104735	10 ALPP	12483 intergenic	1.597	5	2	15	0	0	0
2.233240817 rs2853373	2.233240817 T	G	0.2425	1.64E-09	1 rs2853373	10 ALPP	2426 intergenic	1.581	6	5	14	0	0	0
2.233290244 rs11897905	2.233290244 T	C	0.3062	1.40E-08	0.933134 rs13002718	10 AC068134.6	4072 intergenic	1.568	5	5	14	0	0	0
2.233271145 rs3828250	2.233271145 T	G	0.3847	4.16E-09	1 rs3828250	10 ALPLI2	407 upstream	1.544	5	4	14	1	0	0
2.233288006 2.233288006	2.233288006 A	AAAAAC	0.3062 NA		0.933134 rs13002718	10 AC068134.6	1834 intergenic	1.543 NA	1	14	0	0	0	
2.233288006 2.233288006 ATAC	2.233288006 A	AAAAAC	0.3062 NA		0.933134 rs13002718	10 AC068134.6	1834 NA	1.543 NA	1	14	0	0	0	
2.233213524 rs7059916	2.233213524 T	C	0.3032	2.12E-10	0.894053 rs938866	10 ECE11P3	939 downstream	1.534	5	5	14	1	0	0
2.233236887 rs2678535	2.233236887 T	G	0.2137	3.18E-06	0.831002 rs2853373	10 ALPP	6356 intergenic	1.475	6	5	15	1	0	0
2.233341122 rs60147715	2.233341122 G	C	0.1123	2.45E-08	0.88116 rs11893605	10 ECE11	3414 intergenic	1.473	5	7	14	1	0	0
2.233226220 rs1805094	2.233226220 C	G	0.3111	4.66E-11	0.834062 rs938866	10 ECE11P3	10200 intergenic	1.408	7	5	15	0	0	0
2.233304421 rs28482468	2.233304421 C	G	0.3062	3.43E-08	0.933134 rs13002718	10 DIS3L2P1	5322 intergenic	1.394	5	5	14	0	0	0
2.233271133 rs3828249	2.233271133 C	G	0.3907	1.26E-08	0.975671 rs3828250	10 ALPP	435 upstream	1.397	5	14	1	0	0	0
2.233222416 rs112105386	2.233222416 A	A	0.1272	1.08E-05	0.795485 rs57847034	10 ECE11P3	6396 intergenic	1.389	6	14	15	0	0	0
2.233307905 rs2917081	2.233307905 G	A	0.07753	2.02E-06	0.600562 rs2853378	10 DIS3L2P1	0 nRNA_intron	1.357	5	5	15	0	0	0
2.233332352 rs141748955	2.233332352 A	AC	0.1312	6.60E-08	0.755208 rs11893605	10 ALPI	7609 intergenic	1.276 NA	5	14	1	0	0	0
2.233290980 rs2853386	2.233290980 T	G	0.3926	0.00380996	0.682803 rs13002718	10 AC068134.6	4808 intergenic	1.251	5	5	14	0	0	0
2.1634171993 rs522239430	2.1634171993 A	A	0.00994 NA		1 rs184963013	7 KCHW7	0 intronic	1.242 NA	5	14	1	0	0	0
2.233271287 rs11678251	2.233271287 G	A	0.07753	8.53E-09	0.666104 rs2853378	10 ALPLI2	265 upstream	1.24	5	4	14	1	0	0
2.233252637 rs4073596	2.233252637 C	A	0.07356	1.72E-08	0.707997 rs2853378	10 ECE11P2	469 upstream	1.145 2b	1	13	1	0	0	0
2.233305432 rs2697788	2.233305432 A	C	0.3867	0.00325961	0.681761 rs13002718	10 DIS3L2P1	1311 intergenic	1.137	4	5	14	0	0	0
2.233291680 rs12993551	2.233291680 A	G	0.3062	1.86E-08	0.933134 rs13002718	10 AC068134.6	5508 intergenic	1.114	6	5	14	0	0	0
2.233297573 rs2853401	2.233297573 T	T	0.07753	1.59E-07	0.623205 rs2853378	10 DIS3L2P1	9170 intergenic	1.095 3a	5	14	15	0	0	0
2.233224042 rs373117635	2.233224042 A	G	0.1272	1.90E-02	0.795485 rs57847034	10 ALPI	5927 intergenic	1.094	7	14	0	0	0	0
2.233291701 T rs2981375	2.233291701 T	G	0.3926	0.00363281	0.682803 rs13002718	10 AC068134.6	5529 intergenic	1.008	6	5	14	0	0	0
2.233242937 rs3762525	2.233242937 C	C	0.07455	1.21E-07	0.675259 rs2853378	10 ALPP	306 upstream	1.004	5	5	14	1	0	0
2.233281168 2.233281168	2.233281168 A	A	0.1282	1.02E-05	0.791396 rs57847034	10 ECE11P3	2148 intergenic	0.999	5	7	13	1	0	0
2.233335141 rs2741275	2.233335141 G	A	0.1282	1.35E-07	0.707946 rs11893605	10 ECE11	9395 intergenic	0.986	7	9	14	1	0	0
2.233282381 rs219129381	2.233282381 A	G	0.3082	7.40E-09	0.909653 rs11893605	10 AC068134.5	0 nRNA_intron	0.956 NA	5	14	1	0	0	0
2.233218548 rs10678566	2.233218548 G	GCA	0.3062	7.93E-11	0.873996 rs938866	10 ECE11P3	2528 intergenic	0.894 NA	9	13	1	0	0	0
2.233331594 rs4973042	2.233331594 T	C	0.2813	1.45E-12	0.770574 rs6708137	10 ALPI	6851 intergenic	0.866	7	1	14	1	0	0
2.233244843 rs55977653	2.233244843 A	C	0.07356	2.27E-08	0.707997 rs2853378	10 ALPPAC0681	0.00 nRNA_intron	0.854	5	4	14	1	0	0
2.233282847 rs13														

2-233341097 rs16829151	2	233341097	C	T	0.1044	1.33E-07	0.951796 rs11893605	10	ECCL1	3439	intergenic	0.009	5	7	14	1	0	0
3-5331884.G rs576985216	3	5331884	G	T	0.000994	NA	1 rs57016583	11	AC026202.5	33437	intergenic	12.46	NA	14	15	0	0	0
3-5666072.C rs57016583	3	5666072	C	T	0.000994	1.13E-09	1 rs57016583	11	AC027119.1	338456	intergenic	15.79	NA	14	15	0	0	0
3-17676770.C rs201143676	3	17676770	C	T	0.000994	NA	1 rs22008209	13	TBL1H1	5699	0	intronic	6	4	4	1	0	0
3-4944448.C rs530792469	3	4944448	C	T	0.000994	NA	1 rs557016583	11	BHLHE40.AS	421	NA	2.21	NA	2	15	0	0	0
3-5350790.A rs543266656	3	5350790	A	G	0.000994	0.0318048	1 rs557016583	11	AC026202.5	52343	intergenic	2.319	NA	5	15	0	0	0
3-5751425.A rs573014377	3	5751425	A	G	0.000994	0.00053492	1 rs557016583	11	AC027119.1	253103	intergenic	1.646	NA	1	15	0	0	0
3-596292501 rs535205361	3	596292501	C	T	0.000994	NA	12 FHIT	10	0085578	105785	intergenic	1.579	NA	5	15	0	0	0
3-177235662 rs575456624	3	177235662	C	A	0.000994	0.0038587	1 rs22008209	13	LOC1005078	0	NA	1.509	NA	7	9	9	0	0
3-5680590.C rs190523890	3	5680590	C	A	0.000994	2.54E-05	1 rs557016583	11	AC027119.1	323938	intergenic	1.307	NA	7	9	9	0	0
3-5948962.C rs555419175	3	5948962	G	A	0.000994	2.25E-09	1 rs555419175	12	RP11-719N.1	0	ncRNA_intron	0.895	NA	9	15	0	0	0
3-176244107 rs572008209	3	176244107	C	T	0.000994	8.79E-09	1 rs572008209	13	RP11-71G7.1	77823	intergenic	0.88	NA	5	15	0	0	0
3-5621017.C rs180911998	3	5621017	C	T	0.000994	0.0192097	1 rs557016583	11	AC026202.5	322570	intergenic	0.109	5	2	15	0	0	0
3-17703086 rs140947060	3	17703086	G	A	0.000994	NA	1 rs572008209	13	LOC1005078	9143	intergenic	0.072	6	5	15	0	0	0
4-142166762 rs139393850	4	142166762	C	T	0.000994	5.22E-09	1 rs139393850	14	RP11-586J23	0	ncRNA_intron	5.331	5	5	15	0	0	0
4-142118463 rs139948709	4	142118463	G	A	0.000994	5.88E-09	1 rs139393850	14	RNF150	0	intronic	3.232	6	9	15	0	0	0
5-158767155 rs34936428	5	158767155	A	AT	0.339	7.11E-12	1 rs34936428	18	AC008697.1	0	ncRNA_intron	0.493	NA	5	15	1	0	0
5-864760777 rs189586219	5	864760777	C	T	0.000994	4.63E-08	1 rs189586219	17	AC008394.1	36345	intergenic	10.54	6	9	15	1	0	0
5-35833717 rs17466443	5	35833717	A	G	0.3787	1.07E-07	0.653794 rs35851831	16	CTD-2113L7.1	6596	intergenic	10.1	5	2	15	1	0	0
5-35879095 rs6881270	5	35879095	C	T	0.2724	3.04E-08	0.961991 rs35851831	16	ILTR	0	UTR3	12.84	6	4	15	1	0	0
5-35857704 rs11567694	5	35857704	A	G	0.2924	3.82E-08	0.961991 rs35851831	16	ILTR	0	intronic	10.88	5	1	15	1	0	0
5-158702755 rs4921453	5	158702755	G	A	0.3946	0.0017972	0.612652 rs4147384	18	UBLP1	0	intronic	10.39	7	4	4	1	0	0
5-31035816 rs186229931	5	31035816	C	T	0.001988	8.12E-09	1 rs186229931	15	RPL19P11	17855	intergenic	9.728	5	15	0	0	0	0
5-31056782 rs151093191	5	31056782	T	C	0.001988	7.77E-08	1 rs186229931	15	RPL19P11	2521	intergenic	9.464	7	5	15	0	0	0
5-15877317 rs14244437	5	15877317	A	C	0.3052	4.34E-11	0.855233 rs34936428	18	AC008697.1	0	ncRNA_intron	0.909	4	5	15	0	0	0
5-35946815 rs59489815	5	35946815	C	T	0.3121	0.000994	0.840773 rs35851831	16	AC008697.1	5981	intergenic	9.957	NA	13	9	1	0	0
5-35874575 rs689732	5	35874575	C	T	0.2714	7.58E-08	0.957215 rs35851831	16	ILTR	0	exonic	8.267	5	4	15	1	0	0
5-31076730 rs146089499	5	31076730	A	C	0.001988	2.16E-06	1 rs186229931	15	CTD-2127O1	10490	intergenic	7.025	5	2	15	0	0	0
5-35928508 rs696734	5	35928508	A	C	0.2873	1.84E-05	0.679621 rs35851831	16	CAPSL	0	intronic	6.975	5	5	14	1	0	0
5-35893499 rs12658494	5	35893499	G	T	0.2942	6.48E-06	0.77389 rs35851831	16	RP11-79C6.1	2790	intergenic	6.727	5	15	0	0	0	0
5-35851831 rs53851831	5	35851831	C	T	0.2763	1.09E-08	1 rs35851831	16	ILTR	965	upstream	6.547	NA	1	15	1	0	0
5-35943042 rs860413	5	35943042	A	C	0.2873	2.12E-05	0.679621 rs35851831	16	RP11-79C6.3	2946	intergenic	6.452	NA	7	9	15	0	0
5-15881457 rs10046001	5	15881457	T	G	0.2823	3.34E-11	0.767183 rs34936428	18	AC008697.1	24734	intergenic	8.586	7	8	9	0	0	0
5-35825573 rs4869426	5	35825573	A	G	0.3777	1.22E-07	0.632322 rs35851831	16	CTD-2113L7.1	0	ncRNA_intron	5.792	7	2	15	0	0	0
5-158783223 rs6556411	5	158783223	G	T	0.3062	4.76E-11	0.850187 rs34936428	18	AC008697.1	0	ncRNA_intron	5.749	6	5	15	0	0	0
5-35857850 rs10213865	5	35857850	A	C	0.2724	3.75E-08	0.961991 rs35851831	16	ILTR	0	intronic	5.542	4	1	15	1	0	0
5-35881443 rs11742300	5	35881443	A	C	0.2714	4.80E-08	0.957215 rs35851831	16	ILTR	1737	intergenic	5.419	5	1	15	1	0	0
5-35862841 rs7171955	5	35862841	C	T	0.2714	1.78E-08	0.957215 rs35851831	16	ILTR	0	intronic	5.269	7	1	15	1	0	0
5-35933414 rs1645172	5	35933414	A	G	0.2873	8.01E-06	0.679621 rs35851831	16	CAPSL	0	intronic	5.076	NA	13	15	1	0	0
5-35893423 rs12658443	5	35893423	C	T	0.2952	7.05E-06	0.769965 rs35851831	16	RP11-79C6.1	2866	intergenic	5.001	6	5	15	0	0	0
5-35953949 rs17313508	5	35953949	G	A	0.2843	5.58E-05	0.637564 rs34936428	16	UGT3A1	0	UTR3	4.636	6	4	15	1	0	0
5-158796325 rs4921487	5	158796325	A	G	0.3062	6.70E-11	0.850187 rs34936428	18	AC008697.1	6482	intergenic	4.406	6	14	15	0	0	0
5-35893189 rs62351976	5	35893189	A	G	0.3249	5.53E-05	0.675771 rs35851831	16	ILTR	106	UTR3	4.15	7	1	15	0	0	0
5-158716850 rs1865013	5	158716850	T	G	0.3946	0.00147528	0.612652 rs4147384	18	UBLP1	3805	intergenic	4.15	7	1	15	1	0	0
5-35841449 rs10075764	5	35841449	A	G	0.3121	5.67E-08	0.840773 rs35851831	16	ILTR	11347	intergenic	4.118	7	1	15	0	0	0
5-35844125 rs1961220	5	35844125	G	A	0.3121	3.69E-08	0.840773 rs35851831	16	ILTR	8671	intergenic	4.07	NA	5	15	1	0	0
5-35935638 rs700170	5	35935638	C	T	0.2873	1.09E-05	0.679621 rs35851831	16	CAPSL	0	intronic	4.043	NA	9	15	1	0	0
5-158774965 rs983825	5	158774965	C	A	0.3052	5.38E-11	0.855233 rs34936428	18	AC008697.1	0	ncRNA_intron	3.908	7	5	15	0	0	0
5-35933410 rs16648410	5	35933410	A	T	0.2873	1.08E-08	0.961991 rs35851831	16	ILTR	7	CAT	4.15	7	1	15	0	0	0
5-35879156 rs6881706	5	35879156	G	T	0.2724	3.02E-08	0.961991 rs35851831	16	ILTR	0	UTR3	3.714	6	4	15	1	0	0
5-87062352 rs535330148	5	87062352	C	A	0.000994	5.05E-05	1 rs189586219	17	CTD-2316B1	33265	intergenic	3.597	NA	5	15	0	0	0
5-158818745 rs6556416	5	158818745	A	C	0.3042	5.32E-11	0.842061 rs34936428	18	AC008697.1	28902	intergenic	3.554	7	9	15	0	0	0
5-35883986 rs10214273	5	35883986	T	G	0.2803	9.65E-07	0.896782 rs35851831	16	ILTR	4280	intergenic	3.43	4	2	15	1	0	0
5-35883982 rs6871748	5	35883982	T	G	0.2803	1.08E-06	0.896782 rs35851831	16	ILTR	6276	intergenic	3.246	6	5	15	1	0	0
5-158750993 rs5402523	5	158750993	C	T	0.4751	8.82E-09	0.959095 rs4147384	18	AC008697.1	0	ncRNA_intron	1.031	1	18	1	0	0	0
5-35803577 rs931555	5	35803577	C	T	0.3072	1.11E-06	0.785766 rs35851831	16	SPF2-CTD-2	0	ncRNA_intron	2.908	4	2	7	1	0	0
5-158792819 rs10076557	5	158792819	C	G	0.3062	7.00E-11	0.850187 rs34936428	18	AC008697.1	2976	intergenic	2.857	NA	15	0	0	0	0
5-158698068 rs4147384	5	158698068	C	A	0.4811	1.45E-09	1 rs4147384	18	UBLP1	0	intronic	2.788	7	4	5	1	0	0
5-158814533 rs10045431	5	158814533	A	C	0.2823	3.02E-11	0.767183 rs34936428	18	AC008697.1	24690	intergenic	2.624	7	8	9	0	0	0
5-86800786 rs52937098	5	86800786	A	G	0.000994	0.010507	1 rs189586219	17	RNU6-727P	94521	intergenic	2.622	NA	1	15	0	0	0
5-158792306 rs4921223	5	158792306	A	G	0.3062	5.09E-11	0.850187 rs34936428	18	AC008697.1	2463	intergenic	2.499	6	9	15	0	0	0
5-158767333 rs10043720	5	158767333	A	G	0.3052	5.28E-11	0.855233 rs34936428	18	AC008697.1	0	ncRNA_intron	2.208	6	5	15	1	0	0
5-158755566 rs1003199	5	158755566	C	T	0.4702	8.09E-08	0.8467 rs4147384	18	AC008697.1	0	ncRNA_intron	2.092	6	5	14	1	0	0
5-35837234 rs12697352	5	35837234	A	G	0.3121	3.49E-08	0.840773 rs35851831	16	CTD-2113L7.1	10113	intergenic	2.091	7	2	15	0	0	0
5-35850149 rs34463936	5	35850149	C	T	0.2753	2.73E-08	0.985666 rs35851831	16	ILTR	2647	intergenic	1.916	4	4	15	1	0	0
5-35945352 rs860412	5	35945352	C	A	0.2883	5.53E-05	0.675771 rs35851831	16	RP11-79C6.3	2946	intergenic	1.899	7	9	15	0	0	0
5-158718924 rs78171486	5	158718924	T	G	0.3956	0.00161141	0.608984 rs4147384	18	UBLP1	5879	intergenic	1.813	7	5	15	1	0	0
5-158725080 rs2116821	5	158725080	T	C	0.3956	0.00172634	0.608984 rs4147384	18</										

7:115095243 rs1527737	7:115095243 G	A	0.4742	4.58E-08	0.945042 rs158393	24 RP11-22202:	48177 intergenic	3.303 NA	14	15	0	0	0	
7:114993488 rs62474676	7:114993488 A	G	0.4652	1.36E-07	0.912501 rs158393	24 AC068610.5	122078 intergenic	3.296	6	5	15	0	0	
7:114951541 rs247310	7:114951541 T	C	0.4324	1.65E-06	0.915839 rs158393	24 AC068610.5	92458 intergenic	2.765	7	14	15	0	0	
7:115031575 rs8641538	7:115031575 G	A	0.4324	6.55E-07	0.777495 rs158393	24 RP11-22202:	111845 intergenic	2.728	7	14	15	0	0	
7:115106854 rs7806900	7:115106854 A	G	0.4742	5.53E-08	0.945042 rs158393	24 RP11-22202:	36566 intergenic	2.457	6	14	15	0	0	
7:115053728 rs10239094	7:115053728 T	G	0.4334	8.44E-07	0.787257 rs158393	24 RP11-22202:	89692 intergenic	2.419	6	14	15	0	0	
7:115111838 rs1358391	7:115111838 G	T	0.4742	5.03E-08	0.945042 rs158393	24 RP11-22202:	31582 intergenic	2.22	6	5	15	0	0	
7:115113279 rs201597507	7:11513279 C	CT	0.4473	0.00123075	0.616755 rs158393	24 RP11-22202:	30141 intergenic	1.995 NA	5	15	0	0	0	
7:114963793 rs79976393 A	7:114963793 A	A	0.4105	1.45E-06	0.714769 rs158393	24 AC068610.5	92458 intergenic	1.765 NA	5	15	0	0	0	
7:98914685 rs73455088	7:98914685 ATAC	A	0.000994	2.12E-09	1 rs73455088	23 MYH16	5931 intergenic	1.714 NA	5	15	1	0	0	
7:11509076 rs534562882	7:11509076 G	A	0.4742	3.61E-08	0.945042 rs158393	24 RP11-22202:	53344 intergenic	1.694	5	14	15	0	0	
7:115029890 rs1527743	7:115029890 A	G	0.4314	5.53E-07	0.775019 rs158393	24 RP11-22202:	113530 intergenic	1.64	7	15	0	0	0	
7:115060209 rs62474713	7:115060209 A	G	0.4702	1.28E-07	0.930125 rs158393	24 RP11-22202:	83211 intergenic	1.578	4	7	15	0	0	
7:115046121 rs145198896	7:115046121 AAAG	A	0.4334	6.84E-07	0.787257 rs158393	24 RP11-22202:	97299 intergenic	1.478 NA	14	15	0	0	0	
7:114964879 rs5886758	7:114964879 GA	G	0.4105	5.88E-06	0.707705 rs158393	24 AC068610.5	93469 intergenic	1.471 NA	5	15	0	0	0	
7:115006628 rs12667221	7:115006628 C	A	0.4304	1.70E-06	0.77257 rs158393	24 AC068610.5	135218 intergenic	1.393	6	14	15	0	0	
7:115094819 rs73204031	7:115094819 C	T	0.4732	4.57E-08	0.94141 rs158393	24 RP11-22202:	48601 intergenic	1.375	6	9	15	0	0	
7:115065555 rs2141233	7:115065555 T	G	0.4374	3.88E-07	0.799192 rs158393	24 RP11-22202:	77865 intergenic	1.358	7	14	15	0	0	
7:114963568 rs62474669	7:114963568 T	C	0.4771	4.98E-08	0.95636 rs158393	24 AC068610.5	92158 intergenic	1.275	6	9	15	0	0	
7:45416290 rs547823949	7:45416290 G	C	0.001988	3.36E-11	1 rs547823949	22 ELK1P1	14934 intergenic	1.244 NA	7	9	15	0	0	
7:115067269 rs4275159	7:115067269 G	A	0.4742	3.91E-08	0.945042 rs158393	24 RP11-22202:	76151 intergenic	1.209	6	14	15	0	0	
7:115051102 rs201720501	7:115051102 T	TG	0.4712	1.48E-07	0.925769 rs158393	24 RP11-22202:	92318 intergenic	1.082 NA	1	15	0	0	0	
7:115068713 rs1358394	7:115068713 T	G	0.4384	4.70E-07	0.795316 rs158393	24 RP11-22202:	74707 intergenic	1.053	6	14	15	0	0	
7:115000554 rs78982498	7:115000554 T	T	0.4652	7.83E-07	0.912122 rs158393	24 AC068610.5	129144 intergenic	0.881 NA	7	15	0	0	0	
7:115038757 rs71137115	7:115038757 ATGTATATA	A	0.4334	1.38E-06	0.787257 rs158393	24 RP11-22202:	104663 intergenic	0.785 NA	14	15	0	0	0	
7:115033079 rs15430373	7:115033079 T	T	0.4314	2.84E-06	0.750199 rs158393	24 RP11-22202:	104663 intergenic	0.529 NA	7	14	15	0	0	
7:115021945 rs56662562	7:115021945 C	T	0.4682	7.76E-08	0.922791 rs158393	24 RP11-22202:	121475 intergenic	0.65	7	14	15	0	0	
7:115092784 rs62474737	7:115092784 C	G	0.4742	4.56E-08	0.945042 rs158393	24 RP11-22202:	50636 intergenic	0.472	7	14	15	0	0	
7:115026459 rs10251192	7:115026459 C	T	0.4314	7.53E-07	0.775019 rs158393	24 RP11-22202:	116961 intergenic	0.454	7	14	15	0	0	
7:45430024 rs535720872	7:45430024 T	T	0.001988	1.40E-08	1 rs547823949	22 ELK1P1	1200 intergenic	0.402 NA	5	15	0	0	0	
7:115086427 rs1358393	7:115086427 G	T	0.4881	2.12E-08	1 rs158393	24 AC068610.5	50993 intergenic	0.214	7	9	15	0	0	
7:115097852 rs11561941	7:115097852 A	A	0.4871	2.60E-08	0.959505 rs158393	24 RP11-22202:	45568 intergenic	0.215	6	14	15	0	0	
7:114962526 rs2023701	7:114962526 G	C	0.4105	3.62E-06	0.714769 rs158393	24 AC068610.5	91116 intergenic	0.069	6	9	15	0	0	
7:115092851 rs73204027	7:115092851 T	G	0.4742	9.51E-08	0.945042 rs158393	24 RP11-22202:	50569 intergenic	0.021	7	14	15	0	0	
7:115008063 rs4305836	7:115008063 G	T	0.4682	8.35E-08	0.922791 rs158393	24 RP11-22202:	135357 intergenic	0.007	7	14	15	0	0	
8:115293925 rs535409669	8:115293925 G	T	0.000994	0.0179841	1 rs532096923	25 RP11-12939:	125776 intergenic	0.939 NA	8	15	0	0	0	
8:116701500 rs532096923	8:116701500 G	T	0.000994	2.79E-08	1 rs532096923	25 TRP51	0 intronic	0.305 NA	14	15	1	0	0	
8:116307996 rs53456430	8:116307996 C	G	0.000994	0.0154207	1 rs532096923	25 TRP51	112727 intergenic	4.819 NA	13	15	0	0	0	
8:116326121 rs538991377	8:116326121 T	C	0.000994	0.0455756	1 rs532096923	25 TRP51	94602 intergenic	0.61 NA	7	15	0	0	0	
9:136141870 rs2519093	9:136141870 C	T	0.1849	2.86E-08	1 rs2519093	30 ABO	0 ncRNA_intron	7.465	7	5	14	0	0	
9:136151579 rs587745765	9:136151579 TGGTGACAGT	T	0.1859	2.99E-08	0.993747 rs2519093	30 ABO	961 upstream	11.13 NA	1	13	0	0	0	
9:123723850 rs202069815	9:123723850 C	T	0.000994	2.50E-09	1 rs202069815	29 CS	0 intronic	11.72	6	4	15	1	0	
9:123249579 rs138242129	9:123249579 A	C	0.000994	NA	1 rs202069815	29 CDSRAP2	0 exonic	22.7	7	4	15	0	0	
9:124035135 rs148168242	9:124035135 C	T	0.000994	NA	1 rs202069815	29 GSN	0 intronic	11.47	4	2	7	1	0	0
9:123367646 rs185776336	9:123367646 C	T	0.000994	NA	1 rs202069815	29 MEGF9	0 exonic	32	6	4	4	1	0	0
9:123958804 rs148987593	9:123958804 A	G	0.000994	1.19E-05	1 rs202069815	29 RAB14	0 intronic	10.74	4	1	7	1	0	0
9:123763062 rs534479453	9:123763062 A	G	0.000994	NA	1 rs202069815	29 CS	0 intronic	8.203 NA	4	15	1	0	0	
9:136151806 rs60038	9:136151806 T	C	0.2147	1.21E-06	0.817071 rs2519093	30 ABO	1188 intergenic	7.59 NA	1	13	0	0	0	
9:136154304 rs649129	9:136154304 C	T	0.2137	1.47E-06	0.810896 rs2519093	30 ABO	3257 intergenic	7.401 NA	2	13	0	0	0	
9:136153875 rs6315007	9:136153875 C	T	0.2137	1.69E-06	0.810896 rs2519093	30 ABO	3257 intergenic	7.401 NA	2	13	0	0	0	
9:136149399 rs507666	9:136149399 G	A	0.1859	3.58E-08	0.993747 rs2519093	30 ABO	0 ncRNA_intron	6.154	4	1	13	0	0	
9:124648342 rs140276921	9:124648342 A	C	0.000994	NA	1 rs202069815	29 TLL111-TLL11	0.00 ncRNA_intron	3.979	5	4	15	1	0	0
9:136149830 rs532436	9:136149830 G	A	0.1859	3.30E-08	0.993747 rs2519093	30 ABO	0 ncRNA_intron	3.456 3a	1	13	0	0	0	
9:136149709 rs1766643	9:136149709 AC	T	0.1839	6.21E-08	0.981176 rs2519093	30 ABO	0 ncRNA_intron	3.215 NA	1	13	0	0	0	
9:136155000 rs5365394	9:136155000 T	C	0.1849	3.84E-08	0.98478 rs2519093	30 ABO	4382 intergenic	2.272 NA	2	14	0	0	0	
9:136154867 rs495828	9:136154867 G	T	0.2137	9.58E-07	0.810896 rs2519093	30 ABO	4249 intergenic	2.072	5	2	14	0	0	
9:12415679 rs144362052	9:12415679 T	C	0.000994	NA	1 rs540178402	26 RNU2-47P	115227 intergenic	1.886	5	2	15	0	0	
9:123675293 rs139419597	9:123675293 A	G	0.000994	NA	1 rs202069815	29 TRAF1	0 intronic	1.88	4	4	5	1	0	0
9:124654423 rs562030054	9:124654423 A	G	0.000994	NA	1 rs202069815	29 TLL111-TLL11	0.00 ncRNA_intron	1.442 NA	4	5	15	1	0	0
9:124613977 rs568259077	9:124613977 C	T	0.000994	NA	1 rs202069815	29 TLL11	0 intronic	1.305 NA	5	15	1	0	0	
9:103310302 rs539494737	9:103310302 T	G	0.000994	NA	1 rs142018521	28 MSANTD3-TI	0.00 intronic	1.005 NA	4	15	1	0	0	
9:104827801 rs574946263	9:104827801 G	C	0.000994	NA	1 rs142018521	28 ARL2BP77	9777 intergenic	0.858 NA	9	15	0	0	0	
9:12202415 rs183473467	9:12202415 T	T	0.000994	NA	1 rs540178402	26 RP11-74C3.1	43267 intergenic	0.804	7	5	14	0	0	
9:136138765 rs5877729126	9:136138765 GCGCCACCTG	G	0.1839	7.99E-08	0.981176 rs2519093	30 ABO	0 ncRNA_intron	0.666 NA	5	15	0	0	0	
9:103914365 rs142018521	9:103914365 C	T	0.000994	0.86E-09	1 rs142018521	28 IPPR1	0 intronic	0.528	6	9	15	1	0	0
9:122745908 rs1387424908	9:122745908 A	C	0.000994	0.00129181	1 rs540178402	29 RP11-360A1	9307 intergenic	0.415	6	9	15	0	0	
9:11137315 rs145644053	9:11137315 T	C	0.000994	NA	1 rs540178402	26 RP11-109M1	124218 intergenic	0.415	6	9	15	0	0	
9:78943040 rs531512702	9:78943040 C	G	0.002982	1.19E-08	1 rs531512702	27 PCSK5	0 exonic	0.142 NA	4	15	1	0	0	
9:11490132 rs540178402	9:11490132 T	G	0.000994	2.50E-08	1 rs540178402	26 RP11-23D5.1	213817 intergenic	0.085 NA	5	15	0	0	0	
9:136149711 rs115478775	9:136149711 A	T	0.1839	5.02E-08	0.981176 rs2519093	30 ABO	0 ncRNA_intron	0.052	4	1	13	0	0	
9:136154168 rs5794959	9:136154168 T	C	0.2137	9.7E-06	0.810896 rs2519093	30 ABO	3550 intergenic	0.009	4	15	0	0	0	
10:77770706 rs546018672	10:77770706 T	C	0.000994	0.00564025	1 rs554748343	32 C10orf11	0 intronic	19 NA	5	15	1	0	0	
10:45491622 rs566897163	10:45491622 A	G	0.000994	3.16E-08	1 rs566897163	31 RASSF4	282 downstream	16.41 NA	2	7	1	0	0	
10:12833801 rs145455330	10:12833801 T	G	0.002982	2.85E-05	1 rs145821471	34 C10orf90	0 intronic	4.843	5	15	0	0	0	
10:11681668 rs191192464	10:11681668 C	T	0.000994	0.00436851	1 rs57499845	33 ATRNL1	36437 intergenic	4.593	6	5	15	0	0	
10:77171639 rs50429689	10:77171639 A	C	0.000994	NA	1 rs554748343	32 RP11-399K21	38 downstream	2.625 NA	5	14	1	0	0	
10:11700920 rs57499805 T	10:11700920 T	C	0.000994	1.20E-09	1 rs57499805	32 ATRNL1	0 intronic	2.423 NA	5	15	1	0	0	

11:11290621 rs1940712	11:112906218 G	C	0.4354	1.22E-10	0.850163 rs10891480	38 NCAM1	0 intronic	4.032	7	5	15	1	0	0
11:11294868 rs3943739	11:11294868 C	T	0.4861	5.19E-06	0.883494 rs7950047	38 NCAM1	0 intronic	3.982 NA		5	15	1	0	0
11:11287230 rs2359435	11:11287230 C	G	0.4344	9.67E-11	0.852895 rs10891480	38 NCAM1	0 intronic	3.964 NA		5	15	1	0	0
11:11292625 rs2509377	11:11292625 T	C	0.4622	5.44E-08	0.980921 rs7950047	38 NCAM1	0 intronic	3.878 NA		4	15	1	0	0
11:11292816 rs1369817	11:11292816 G	T	0.4632	1.80E-08	0.992647 rs7950047	38 NCAM1	0 intronic	3.859 NA		4	15	1	0	0
11:11045867 rs56790333	11:11045867 T	C	0.000994 NA		1 rs57058373	37 RP11-681H1	4435 intergenic	3.825 NA		5	15	0	0	0
11:11298448 rs71060287	11:11298448 TA	T	0.4423	6.68E-07	0.688676 rs7950047	38 NCAM1	0 intronic	3.771 NA		5	15	1	0	0
11:11287825 rs7118807	11:11287825 C	A	0.4344	1.17E-10	0.852895 rs10891480	38 NCAM1	0 intronic	3.744	7	5	15	1	0	0
11:11298543 rs11214500	11:11298543 C	T	0.4404	9.57E-07	0.688132 rs7950047	38 NCAM1	0 intronic	3.723 NA		4	15	1	0	0
11:11298359 rs4471463	11:11298359 C	T	0.4414	6.75E-07	0.978784 rs7950047	38 NCAM1	0 intronic	3.704	6	5	15	1	0	0
11:11288190 rs7942857	11:11288190 T	C	0.4334	8.12E-11	0.85567 rs10891480	38 NCAM1	0 intronic	3.646	6	5	15	1	0	0
11:11302822 rs1940705	11:11302822 T	C	0.2396	3.46E-06	0.615104 rs6821824	38 NCAM1	0 intronic	3.61	7	5	15	1	0	0
11:11294396 rs4306316	11:11294396 A	T	0.2097	1.32E-07	0.748674 rs6821824	38 NCAM1	0 intronic	3.595	7	5	15	1	0	0
11:11289502 rs1940734	11:11289502 G	C	0.4344	1.07E-10	0.852895 rs10891480	38 NCAM1	0 intronic	3.576	7	5	15	1	0	0
11:11284313 rs7110863	11:11284313 A	G	0.4354	1.20E-10	0.863217 rs10891480	38 NCAM1	0 intronic	3.555	7	5	15	1	0	0
11:11286143 rs4466874	11:11286143 T	C	0.4344	1.39E-10	0.852895 rs10891480	38 NCAM1	0 intronic	3.543	7	5	15	1	0	0
11:11283833 rs2155281	11:11283833 G	A	0.4324	9.64E-11	0.866076 rs10891480	38 NCAM1	0 intronic	3.511 NA		5	14	1	0	0
11:11298946 rs35407203	11:11298946 G	GA	0.4404	6.72E-07	0.689057 rs7950047	38 NCAM1	0 intronic	3.509 NA		5	15	1	0	0
11:11285196 rs2298527	11:11285196 G	C	0.4473	1.26E-08	0.810192 rs10891480	38 NCAM1	0 intronic	3.507	6	5	15	1	0	0
11:11294850 rs1965775	11:11294850 A	C	0.2087	1.75E-07	0.75351 rs6821824	38 NCAM1	0 intronic	3.475 NA		5	15	1	0	0
11:11290267 rs1320570	11:11290267 A	T	0.4354	1.07E-10	0.850163 rs10891480	38 NCAM1	0 intronic	3.417	6	5	15	1	0	0
11:11296515 rs2885208	11:11296515 T	C	0.2048	1.33E-08	0.735933 rs6821824	38 NCAM1	0 intronic	3.373	7	5	15	1	0	0
11:11286258 rs7115165	11:11286258 T	C	0.4344	1.45E-10	0.852895 rs10891480	38 NCAM1	0 intronic	3.323	6	5	15	1	0	0
11:11290512 rs7128648	11:11290512 G	A	0.4354	1.20E-10	0.850163 rs10891480	38 NCAM1	0 intronic	3.295	7	5	15	1	0	0
11:11292092 rs10891496	11:11292092 C	T	0.4702	2.09E-08	0.981727 rs7950047	38 NCAM1	0 intronic	3.259	6	5	15	1	0	0
11:11288217 rs7943159	11:11288217 T	C	0.2565	4.54E-08	0.85567 rs10891480	38 NCAM1	0 intronic	3.193	7	5	15	1	0	0
11:11283774 rs10750016	11:11283774 T	G	0.4324	1.01E-10	0.866076 rs10891480	38 NCAM1	0 intronic	3.173	5	2	14	1	0	0
11:11286089 rs7121047	11:11286089 A	T	0.4344	1.52E-10	0.852895 rs10891480	38 NCAM1	0 intronic	3.16	5	5	15	1	0	0
11:11299245 rs2005086	11:11299245 A	G	0.2087	3.67E-09	0.684843 rs6821824	38 NCAM1	0 intronic	3.113 NA		5	15	1	0	0
11:11286590 rs4439551	11:11286590 T	C	0.4344	1.03E-10	0.852895 rs10891480	38 NCAM1	0 intronic	3.108	7	5	15	1	0	0
11:62197176 rs2015176	11:62197176 T	C	0.3857	1.76E-07	0.767886 rs11231085	35 CTD-253D101	2979 intergenic	3.099 NA		5	15	1	0	0
11:11298738 rs20038781	11:11298738 T	C	0.4394	1.04E-06	0.91962 rs7950047	38 NCAM1	0 intronic	3.067	6	5	15	1	0	0
11:11298811 rs2011487	11:11298811 A	C	0.4881	8.57E-08	0.863553 rs7950047	38 NCAM1	0 intronic	2.979 NA		5	15	1	0	0
11:11285106 rs2155290	11:11285106 C	G	0.4314	1.04E-10	0.840396 rs10891480	38 NCAM1	0 intronic	2.833	5	5	15	1	0	0
11:11291007 rs7948327	11:11291007 T	C	0.4364	1.27E-10	0.847471 rs10891480	38 NCAM1	0 intronic	2.728	7	5	15	1	0	0
11:11291536 rs56360439	11:11291536 T	C	0.2515	4.43E-09	0.755029 rs6821824	38 NCAM1	0 intronic	2.717	7	4	15	1	0	0
11:11292631 rs4376994	11:11292631 G	C	0.4622	3.80E-08	0.980921 rs7950047	38 NCAM1	0 intronic	2.655	7	5	15	1	0	0
11:11288206 rs7928129	11:11288206 T	C	0.4344	8.99E-11	0.852895 rs10891480	38 NCAM1	0 intronic	2.598	7	5	15	1	0	0
11:11286057 rs7106434	11:11286057 T	C	0.4483	1.19E-08	0.807746 rs10891480	38 NCAM1	0 intronic	2.542	5	5	15	1	0	0
11:11290639 rs1940714	11:11290639 T	C	0.4354	1.19E-10	0.850163 rs10891480	38 NCAM1	0 intronic	2.503	7	5	15	1	0	0
11:11291078 rs2155292	11:112910783 A	G	0.4364	1.41E-10	0.847471 rs10891480	38 NCAM1	0 intronic	2.452 NA		5	15	1	0	0
11:11287740 rs9191558	11:112877409 T	A	0.4344	9.84E-11	0.852895 rs10891480	38 NCAM1	0 intronic	2.43	5	5	15	1	0	0
11:11285986 rs1940718	11:11285986 T	T	0.4344	1.68E-10	0.852895 rs10891480	38 NCAM1	0 intronic	2.397 NA		5	15	1	0	0
11:62195811 rs61893653	11:62195811 C	T	0.3837	1.15E-07	0.76768 rs11231085	35 CTD-253D101	1614 intergenic	2.379	6	5	15	1	0	0
11:11289923 rs142861910	11:112899235 TAATGTTTCT	T	0.4344	7.98E-11	0.852895 rs10891480	38 NCAM1	0 intronic	2.356 NA		5	15	1	0	0
11:11291100 rs7938812	11:112911004 T	G	0.4364	1.33E-10	0.847471 rs10891480	38 NCAM1	0 intronic	2.331	7	5	15	1	0	0
11:11289631 rs11289631	11:112896313 G	T	0.4344	1.07E-10	0.852895 rs10891480	38 NCAM1	0 intronic	2.325	5	5	15	1	0	0
11:62200369 rs108917274	11:62200369	G	0.4264	3.99E-06	0.640932 rs11231085	35 AHNAX	646 downstream	2.323 1b		5	15	1	0	0
11:11292984 rs12739848	11:11292984 T	C	0.2565	4.58E-08	0.682926 rs10891480	38 NCAM1	0 intronic	2.266 NA		5	15	1	0	0
11:11293852 rs555002642	11:112938526 G	C	0.000994	0.00462536	1 rs57058373	37 PDGFR	intergenic	2.245 NA		4	15	1	0	0
11:11291711 rs12574893	11:112917111 C	T	0.2038	8.91E-08	0.741637 rs6821824	38 NCAM1	0 intronic	2.215	6	4	15	1	0	0
11:11291251 rs3802850	11:112912518 A	C	0.4364	6.62E-11	0.847471 rs10891480	38 NCAM1	0 intronic	2.213	6	4	15	1	0	0
11:11297837 rs12788208	11:112978377 G	A	0.4881	5.75E-08	0.863553 rs7950047	38 NCAM1	0 intronic	2.202	5	5	15	1	0	0
11:11296295 rs108915504	11:11296295 T	T	0.4901	7.94E-08	0.846234 rs7950047	38 NCAM1	0 intronic	2.185	7	5	15	1	0	0
11:11290433 rs71133099	11:112904335 T	A	0.4354	1.20E-10	0.852895 rs10891480	38 NCAM1	0 intronic	2.117	6	5	15	1	0	0
11:11291468 rs12224032	11:112914680 C	G	0.2048	8.09E-08	0.7367 rs6821824	38 NCAM1	0 intronic	2.144	5	4	15	1	0	0
11:112944821 rs9943574	11:112944821 C	A	0.2048	5.27E-08	0.776399 rs6821824	38 NCAM1	0 intronic	2.131	7	5	15	1	0	0
11:11282704 rs2186710	11:112827048 G	G	0.4563	5.71E-09	0.76254 rs10891480	38 RP11-629G1	2953 intergenic	2.065	7	7	14	1	0	0
11:11292107 rs12576197	11:112921071 C	T	0.2495	7.75E-09	0.753486 rs6821824	38 NCAM1	0 intronic	2.059	6	5	15	1	0	0
11:11292150 rs2005085	11:112921501 G	T	0.4901	5.75E-08	0.857314 rs7950047	38 NCAM1	0 intronic	2.035 NA		5	15	1	0	0
11:11302844 rs1245125	11:113028441 C	C	0.2396	3.40E-06	0.615104 rs6821824	38 NCAM1	0 intronic	1.888 NA		5	15	1	0	0
11:11291088 rs113332425	11:112910881 A	AAAAT	0.4364	7.54E-11	0.847471 rs10891480	38 NCAM1	0 intronic	1.885 NA		5	15	1	0	0
11:11291204 rs7105462	11:112912048 G	A	0.4493	9.83E-09	0.805338 rs10891480	38 NCAM1	0 intronic	1.862	7	5	15	1	0	0
11:11288984 rs999851	11:112889846 A	G	0.4344	1.02E-10	0.852895 rs10891480	38 NCAM1	0 intronic	1.86	6	5	15	1	0	0
11:11292192 rs7946527	11:112921923 A	G	0.2028	1.03E-07	0.757994 rs6821824	38 NCAM1	0 intronic	1.854	7	5	15	1	0	0
11:11292974 rs108914902	11:112929745 C	T	0.4344	1.27E-10	0.847471 rs10891480	38 NCAM1	0 intronic	1.773 NA		7	15	1	0	0
11:11293740 rs577058373	11:112937404 T	T	0.000994	9.12E-09	1 rs57058373	37 RP11-563P1	ncRNA_intra	1.751 NA		8	15	1	0	0
11:11289621 rs10750021	11:112896214 C	G	0.4344	1.07E-10	0.852895 rs10891480	38 NCAM1	0 intronic	1.734	5	5	15	1	0	0
11:11289886 rs5794845	11:112898863 T	TAGAC	0.4394	7.50E-07	0.691962 rs7950047	38 NCAM1	0 intronic	1.666 NA		5	15	1	0	0
11:11288075 rs5794836	11:112880752 GA	G	0.4354	1.78E-10	0.809416 rs10891480	38 NCAM1	0 intronic	1.64 NA		5	15	1	0	0
11:62054150 rs569893983	11:62054150	C	0.000994	2.63E-09	1 rs56939398	36 ADRB1	122 downstream	1.595 NA		5	15	1	0	0
11:11290447 rs7127528	11:112904478 C	T	0.4354	1.09E-10	0.850163 rs10891480	38 NCAM1	0 intronic	1.591	6	5	15	1	0	0
11:62191472 rs11231086	11:62191472 C	T	0.3777	1.41E-06	0.725699 rs11231085	35 CTD-253D101	ncRNA_intra	1.581	5	5	15	1	0	0
11:11290939 rs7947502	11:112909396 C	T	0.4493	1.23E-08	0.805338 rs10891480	38 NCAM1	0 intronic	1.529	7	5	15	1	0	0
11:11298929 rs1061	11:112989298 T	C	0.4394	9.61E-07	0.691962 rs7950047	38 NCAM1	0 intronic	1.516	5	5	15	1	0	0
11:11292411 rs10891499	11:112924114 G	A	0.4622	1.61E-08	0.989896 rs7950047	38 NCAM1	0 intronic	1.507	6	5	15	1	0	0
11:11294														

11:11287740 rs9919557	11:112877408 T	C	0.4344	1.13E-10	0.852895 rs10891480	38 NCAM1	0 intronic	0.215	5	5	15	1	0	0
11:110281834 rs550932173	11:102818345 G	C	0.000994 NA		1 rs57058373	37 MMP13	0 intronic	0.214 NA	5	15	1	0	0	
11:11296619 rs13698191	11:12966191 G	A	0.4394	1.03E-06	0.691961 rs795047	38 NCAM1	0 intronic	0.4394	5	15	1	0	0	
11:11291344 rs17145874	11:1291344 T	C	0.3857	2.64E-07	0.767886 rs1231085	35 CTD-253D11	0 intragenic	0.172 2a	2	7	1	0	0	
11:11292380 rs12577005	11:112923802 C	A	0.4622	1.55E-08	0.988986 rs7950047	38 NCAM1	0 intronic	0.151	7	5	15	1	0	0
11:11291272 rs2186874	11:112912724 T	C	0.4364	6.57E-11	0.847471 rs10891480	38 NCAM1	0 intronic	0.144 NA	4	15	1	0	0	0
11:116219870 rs11231087	11:116219870 T	C	0.4165	1.16E-05	0.676032 rs1231085	35 AHNAK	2314 intergenic	0.111 1f	2	7	1	0	0	0
11:11295227 rs5794840	11:112952272 C	CT	0.2555	7.94E-09	0.75409 rs66821824	38 NCAM1	0 intronic	0.102 NA	4	15	1	0	0	0
11:11291608 rs1940697	11:112916086 G	A	0.4344	1.83E-11	0.835285 rs7950047	38 NCAM1	0 intronic	0.191 480	5	15	1	0	0	0
11:11296009 rs5794844	11:112960099 GT	G	0.4751	7.72E-08	0.927812 rs7950047	38 NCAM1	0 intronic	0.089 NA	5	15	1	0	0	0
11:11298944 rs10750024	11:112989441 G	A	0.4384	9.64E-07	0.688564 rs7950047	38 NCAM1	0 intronic	0.089	7	5	15	1	0	0
11:11294503 rs11214476	11:112945033 T	C	0.2078	1.37E-07	0.748559 rs66821824	38 NCAM1	0 intronic	0.067	7	5	15	1	0	0
11:11303627 rs1245121	11:11303627 C	A	0.2396	3.68E-06	0.615104 rs66821824	38 NCAM1	0 intronic	0.065 NA	5	15	1	0	0	0
11:11285203 rs2212449	11:112852032 G	T	0.4344	1.53E-10	0.852895 rs10891480	38 NCAM1	0 intronic	0.062	6	5	15	1	0	0
11:62195751 rs1892652	11:1295751 G	T	0.3847	1.76E-07	0.764012 rs1231085	35 CTD-253D11	0 intronic	0.031	7	5	15	1	0	0
11:11282771 rs4937872	11:112827715 G	T	0.4543	6.22E-09	0.767997 rs10891480	38 RP11-629G1	2286 intergenic	0.044	5	14	1	0	0	0
11:11298823 rs2011505	11:112988236 G	A	0.4881	8.38E-08	0.835553 rs7950047	38 NCAM1	0 intronic	0.044	7	5	15	1	0	0
11:112921810 rs59598942	11:112921810 T	C	0.2028	9.75E-08	0.757994 rs66821824	38 NCAM1	0 intronic	0.044	7	5	15	1	0	0
11:11291898 rs12575544	11:112918985 G	A	0.2505	6.58E-09	0.758061 rs66821824	38 NCAM1	0 intronic	0.042	7	4	15	1	0	0
11:11293800 rs1245102	11:112938006 C	T	0.4712	1.27E-07	0.956305 rs7950047	38 NCAM1	0 intronic	0.04 NA	7	5	15	1	0	0
11:11285493 rs5880953	11:112854935 G	T	0.4344	1.67E-10	0.852895 rs10891480	38 NCAM1	0 intronic	0.031	7	5	15	1	0	0
11:52291354 rs4761835	11:52291354 T	C	0.4722	1.19E-06	0.90096 rs61542775	42 RP11-1100L3	2994 intergenic	6.389	4	5	15	1	0	0
11:52318860 rs10431538	11:52318860 G	A	0.08946	7.18E-09	0.831499 rs7709482	42 ACVR11	1714 intergenic	21.6 2a	5	15	1	0	0	0
11:52300074 rs146774318	11:52300074 T	G	0.70758	4.40E-09	0.720924 rs7709482	42 ACVR11	617 upstream	14.67 NA	1	7	1	0	0	0
11:52322726 rs11169958	11:52322726 G	C	0.08847	8.48E-09	0.838911 rs7709482	42 ACVR11	5580 intergenic	11.83	7	5	15	1	0	0
11:52308021 rs177090821	11:52308021 T	C	0.08151	2.58E-10	1 rs7709482	42 ACVR11	0 intronic	1.022 NA	5	3	15	1	0	0
11:3228643 rs533643609	11:32286433 G	C	0.000994 NA		1 rs56053975	41 BICD1	0 intronic	14.31 NA	5	15	1	0	0	0
11:33086535 rs557592241	11:33086535 G	C	0.000994 NA		3.39E-05	1 rs56053975	41 PKP2	36760 intergenic	11.91 NA	14	15	0	0	0
11:89573862 rs557775705	11:89573862 T	A	0.000994	0.00066288	1 rs538097842	44 RP11-13A1.3	0 ncRNA_intra	12.35 NA	2	15	0	0	0	0
11:16919390 rs560380642	11:16919390 G	T	0.000994	1.37E-08	1 rs380380642	39 RP11-239A1	20305 intergenic	19.45 NA	9	15	0	0	0	0
11:20506062 rs550360936	11:20506062 G	C	0.000994	4.29E-08	1 rs550360936	44 RP11-284H1	8603 intergenic	9.465 NA	5	15	0	0	0	0
11:52313844 rs74094825	11:52313844 T	C	0.08748	1.89E-09	0.926629 rs7709482	42 ACVR11	0 intronic	8.405	7	4	15	1	0	0
11:52285478 rs17608892	11:52285478 A	G	0.06461	5.33E-09	0.747452 rs7709482	42 ANKRD33	29 downstream	8.175	7	5	15	1	0	0
11:52322046 rs12230575	11:52322046 T	C	0.08847	9.09E-09	0.838911 rs7709482	42 ACVR11	4900 intergenic	7.16	7	5	15	1	0	0
11:32743526 rs572572911	11:32743526 C	T	0.000994 NA		1 rs56053975	41 FG04	0 intronic	7.082 NA	4	15	1	0	0	0
11:52312288 rs11169958	11:52312288 T	A	0.08151	3.30E-10	1 rs7709482	42 ACVR11	0 intronic	6.767 2b	4	15	1	0	0	0
11:32768063 rs536658063	11:32768063 G	T	0.000994 NA		1 rs56053975	41 FG04	6 intronic	6.215 NA	7	5	15	1	0	0
11:88789718 rs575763050	11:88789718 G	C	0.000994	0.0136854	1 rs538097842	44 Y_RNA	34500 intergenic	6.526 NA	5	15	1	0	0	0
11:52302869 rs76782411	11:52302869 T	C	0.06859	3.75E-09	0.772303 rs7709482	42 ACVR11	0 intronic	6.257	4	1	14	1	0	0
11:32343670 rs565161575	11:32343670 G	A	0.000994	2.21E-06	1 rs56053975	41 AC026357.1	48914 intergenic	6.139 NA	9	15	0	0	0	0
11:2082511 rs142012908	11:20825111 G	A	0.000994	0.00795237	1 rs550360936	40 SLC01B3L5T	0.0000 intronic	5.908	5	7	15	1	0	0
11:52318624 rs78197611	11:52318624 C	T	0.0835	4.29E-10	0.894018 rs7709482	42 ACVR11	1478 intergenic	5.799	5	15	1	0	0	0
11:17645079 rs550993179	11:17645079 G	A	0.000994 NA		1 rs550993179	39 RP11-871F6	1707 intergenic	5.752 NA	5	15	1	0	0	0
11:33637513 rs572430605	11:33637513 T	C	0.000994	3.24E-05	1 rs56053975	41 RP11-56H16	29125 intergenic	5.461 NA	5	15	0	0	0	0
11:32944712 rs144983891	11:32944712 G	T	0.000994	0.0152482	1 rs56053975	41 PKP2	0 UTR3	5.042	7	4	15	1	0	0
11:62050594 rs100125870	11:62050594 G	G	0.000994	0.0163981	1 rs572749994	43 FAM19A2	51445 intergenic	4.937	6	5	15	0	0	0
11:52259732 rs4761837	11:52259732 C	C	0.06759	3.83E-09	0.759435 rs7709482	42 RP11-1100L3	2204 intergenic	4.873	6	5	15	1	0	0
11:52297324 rs4761837	11:52297324 T	C	0.06759	3.84E-09	0.759435 rs7709482	42 RP11-1100L3	2205 intergenic	4.279	6	5	15	1	0	0
11:52315590 rs55074181	11:52315590 G	A	0.08648	1.53E-09	0.913001 rs7709482	42 ACVR11	0 UTR3	4.041	7	5	15	1	0	0
11:33305407 rs186647272	11:33305407 C	T	0.000994	0.0008931	1 rs56053975	41 AC026357.1	110291 intergenic	3.84	7	8	15	0	0	0
11:17865717 rs540752946	11:17865717 G	G	0.000994	2.20E-06	1 rs560380642	39 Y_RNA	1736 intergenic	3.731 NA	9	15	0	0	0	0
11:52293500 rs3847859	11:52293500 G	A	0.3688	0.0154006	0.691392 rs61542775	42 RP11-1100L3	848 upstream	3.633	6	5	15	1	0	0
11:33629596 rs187709312	11:33629596 G	T	0.000994	8.82E-06	1 rs56053975	41 RP11-56H16	21208 intergenic	3.496	7	7	15	0	0	0
11:52330315 rs550360936	11:52330315 T	C	0.08549	1.14E-07	0.799106 rs7709482	42 ACVR11	12435 intergenic	3.311	7	5	15	1	0	0
11:32758947 rs181469059	11:32758947 G	C	0.000994	1.60E-09	1 rs56053975	41 FG04	0 intronic	7.419	7	1	15	1	0	0
11:52306221 rs2277382	11:52306221 C	C	0.08052	2.65E-10	0.986264 rs7709482	42 ACVR11	0 exonic	3.248 2b	1	7	1	0	0	0
11:89552842 rs1289552842	11:89552842 G	A	0.000994 NA		1 rs538097842	44 RP11-13A1.3	0 ncRNA_intra	3.22 NA	5	15	1	0	0	0
11:61422726 rs147607770	11:61422726 G	A	0.000994	0.033021	1 rs572749994	43 RP11-471N1	202213 intergenic	3.182	5	9	15	0	0	0
11:5230443 rs7956340	11:5230443 T	C	0.07256	4.66E-09	0.72159 rs7709482	42 ACVR11	0 intronic	3.131	5	1	13	1	0	0
11:52385443 rs144912597	11:52385443 G	C	0.06362	3.30E-09	0.761441 rs7709482	42 ANKRD33	3022 downstream	3.002	7	4	15	1	0	0
11:61405646 rs143346024	11:61405646 G	T	0.000994	0.00030552	1 rs572749994	43 RP11-471N1	219293 intergenic	2.884	6	7	15	0	0	0
11:32950003 rs11834286	11:32950003 A	G	0.000994	0.0385825	1 rs56053975	41 PKP2	0 intronic	2.855	7	4	15	1	0	0
11:52296615 rs11169950	11:52296615 T	C	0.06759	2.19E-09	0.759435 rs7709482	42 RP11-1100L3	1494 intergenic	2.659	7	5	15	1	0	0
11:52323217 rs11169957	11:52323217 C	C	0.0994	1.38E-07	0.742149 rs7709482	42 ACVR11	5171 intergenic	2.629	6	5	15	1	0	0
11:89022315 rs185684756	11:89022315 G	A	0.000994	0.00118368	1 rs538097842	44 RNUI-117P	46741 intergenic	2.529	6	5	15	1	0	0
11:3280697 rs549816497	11:3280697 G	A	0.000994	3.21E-10	1 rs56053975	41 FG04	0 intronic	2.525 NA	5	15	1	0	0	0
11:32418872 rs555593678	11:32418872 C	T	0.000994	4.80E-08	1 rs56053975	41 BICD1	0 intronic	2.401 NA	2	15	1	0	0	0
11:61443455 rs149528746	11:61443455 T	A	0.000994	0.0328444	1 rs572749994	43 RP11-471N1	181484 intergenic	2.286	6	9	15	0	0	0
11:32660981 rs56053975	11:32660981 T	C	0.000994	1.04E-10	1 rs56053975	41 FG04	0 intronic	2.26 NA	2	15	1	0	0	0
11:52301818 rs3782479	11:52301818 C	A	0.06759	2.72E-09	0.785888 rs7709482	42 ACVR11	0 intronic	2.24	4	1	13	1	0	0
11:61248778 rs550474639	11:61248778 G	A	0.000994	0.0014778	1 rs572749994	43 RP11-471N1	376151 intergenic	2.145 NA	5	15	1	0	0	0
11:32408103 rs543071638	11:32408103 G	T	0.000994	3.24E-05	1 rs56053975	42 SNORD112	107144 intergenic	2.103 NA	5	15	0	0	0	0
11:61566232 rs558753250	11:61566232 T	C	0.000994	0.00168659	1 rs572749994	43 RP11-471N1	58707 intergenic	1.919 NA	9	15	0	0	0	0
11:89571001 G	11:89571001 G	A	0.000994	0.00270781	1 rs538097842	44 RP11-13A1.3	0 ncRNA_intra	1.853	6	5	15	0	0	0
11:17042409 rs138025149	11:17042409 G	A	0.000994	1.35E-07	1 rs560380642	43 RP11-101B1	99650 intergenic	1.824	7					

17.41353456 r564155011	17	41353456 A	C	0.000994	2.56E-06	1 r5534388604	56 NBR1	0 intronic	7.198 NA	4	4	1	0	0	
17.41154155 r558664541	17	41154155 A	T	0.000994	2.06E-06	1 r5534388604	56 RPL27	0 intronic	5.151 NA	2	4	1	0	0	
17.67601842 r549108442	17	67601842 A	T	0.000994	NA	67601842 A	57 AC003051.1	0 ncRNA_intron	4.552 NA	5	15	1	0	0	
17.41254822 r557863668	17	41254822 A	T	0.000994	2.40E-06	1 r5534388604	56 BRCA1	0 intronic	4.245 NA	4	5	1	0	0	
17.68148460 r545290565	17	68148460 T	C	0.000994	2.04E-11	1 r545290565	57 KCMJ2-AS1	14641 intergenic	3.812 NA	14	15	0	0	0	
17.41727519 r5534388604	17	41727519 G	A	0.000994	1.57E-08	1 r5534388604	56 MEOX1	0 intronic	1.585 NA	5	14	1	0	0	
17.41157234 r5113145337	17	41157234 C	T	0.000994	0.00106267	1 r5534388604	56 IFI35	1507 intergenic	0.056 NA	5	4	5	1	0	
18.48951378 r558010147	18	48951378 T	A	0.000994 NA	NA	1 r5577733903	60 RPL1-267C1c	0 ncRNA_intron	16.72 NA	5	15	0	0	0	
18.48924680 r5719124680	18	48924680 T	A	0.000994 NA	NA	1 r5577733903	60 RPL1-267C1c	0 ncRNA_intron	11.61 NA	5	15	1	0	0	
18.68802747 r545262781	18	68802747 C	C	0.000994	0.00002032	1 r5451992071	58 ENOSF1	0 intronic	4.446 NA	4	5	1	0	0	
18.72045414 r5541992071	18	720454 G	A	0.000994	5.39E-09	1 r5451992071	58 YES1	1133 intergenic	4.414 NA	4	5	1	0	0	
18.3024514 r5548889298	18	3024514 A	C	0.000994 NA	NA	1 r5818941205	59 SNORA70	917 downstream	4.322 NA	5	15	0	0	0	
18.48378202 r555992503	18	48378202 A	G	0.000994	0.0103158	1 r5577733903	60 MRO	26429 intergenic	4.293 NA	5	15	0	0	0	
18.4513177 r5553462362	18	4513177 G	C	0.000994 NA	NA	1 r5451992071	58 COLEC12	0 intronic	3.757 NA	4	9	1	0	0	
18.13974581 r551190466	18	13974581 A	G	0.000994 NA	NA	58 UNCO0470	58 UNCO0470	0 ncRNA_intron	3.721 NA	5	15	0	0	0	
18.3362658 r5818941205	18	3362658 T	A	0.000994	5.55E-09	1 r5818941205	59 RPL1-838N2	12100 intergenic	2.518 NA	6	5	15	0	0	
18.48615747 r5577733903	18	48615747 T	A	0.000994	2.50E-09	1 r5577733903	60 SMAD4	4331 intergenic	2.046 NA	5	15	1	0	0	
18.48818901 r5535155910	18	48818901 C	T	0.000994 NA	NA	1 r5577733903	60 RNU1-46P	8634 intergenic	1.562 NA	9	15	1	0	0	
18.688028 C r554887571	18	688028 G	C	0.000994	0.00375881	1 r5451992071	58 ENOSF1	0 intronic	0.643 NA	7	4	5	1	0	
18.1431270 r554887571	18	1431270 G	A	0.000994 NA	NA	58 UNCO0470	58 UNCO0470	22524 intergenic	0.433 NA	9	15	0	0	0	
18.960080 C r5536383152	18	960080 T	C	0.000994 NA	NA	1 r5451992071	58 RPL1-488C9	2512 intergenic	0.15 NA	5	14	0	0	0	
18.889219 A r555555836	18	889219 G	A	0.000994 NA	NA	1 r5451992071	58 RPL1-672L1c	5216 intergenic	0.131 NA	14	14	0	0	0	
18.48650024 r5576527379	18	48650024 C	T	0.000994	0.0216514	1 r5577733903	60 RNT5L695P	16607 intergenic	0.019 NA	9	15	0	0	0	
19.10393605 r55030379	19	10393605 C	CTTGATTGA	0.4294 NA	NA	63 CTD-2369P2.	0.00 ncRNA_intron NA	208 upstream	11.86 2b	4	5	1	0	0	
19.10399904 r52566993	19	10399904 C	T	0.4056	1.47E-07	0.888335 r535136957	63 CTD-2369P2.	0.00 ncRNA_intron NA	11.86 2b	1	11	1	0	0	
19.10402038 r510563838	19	10402038 A	A	0.4056	9.88E-08	0.888335 r535136957	63 ICAM5	0 exonic	1.56 NA	4	1	11	0	0	
19.10407169 r5110845	19	10407169 G	C	0.4105	4.66E-07	0.758249 r5001886	63 ICAM5	0 exonic	15.02 4A	1	12	1	0	0	
19.10403368 r5228615	19	10403368 G	A	0.4066	9.69E-08	0.891822 r535136957	63 ICAM5	0 exonic	14.97 2b	1	11	1	0	0	
19.10401607 r52075742	19	10401607 G	C	0.4056	1.45E-07	0.887613 r535136957	63 ICAM5	0 intronic	13.9 2b	1	11	1	0	0	
19.10402131 r5901886	19	10402131 T	T	0.4771	7.11E-10	1 r5901886	63 ICAM5	0 intronic	12.92 2b	1	11	1	0	0	
19.10401098 r52075741	19	10401098 G	C	0.4622	2.34E-08	0.78427 r5001886	63 ICAM5	0 intronic	12.08 4	1	11	1	0	0	
19.10403047 r525693947	19	10403047 T	T	0.4095	2.15E-07	0.886655 r535136957	63 ICAM5	0 intronic	10.12 1f	1	11	1	0	0	
19.10406431 r512972990	19	10406431 T	G	0.4652	1.38E-08	0.792111 r5001886	63 ICAM5	0 intronic	9.657 4A	1	11	1	0	0	
19.10403104 r536081155	19	10403104 A	AG	0.4622	2.15E-08	0.78427 r5001886	63 ICAM5	0 intronic	9.573 NA	1	11	1	0	0	
19.10409537 r534016352	19	10409537 T	A	0.4085	7.88E-08	0.890729 r535136957	63 ICAM5	2082 intergenic	8.555 7	5	14	1	0	0	
19.10405906 r534124276	19	10405906 C	CT	0.4095	7.69E-08	0.886655 r535136957	63 ICAM5	0 intronic	7.826 NA	1	13	1	0	0	
19.10406635 r5857143	19	10406635 T	A	0.4652	1.39E-08	0.792111 r5001886	63 ICAM5	0 intronic	6.211 4A	1	11	1	0	0	
19.10397403 r53093040	19	10397403 C	T	0.4602	2.09E-08	0.778832 r5001886	63 CTD-2369P2.	0 ncRNA_exon	5.264 4	1	7	1	0	0	
19.10404227 r52569703	19	10404227 C	G	0.4105	3.47E-07	0.758249 r5001886	63 ICAM5	0 intronic	3.7 2b	3	13	1	0	0	
19.10395683 r55498	19	10395683 A	G	0.4662	1.23E-08	0.776096 r5001886	63 CTD-2369P2.	0.00 exonic	3.154 4	4	4	1	0	0	
19.3727208 r5549634219	19	3727208 G	A	0.000994 NA	NA	61 TJP3	0 intronic	3.023 NA	4	14	1	0	0	0	
19.10409933 r54899014	19	10409933 T	A	0.4006	8.25E-08	0.840982 r535136957	63 ICAM5	2478 intergenic	2.893 3a	2	14	1	0	0	
19.35773774 r5417143175	19	35773774 T	T	0.000994 NA	NA	61 HMG2	0 intronic	2.825 NA	6	1	14	1	0	0	
19.10407854 r534403566	19	10407854 T	C	0.4076	8.86E-08	0.887936 r535136957	63 ICAM5	399 downstream	2.808 NA	5	14	1	0	0	
19.10409007 r562130688	19	10409007 T	C	0.4085	5.95E-08	0.890729 r535136957	63 ICAM5	1552 intergenic	2.449 7	5	14	1	0	0	
19.10408318 r512150978	19	10408318 A	G	0.4632	1.42E-08	0.786571 r5001886	63 ICAM5	863 downstream	2.215 5	5	14	1	0	0	
19.10393234 r55030377	19	10393234 A	G	0.4284	1.43E-07	0.659747 r5001886	63 CTD-2369P2.	0.00 ncRNA_intron	1.738 6	4	15	1	0	0	
19.10408742 r562130686	19	10408742 A	C	0.4085	9.16E-08	0.88896 r535136957	63 ICAM5	1287 intergenic	1.656 6	5	14	1	0	0	
19.10408652 r562130685	19	10408652 T	T	0.4076	9.16E-08	0.88896 r535136957	63 ICAM5	1287 intergenic	1.656 6	5	14	1	0	0	
19.10409323 r5150434441	19	10409323 A	C	0.4642	1.45E-08	0.788901 r5001886	63 ICAM5	1868 intergenic	1.551 5	5	14	1	0	0	
19.10408427 r562130684	19	10408427 C	T	0.4076	1.10E-07	0.895341 r535136957	63 ICAM5	972 downstream	1.47 7	5	14	1	0	0	
19.5249094 r5533750283	19	5249094 G	C	0.001988	3.95E-08	1 r5533750283	62 PTPRS	0 intronic	1.434 NA	4	5	1	0	0	
19.10408435 r5143230644	19	10408435 CA	C	0.4066	1.05E-07	0.883709 r535136957	63 ICAM5	980 downstream	1.324 NA	5	14	1	0	0	
19.10408279 r551386957	19	10408279 C	A	0.4274	3.61E-08	0.751191 r535136957	63 ICAM5	824 downstream	1.191 NA	5	14	1	0	0	
19.10408995 r562130687	19	10408995 T	A	0.4076	7.72E-07	0.886493 r535136957	63 ICAM5	1540 intergenic	1.116 6	5	14	1	0	0	
19.10414450 r53592947	19	10414450 G	A	0.3907	1.28E-09	1 r53592947	63 ZGUP1	1028 intergenic	0.952 4	2	5	14	1	0	0
19.10409382 r534947945	19	10409382 r534947945	AT	0.4095	1.04E-07	0.878767 r535136957	63 ICAM5	1927 intergenic	0.823 NA	5	14	1	0	0	
19.4258544 r5568184504	19	4258544 G	T	0.000994 NA	NA	1 r542265288	61 CDC9C4	0 intronic	0.8 NA	3	4	1	0	0	
19.10407976 r535639917	19	10407976 T	TA	0.4076	5.80E-08	0.861432 r535136957	63 ICAM5	521 downstream	0.797 NA	5	14	1	0	0	
19.10409922 r5516095122	19	10409922 r5516095122	CTT	0.4513	3.61E-08	0.751191 r535136957	63 ICAM5	2467 intergenic	0.621 NA	5	14	1	0	0	
19.4470155 r5542265288	19	4470155 C	C	0.000994	4.13E-08	1 r542265288	61 CTD-50L17.1	0 ncRNA_intron	0.643 NA	5	15	1	0	0	
19.3724574 r51144874964	19	3724574 G	A	0.000994	0.00061228	1 r542265288	61 TJP3	0 intronic	0.518 7	5	14	1	0	0	
19.10397223 r5923366	19	10397223 C	T	0.4672	1.54E-08	0.802458 r5001886	63 ICAM1-CTD-2	0.00 ncRNA_exon	0.338 2b	1	7	1	0	0	
19.10392638 r512462944	19	10392638 G	C	0.4324	1.35E-07	0.658507 r5001886	63 CTD-2369P2.	0.00 ncRNA_intron	0.164 6	4	15	1	0	0	
19.10391770 r52582015	19	10391770 T	C	0.4433	1.40E-06	0.511827 r5001886	63 CTD-2369P2.	0.00 ncRNA_intron	0.104 6	4	15	1	0	0	
19.10409793 r58021188	19	10409793 T	C	0.4105	5.78E-08	0.883004 r535136957	63 ICAM5	2781 intergenic	0.237 7	5	14	1	0	0	
19.10407849 r512610026	19	10407849 G	A	0.4085	8.84E-08	0.891441 r535136957	63 ICAM5	394 downstream	0.023 7	5	14	1	0	0	
19.1662169 r5142589424	19	1662169 A	G	0.000994 NA	NA	1 r5570342077	64 KIF168	0 intronic	8.642 7	4	5	1	0	0	
19.23837189 r511699452	19	23837189 C	T	0.165	1.77E-10	0.890533 r50271444	65 CST5	19382 intergenic	8.633 5	5	15	0	0	0	
19.23857982 r52071445	19	23857982 A	G	0.336	3.92E-11	1 r52071445	65 CST5	0 intronic	7.474 NA	5	15	1	0	0	
19.23842352 r56138146	19	23842352 T	C	0.167	9.94E-10	0.904619 r50271444	65 CST5	14219 intergenic	6.39 5	5	15	1	0	0	
19.23850919 r542397415	19	23850919 T	C	0.4403	3.60E-08	0.634939 r50271445	65 CST5	0 intronic	6.332 5	5	15	1	0	0	
19.23854169 r58122605	19	23854169 G	A	0.1839	9.43E-11	0.836612 r50271444	65 CST5	2402 intergenic	4.995 5	5	15	1	0	0	
19.15949090 r5539315351	19	15949090 G	T	0.000994 NA	NA	1 r5570342077	64 MACROD2	0 intronic	4.774 NA	4	15	1	0	0	
19.23859319 r534269359	19	23859319 G	A	0.16	1.78E-13	0.992849 r50271444	65 CST5	0 intronic	4.42 6	5	15	1	0	0	
19.23852131 r56049197	19	23852131 T	C	0.1839	1.26E-10	0.836612 r50271444	65 CST5								

Table S7: Genome-wide significant loci identified in the pSIN GWAS.

GenomicLoci	unqiD	rsID	chr	pos	p	start	end	nSNPs	nGWASSNPs	nIndSigSNPs	IndSigSNPs	nLeadSNPs	LeadSNPs
1	1:2721575:C:rs541950369		1	2721575	6.15E-09	1856023	2721575	2	1	1	rs541950369	1	rs541950369
2	1:45347161:C:rs184589510		1	45347161	1.56E-08	45082095	4.58E+07	9	9	1	rs184589510	1	rs184589510
3	1:64546547:C:rs561597383		1	64546547	3.89E-08	63825994	64794828	5	4	1	rs561597383	1	rs561597383
4	1:181793256:C:rs565756652		1	181793256	6.41E-09	181337507	1.82E+08	4	4	1	rs565756652	1	rs565756652
5	2:120286596:rs546993177		2	120286596	9.41E-09	119335629	1.21E+08	3	2	1	rs546993177	1	rs546993177
6	2:154228563:rs539708834		2	154228563	3.79E-09	154211264	1.54E+08	2	2	1	rs539708834	1	rs539708834
7	2:163099032:rs184963013		2	163099032	9.39E-09	163099032	164056147	4	2	1	rs184963013	1	rs184963013
8	2:216137701:rs187752462		2	216137701	2.84E-08	216137701	2.16E+08	1	1	1	rs187752462	1	rs187752462
9	2:223271565:rs574402291		2	223271565	2.84E-08	223271565	2.23E+08	2	1	1	rs574402291	1	rs574402291
10	2:233286654:rs12478529		2	233286654	1.84E-25	233211861	2.33E+08	264	257	22	rs938866;rs5	5	rs938866;rs112893316;rs2853373;rs12478529;rs790048
11	3:5666072:G:rs557016583		3	5666072	1.13E-09	4944448	5.75E+06	7	5	1	rs557016583	1	rs557016583
12	3:59489682:C:rs555419175		3	59489682	2.25E-09	59489682	59629250	2	1	1	rs555419175	1	rs555419175
13	3:176244107:rs572008209		3	176244107	8.79E-09	176244107	177235662	4	2	1	rs572008209	1	rs572008209
14	4:142166762:rs139393850		4	142166762	5.22E-09	142118463	142166762	2	2	1	rs139393850	1	rs139393850
15	5:31035816:C:rs186229931		5	31035816	8.12E-09	31035816	3.11E+07	3	3	1	rs186229931	1	rs186229931
16	5:35851831:C:rs535851831:C:T		5	35851831	1.09E-08	35803577	35953949	47	47	1	rs535851831:C:T	1	rs535851831:C:T
17	5:86476077:rs189586219		5	86476077	4.63E-08	86476077	8.74E+07	5	5	1	rs189586219	1	rs189586219
18	5:158767155:rs34936428		5	158767155	7.11E-12	158697131	158818745	27	27	3	rs34936428;rs	1	rs34936428
19	6:1156546:A:rs530248985		6	1156546	1.14E-08	832427	1.87E+06	5	4	1	rs530248985	1	rs530248985
20	6:86150266:C:rs142468898		6	86150266	2.60E-08	85861004	8.71E+07	5	2	1	rs142468898	1	rs142468898
21	6:119087921:rs146340575		6	119087921	1.24E-08	118538195	119715756	12	10	1	rs146340575	1	rs146340575
22	7:45416290:C:rs547823949		7	45416290	3.36E-11	45359191	4.54E+07	4	4	1	rs547823949	1	rs547823949
23	7:98914685:rs573455088		7	98914685	2.12E-09	98914685	99471535	2	2	1	rs573455088	1	rs573455088
24	7:115086427:rs1358393		7	115086427	2.12E-08	114951541	115113279	57	57	1	rs1358393	1	rs1358393
25	8:116701550:rs532096923		8	116701550	2.29E-08	115929935	1.17E+08	4	4	1	rs532096923	1	rs532096923
26	9:11490132:C:rs540178402		9	11490132	2.50E-08	11137315	1.24E+07	4	1	1	rs540178402	1	rs540178402
27	9:78943040:rs531512702		9	78943040	1.19E-08	78943040	78943040	1	1	1	rs531512702	1	rs531512702
28	9:103914365:rs142018521		9	103914365	3.86E-09	103310302	104827801	3	1	1	rs142018521	1	rs142018521
29	9:123723850:rs202069815		9	123723850	2.50E-09	122745908	124654423	11	3	1	rs202069815	1	rs202069815
30	9:136141870:rs12519093		9	136141870	2.86E-08	136138765	1.36E+08	13	13	1	rs12519093	1	rs12519093
31	10:45491622:rs566897163		10	45491622	3.16E-08	45491622	4.55E+07	1	1	1	rs566897163	1	rs566897163
32	10:77741502:rs554748343		10	77741502	3.57E-08	77171639	77770706	4	3	1	rs554748343	1	rs554748343
33	10:11700920:rs575499845		10	117009205	1.20E-09	116816686	1.17E+08	2	2	1	rs575499845	1	rs575499845
34	10:128331561:rs145821471		10	128331561	6.16E-10	128331561	1.28E+08	2	2	1	rs145821471	1	rs145821471
35	11:62190448:rs11231085		11	62190448	2.88E-09	62187186	6.22E+07	14	14	1	rs11231085	1	rs11231085
36	11:67054150:rs569893983		11	67054150	2.63E-09	67054150	6.71E+07	1	1	1	rs569893983	1	rs569893983
37	11:10370424:rs577058373		11	103704240	9.12E-09	102818345	1.05E+08	5	2	1	rs577058373	1	rs577058373
38	11:11283052:rs10891480		11	112830526	4.22E-11	112826867	1.13E+08	217	217	3	rs10891480;rs	1	rs10891480
39	12:16919390:rs560380642		12	16919390	1.37E-08	16919390	1.79E+07	6	4	1	rs560380642	1	rs560380642
40	12:20506062:rs550360936		12	20506062	4.29E-08	20072407	2.10E+07	3	3	1	rs550360936	1	rs550360936
41	12:32660981:rs560539755		12	32660981	1.04E-10	32079564	3.36E+07	23	18	1	rs560539755	1	rs560539755
42	12:52308021:rs77709482		12	52308021	2.58E-10	52284447	5.23E+07	32	32	2	rs61542775;rs	2	rs61542775;rs77709482
43	12:62196824:rs572749994		12	62196824	1.38E-08	61248778	6.30E+07	14	13	1	rs572749994	1	rs572749994
44	12:88592058:rs538097842		12	88592058	1.11E-08	87596344	8.96E+07	10	9	1	rs538097842	1	rs538097842
45	13:41943967:rs146475235		13	41943967	3.55E-08	40998359	4.27E+07	6	2	1	rs146475235	1	rs146475235
46	13:10111869:rs564908805		13	101118695	1.13E-09	100220823	1.01E+08	5	4	1	rs564908805	1	rs564908805
47	13:10744880:rs141891746		13	107448802	5.02E-09	107007075	107862836	4	3	1	rs141891746	1	rs141891746
48	13:10834152:rs139289944		13	108341521	4.14E-09	108341521	108341521	1	1	1	rs139289944	1	rs139289944
49	14:24014548:rs550820978		14	24014548	3.82E-08	23106298	2.40E+07	3	2	1	rs550820978	1	rs550820978
50	14:26562784:rs186307746		14	26562784	3.81E-08	25595555	2.66E+07	3	2	1	rs186307746	1	rs186307746
51	14:44066080:rs111685787		14	44066080	4.69E-08	44066080	44066080	1	1	1	rs111685787	1	rs111685787
52	14:55199305:rs569721608		14	55199305	4.58E-09	54516224	55636547	5	5	1	rs569721608	1	rs569721608
53	14:68504500:rs550026970		14	68504500	1.88E-08	68352674	6.89E+07	5	5	1	rs550026970	1	rs550026970
54	15:98789564:rs570818927		15	98789564	5.65E-09	98789564	9.98E+07	3	1	1	rs570818927	1	rs570818927
55	16:76738084:rs529972058		16	76738084	3.37E-08	76300763	7.68E+07	3	3	1	rs529972058	1	rs529972058
56	17:41727519:rs534388604		17	41727519	1.57E-08	41154155	4.17E+07	5	5	1	rs534388604	1	rs534388604
57	17:68148460:rs545290565		17	68148460	2.04E-11	67601842	6.81E+07	2	1	1	rs545290565	1	rs545290565
58	18:720454:A:rs541992071		18	720454	5.39E-09	451317	1.43E+06	8	3	1	rs541992071	1	rs541992071
59	18:3362658:C:rs189491205		18	3362658	5.55E-09	3024514	3.36E+06	2	1	1	rs189491205	1	rs189491205
60	18:48615747:rs577733903		18	48615747	2.50E-09	48378202	4.90E+07	6	3	1	rs577733903	1	rs577733903
61	19:4470155:C:rs542265288		19	4470155	4.13E-08	3577377	4.47E+06	5	2	1	rs542265288	1	rs542265288
62	19:5249094:C:rs533750283		19	5249094	3.95E-08	5249094	5.25E+06	1	1	1	rs533750283	1	rs533750283
63	19:10402131:rs901886		19	10402131	7.11E-10	10391770	1.04E+07	38	37	3	rs901886;rs3	1	rs901886
64	20:16826461:rs570342077		20	16826461	2.38E-08	15949090	1.72E+07	10	2	1	rs570342077	1	rs570342077
65	20:23858334:rs2071444		20	23858334	8.17E-14	23810508	23860178	59	59	2	rs2071444;rs	1	rs2071444
66	21:46287655:rs544877995		21	46287655	1.71E-08	46287655	46354976	2	2	1	rs544877995	1	rs544877995

Table S8: Genes associated with pSIN through GWAS analyses.

[illegible]

Table S9: Catalog of GWAS variants related to pSIN.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Table S10: Linkage Disequilibrium Score Regression results for pSIN.

pS	pT	rg	r	z	h2_obs	h2_obs.se	h2_int	h2_int.se	gwas_int	phenotype	N	Ncases	Ncontrols	Cohort	URL	Notes	p.adjust
binary.2016.1711387766	0.7776	0.0305	21.1	7.59E-16	0.0016	0.0016	1.011	0.00059	0.0016	0.0016	3597	19508	164638	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2016.1711387766	2016.1711387766	1.00E-08
binary.2016.1711387766	-0.6568	0.0369	-16.89	1.48E-02	0.0073	0.0004	1.03	0.01024	-0.0891	0.006429 Smoking status: Current	259706	19508	164638	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2016.1711387766	2016.1711387766	1.05E-09
2139_raw.tst.1711387766	-0.5568	0.0375	-12.44	8.28E-05	0.1282	0.0043	1.09	0.0126	-0.0381	0.006438 Age first had sexual intercourse	317694			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2139_raw.tst.1711387766	2139.1711387766	3.91E-07
binary.1787.1711387766	0.6825	0.0470	14.07	5.86E-05	0.0441	0.00244	1.028	0.00873	0.0517	0.005626 Maternal smoking around birth	209942	95182	217460	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/1787.1711387766	1787.1711387766	2.08E-02
binary.2010.1711387766	0.4452	0.0473	12.35	4.92E-05	0.0054	0.00173	1.017	0.00986	0.07227	0.000031 Ever smoked	339751	21811	141922	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2010.1711387766	2010.1711387766	1.45E-02
COPD_bott.1711387766	0.5358	0.0402	12.17	4.14E-04	0.0463	0.000912	1.016	0.00881	0.03594	0.00409 COPD (UK Biobank)	995917	58559	937358	Global Biobank	https://www.ebi.ac.uk/ukb/phenotype/COPD_bott.1711387766	COPD_bott.1711387766	1.04E-01
binary.680.3.1711387766	0.5365	0.0478	11.98	4.48E-03	0.0069	0.00189	1.014	0.00712	0.0318	0.001795 Own or rent accommodation: live in: Rent - from local authority, local council, housing	363430	18968	337372	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/680.3.1711387766	680.3.1711387766	9.07E-01
binary.2316.1711387766	-0.0073	0.0073	-0.0073	0.0073	0.0073	0.0073	1.014	0.00712	0.0318	0.001795 Own or rent accommodation: live in: Rent - from local authority, local council, housing	363430	18968	337372	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2316.1711387766	2316.1711387766	9.07E-01
binary.2316.1711387766	-0.0073	0.0073	-0.0073	0.0073	0.0073	0.0073	1.014	0.00712	0.0318	0.001795 Own or rent accommodation: live in: Rent - from local authority, local council, housing	363430	18968	337372	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2316.1711387766	2316.1711387766	9.07E-01
COPD_bott.1711387766	0.5358	0.0402	12.17	4.14E-04	0.0463	0.000912	1.016	0.00881	0.03594	0.00409 COPD (UK Biobank)	995917	58559	937358	Global Biobank	https://www.ebi.ac.uk/ukb/phenotype/COPD_bott.1711387766	COPD_bott.1711387766	1.04E-01
10560_bott.1711387766	0.5088	0.0428	11.94	1.45E-03	0.01302	0.000701	1.028	0.00812	0.03229	0.001168 COPD (UK Biobank)	1292366	81581	1310798	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/10560_bott.1711387766	10560.1711387766	2.05E-08
EDUCATION_1711387766	-0.378	0.0386	-11.16	4.14E-04	0.1123	0.00307	9.077	0.01555	-0.0919	0.004475 HPI-Cat: Meta	84244	22588	84714	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/EDUCATION_1711387766	EDUCATION_1711387766	1.10E-03
binary.6145.1711387766	0.5078	0.0408	11.02	3.09E-28	0.03207	0.001967	1.015	0.007528	0.0201	0.005419 Illness, injury, bereavement, stress in last 5 years: Financial difficulties	358366	40670	318166	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6145.1711387766	6145.1711387766	3.38E-26
binary.6145.1711387766	-0.5323	0.0485	-10.96	5.70E-28	0.03247	0.001967	1.003	0.007525	-0.2292	0.005032 Attendance/mobility allowance: None of the above	358597	33679	20718	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6145.1711387766	6145.1711387766	5.78E-26
binary.6150.1711387766	0.4452	0.0473	10.87	4.92E-05	0.1001	0.00176	1.045	0.01152	0.02841	0.000394 Qualifications: None of the above	327459	19269	25659	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6150.1711387766	6150.1711387766	1.56E-05
189_raw.tst.1711387766	0.4781	0.0458	10.54	8.92E-06	0.03246	0.001852	1.026	0.00956	0.05059	Townsend deprivation index at recruitment	260763			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/189_raw.tst.1711387766	189.1711387766	5.25E-24
binary.6142.1711387766	0.5537	0.0575	10.5	8.87E-26	0.0385	0.001707	1.01	0.006997	0.02326	0.005056 Current employment status: Unable to work because of sickness or disability	399931	13756	346175	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6142.1711387766	6142.1711387766	7.41E-04
2315_raw.tst.1711387766	0.3549	0.0302	10.46	1.01E-05	0.127	0.00362	1.077	0.01713	0.01729	0.000975 Log fat percentage (kg)	354791			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2315_raw.tst.1711387766	2315.1711387766	1.05E-03
binary.6138.1711387766	-0.3752	0.0305	-10.41	2.33E-05	0.1175	0.00202	1.076	0.0131	-0.2063	0.006482 Qualifications: College or University degree	357459	115981	241568	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6138.1711387766	6138.1711387766	1.74E-23
2754_raw.tst.1711387766	-0.4415	0.0427	-10.37	3.36E-05	0.1175	0.00282	1.01	0.008934	-0.2325	0.00584 Age at first live birth	131897			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2754_raw.tst.1711387766	2754.1711387766	2.38E-03
23111_raw.tst.1711387766	0.3278	0.0318	10.2	1.85E-05	0.2265	0.00254	1.073	0.01714	0.01486	0.000218 Log fat percentage (kg)	354811			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/23111_raw.tst.1711387766	23111.1711387766	7.10E-03
binary.6146.1711387766	0.5104	0.0503	10.16	2.94E-04	0.07262	0.001567	0.9953	0.00669	0.03328	0.005186 Attendance/mobility allowance: Disability living allowance	358957	15697	423900	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6146.1711387766	6146.1711387766	1.82E-02
21001_raw.tst.1711387766	0.0333	0.0277	10.16	2.95E-04	0.2425	0.008373	1.05	0.01792	0.00565	0.006788 Body mass index (BMI)	359983			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/21001_raw.tst.1711387766	21001.1711387766	1.82E-02
23104_raw.tst.1711387766	0.3287	0.0266	10.06	7.94E-04	0.2426	0.00847	1.042	0.01767	0.00565	0.006809 Body mass index (BMI)	354831			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/23104_raw.tst.1711387766	23104.1711387766	4.51E-02
46_raw.tst.1711387766	0.3216	0.0316	10.06	7.95E-04	0.2426	0.00847	1.048	0.01778	0.00561	0.006372 Waist circumference	350594			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/46_raw.tst.1711387766	46.1711387766	4.51E-02
23116_raw.tst.1711387766	0.3219	0.0316	10.01	1.41E-03	0.2147	0.007399	1.049	0.01634	0.00702	0.006283 Leg fat mass (kg)	354788			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/23116_raw.tst.1711387766	23116.1711387766	7.72E-02
1212_raw.tst.1711387766	0.3206	0.0235	9.91	3.71E-03	0.2148	0.007392	1.048	0.01649	0.00713	0.006353 Leg fat mass (kg)	354807			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/1212_raw.tst.1711387766	1212.1711387766	2.75E-01
15028753711.1711387766	0.3206	0.0235	9.91	3.71E-03	0.2148	0.007392	1.048	0.01649	0.00713	0.006353 Leg fat mass (kg)	354807			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/15028753711.1711387766	15028753711.1711387766	2.75E-01
dnls_dentur.1711387766	0.4059	0.0413	9.636	6.62E-02	0.0848	0.003297	0.9963	0.00973	0.03963	0.005939 Decayed, Missing and Filled tooth Surfaces (DMFS + Dentures)	487623	37000	37000	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/dnls_dentur.1711387766	dnls_dentur.1711387766	1.99E-20
ELUR_dentur.1711387766	0.4115	0.0475	9.627	6.12E-02	0.0919	0.003838	1.017	0.00995	0.04342	0.00614 Dentures	461031	7714	383317	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/ELUR_dentur.1711387766	ELUR_dentur.1711387766	2.90E-20
23099_raw.tst.1711387766	0.3018	0.0274	9.589	1.16E-03	0.2147	0.007392	1.048	0.01649	0.00713	0.006353 Leg fat mass (kg)	354807			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/23099_raw.tst.1711387766	23099.1711387766	2.90E-20
ELUR_raw.tst.1711387766	0.4018	0.0319	9.615	6.42E-02	0.2308	0.007735	1.057	0.01761	0.005935	0.006335 Whole body fat mass	354244			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/ELUR_raw.tst.1711387766	ELUR_raw.tst.1711387766	3.06E-20
binary.2506.1711387766	0.5713	0.06129	9.317	1.15E-02	0.0766	0.00501	1.008	0.00804	0.01810	0.005025 Tobacco smoking: Ex-smoker	91353	33303	58018	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2506.1711387766	2506.1711387766	4.90E-19
binary.2184.1711387766	0.3884	0.0417	9.321	1.19E-02	0.05211	0.002254	1.02	0.00849	0.0157	0.005111 Long-standing illness, disability or infirmity	352798	114798	239000	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/2184.1711387766	2184.1711387766	1.94E-08
23124_raw.tst.1711387766	0.3209	0.02357	9.299	1.42E-02	0.2029	0.00474	1.036	0.01565	0.00616	0.005111 Long-standing illness, disability or infirmity	354673			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/23124_raw.tst.1711387766	23124.1711387766	1.94E-08
binary.6136.1711387766	-0.404	0.0345	-9.287	1.44E-02	0.0449	0.002311	1.017	0.008307	-0.0177	0.005118 Qualifications: O levels/GCE/Ord or equivalent	357459	16842	188877	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6136.1711387766	6136.1711387766	5.53E-19
23125_raw.tst.1711387766	0.3209	0.02357	9.285	1.61E-02	0.2148	0.006962	1.059	0.01672	0.00568	0.006345 Arm fat percentage (kg)	354760			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/23125_raw.tst.1711387766	23125.1711387766	5.87E-19
23125_raw.tst.1711387766	0.3209	0.02327	9.286	1.93E-02	0.2197	0.007073	1.055	0.01712	0.003936	0.006354 Arm fat percentage (kg)	354707			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/23125_raw.tst.1711387766	23125.1711387766	6.84E-19
binary.680.3.1711387766	-0.0073	0.0073	-0.0073	0.0073	0.0073	0.0073	1.014	0.00712	0.0318	0.001795 Own or rent accommodation: live in: Rent - from local authority, local council, housing	363430	18968	337372	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/680.3.1711387766	680.3.1711387766	9.07E-01
binary.1616.1711387766	-0.4275	0.0468	-9.198	3.56E-02	0.09914	0.004818	1.033	0.008218	-0.2359	0.005492 Alcohol usually taken with meals	184716	12514	59552	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/1616.1711387766	1616.1711387766	1.23E-18
binary.0141.1711387766	0.4411	0.04823	9.146	5.89E-02	0.05278	0.002755	1.02	0.009143	0.01046	0.006333 Smoking status: Previous	359706	12750	231156	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/0141.1711387766	0141.1711387766	1.94E-18
binary.6146.1711387766	0.4238	0.0468	9.11	8.17E-02	0.0456	0.002538	1.023	0.00889	0.04733	Mouthwash dental problems: Dentures	358641	6097	29884	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6146.1711387766	6146.1711387766	2.64E-18
23128_raw.tst.1711387766	0.3209	0.02357	9.299	1.42E-02	0.2029	0.00474	1.036	0.01565	0.00616	0.005111 Long-standing illness, disability or infirmity	354673			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/23128_raw.tst.1711387766	23128.1711387766	1.94E-08
category.1711387766	0.4302	0.0454	8.686	3.77E-18	0.0431	0.002643	1.022	0.00957	0.03020	0.005485 Diseases of the musculoskeletal system and connective tissue	361194	7099	284095	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/category.1711387766	category.1711387766	1.16E-15
23127_raw.tst.1711387766	-0.2627	0.0302	-8.683	3.84E-18	0.212	0.00642	1.067	0.01756	-0.0235	0.005938 Trunk fat percentage	354619			UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/23127_raw.tst.1711387766	23127.1711387766	3.98E-16
binary.6146.1711387766	0.4238	0.0468	9.11	8.17E-02	0.0456	0.002538	1.023	0.00889	0.04733	Mouthwash dental problems: Dentures	358641	6097	29884	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6146.1711387766	6146.1711387766	2.64E-18
binary.6100.1711387766	-0.422	0.04843	-8.537	3.71E-17	0.04759	0.002372	1.022	0.00851	-0.01256	0.005097 Lifetime sexual activity: Religious group	360603	5273	34564	UK Biobank	https://www.ebi.ac.uk/ukb/phenotype/6100.1711387766	6100.1711387766	1.19E-16
binary.6146.1711387766	-0.423	0.04883	-8.449	3.07E-17	0.												

binary.6100.17137876	0.5571	0.0698	5.31	9.75E-08	0.0176	0.01625	0.0916	0.006525	-0.00441	0.004937	Lesion-related activities: Adult education class	360063	25842	342221	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	7.95E-07
category:17137876	0.351	0.1035	5.324	1.02E-07	0.0175	0.00473	0.003	0.007084	-0.00141	0.004892	Eat sexual or for any substance or behaviour	117646	703	109723	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	8.25E-07
binary.1920.17137876	0.2358	0.4447	5.303	1.14E-07	0.0087	0.003183	1.016	0.009071	0.02159	0.005894	Maid swings	326064	10882	19827	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	9.18E-07
category:17137876	0.1894	0.173	5.281	4.43E-07	0.00403	0.001	0.00625	0.00347	0.00181	0.00471	Lung cancer and mesothelioma	359187	10418	1917	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	9.25E-07
category:17137876	0.7122	0.1354	5.261	0.00471	0.00413	0.0126	0.00954	0.00625	0.00249	0.00747	Lung cancer and mesothelioma	361194	2007	18187	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.14E-06
2314.raw.17137876	0.146	0.03136	5.229	1.70E-07	0.0218	0.01036	0.006	0.02055	-0.00187	0.00738	Lg predicted mass (right)	354798			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.53E-06
category:17137876	0.231	0.17	5.219	0.00136	0.001	0.001	0.001	0.001	0.001	0.001	Lung cancer and mesothelioma	354798			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.53E-06
category:17137876	0.5689	0.1095	5.206	0.00707	0.005521	0.00434	0.00917	0.00918	0.00185	0.004613	Non cancer illness code, self-reported: chronic obstructive airways disease/asthma	361141	1285	359856	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.02E-06
20154.raw.17137876	-0.2411	0.0439	5.196	2.03E-07	0.0105	0.009253	1.025	0.00934	0.07738	0.00568	Force applied vertically in 1-second (FV1), predicted percentage	117241			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.88E-06
binary.6100.17137876	0.4098	0.07978	5.136	2.81E-07	0.009438	0.003158	1.004	0.00691	0.01586	0.004716	Testosterone level (total) or blood test	326064	98499	261564	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.94E-06
3591.raw.17137876	0.2441	0.4726	5.165	2.40E-07	0.1179	0.0123	0.004	0.01542	0.00513	0.005884	Age of menarche (last menstrual period)	111993			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.98E-06
binary.6100.17137876	0.2749	0.05438	5.141	2.74E-07	0.01832	0.00187	1.011	0.007307	0.01881	0.008922	Vascular health problems diagnosed by doctor: Heart attack	360420	8288	357132	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	2.14E-06
category:17137876	0.4098	0.07978	5.136	2.81E-07	0.009438	0.003158	1.004	0.00691	0.01586	0.004716	Testosterone level (total) or blood test	361141	101	357130	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	2.14E-06
category:17137876	-0.3506	0.06893	-5.087	3.64E-07	0.08655	0.01001	0.0943	0.007448	-0.007526	0.005311	Age started home-replacement therapy (HRT)	68299			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	2.24E-06
1727.gwas.17137876	0.2121	0.04175	5.08	3.74E-07	0.124	0.03714	1.012	0.1159	-0.02397	0.00826	Age of skin aging	354798			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	2.78E-06
category:17137876	0.212	0.17	5.219	0.00136	0.001	0.001	0.001	0.001	0.001	0.001	Age started home-replacement therapy (HRT)	68299			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	2.78E-06
binary.2000.17137876	0.2493	0.04934	5.052	4.37E-07	0.02892	0.00242	1.03	0.01611	0.02556	0.004872	Testosterone condition code: simvastatin	361141	40921	302220	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.24E-06
category:17137876	0.2705	0.0536	5.047	4.48E-07	0.01843	0.001875	1.011	0.007357	0.01898	0.005947	Non cancer illness code, self-reported: heart attack/myocardial infarction	361141	829	352902	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.31E-06
category:17137876	0.20246	0.0536	5.047	4.48E-07	0.01843	0.001875	1.011	0.007357	0.01898	0.005947	Non cancer illness code, self-reported: heart attack/myocardial infarction	361141	829	352902	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.31E-06
binary.6105.17137876	0.2661	0.0528	5.039	4.67E-07	0.00517	0.000692	1.024	0.01816	0.0115	0.005274	Medication code: chronic blood pressure, diabetes, or take exogenous hormones: Cho	193148	14247	169091	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.42E-06
category:17137876	0.2272	0.0513	5.035	4.78E-07	0.00687	0.00132	1.022	0.009623	0.02994	0.006445	Fed up feelings	353764	23322	210432	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.48E-06
binary.7371.17137876	0.4993	0.09302	5.029	4.93E-07	0.1147	0.01836	0.00983	0.005996	0.01197	0.004317	Former alcohol drinker	23745	12564	111181	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.57E-06
category:17137876	0.4993	0.09302	5.029	4.93E-07	0.1147	0.01836	0.00983	0.005996	0.01197	0.004317	Former alcohol drinker	23745	12564	111181	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.57E-06
category:17137876	0.7907	0.1576	5.017	5.23E-07	0.004068	0.001291	0.9919	0.006106	0.0193	0.004656	Mild malnutrition of respiratory system and intrathoracic organs	361194	194	359250	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.76E-06
binary.2011.17137876	0.8908	0.178	5.005	6.00E-07	0.004	0.00371	1.005	0.007111	-0.004163	0.004789	Illnesses of mother: Lung cancer	330689	13689	317000	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.99E-06
category:17137876	0.8908	0.178	5.005	6.00E-07	0.004	0.00371	1.005	0.007111	-0.004163	0.004789	Illnesses of mother: Lung cancer	330689	13689	317000	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	3.99E-06
binary.6100.17137876	-0.2631	0.05281	-4.882	6.30E-07	0.03543	0.002005	1.012	0.007412	-0.1886	0.004852	Lifestyle-related activities: Sports club or gym	360603	10874	251900	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	4.08E-06
binary.2000.17137876	0.4742	0.09255	4.909	6.40E-07	0.007298	0.001339	0.9945	0.006328	-0.002227	0.004719	Testosterone condition code: diclofenac	361141	7545	353055	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	4.50E-06
20154.raw.17137876	0.3074	0.0371	4.874	6.71E-07	0.00541	0.00117	1.004	0.00937	0.0117	0.004541	Man sperm cell volume	361141	6547	356801	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	4.50E-06
category:17137876	0.4579	0.02939	4.809	9.17E-07	0.007179	0.001603	0.9959	0.005977	0.01406	0.004644	Self-reported chronic disease	361194	439	356801	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	6.38E-06
category:17137876	0.2305	0.04729	4.875	1.09E-06	0.00373	0.002022	1.019	0.007626	0.01092	0.005512	Testosterone condition code: paracetamol	361141	6647	354794	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	7.53E-06
3030.raw.17137876	0.2067	0.04242	4.874	1.10E-06	0.00929	0.002024	1.019	0.009214	0.01391	0.005929	Stomach in pain	350661			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	7.53E-06
category:17137876	0.2067	0.04242	4.874	1.10E-06	0.00929	0.002024	1.019	0.009214	0.01391	0.005929	Stomach in pain	350661			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	7.53E-06
30120.raw.17137876	0.245	0.0565	4.861	1.23E-06	0.00335	0.002483	1.004	0.01429	0.00216	0.005471	Lymphocyte shift	349856			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	8.07E-06
binary.2620.17137876	0.463	0.09682	4.806	1.54E-06	0.00377	0.004955	0.9956	0.006124	0.00492	0.004588	Jug lymphatic shift work: Yes	91149	25698	65451	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.03E-05
category:17137876	0.463	0.09682	4.806	1.54E-06	0.00377	0.004955	0.9956	0.006124	0.00492	0.004588	Jug lymphatic shift work: Yes	91149	25698	65451	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.03E-05
23102.raw.17137876	0.144	0.03056	4.791	1.66E-06	0.2909	0.0118	1.116	0.02876	0.000056	0.006728	Whole body water mass	354834			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.11E-05
category:17137876	0.144	0.03056	4.791	1.66E-06	0.2909	0.0118	1.116	0.02876	0.000056	0.006728	Whole body water mass	354834			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.11E-05
23102.raw.17137876	0.144	0.03056	4.791	1.66E-06	0.2909	0.0118	1.116	0.02876	0.000056	0.006728	Whole body water mass	354834			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.11E-05
category:17137876	0.144	0.03056	4.791	1.66E-06	0.2909	0.0118	1.116	0.02876	0.000056	0.006728	Whole body water mass	354834			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.11E-05
binary.6142.17137876	-0.3891	0.08162	-4.767	1.87E-06	0.00563	0.001275	1.008	0.006069	-0.001925	0.004661	Current employment status: Doing unpaid or voluntary work	359501	42933	47677	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.21E-05
binary.2011.17137876	0.6644	0.1398	4.753	2.01E-06	0.00604	0.001769	1.003	0.006765	0.00387	0.004643	Illnesses of offspring: Chronic bronchitis/emphysema	279496	793	371563	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.32E-05
category:17137876	0.6644	0.1398	4.753	2.01E-06	0.00604	0.001769	1.003	0.006765	0.00387	0.004643	Illnesses of offspring: Chronic bronchitis/emphysema	279496	793	371563	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.32E-05
category:17137876	0.8227	0.174	4.729	2.01E-06	0.00448	0.01453	1.003	0.006157	0.00281	0.00509	Age of stopping alcohol: 12-29 (Quintile and decile)	33335			UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.43E-05
binary.5556.17137876	-0.3114	0.06588	-4.727	2.28E-06	0.1555	0.01666	1.006	0.007456	-0.009631	0.00481	Firm content interpolation	35147	1071	15448	UK Biobank	https://data.ukbiobank.ac.uk/data/study/45562/phenotype/17137876	1.48E-05
category:17137876	-0.3114	0.06588	-4.727	2.28E-06	0.1555	0.01666	1.006	0.007456	-0.009631	0.00481	Firm content interpolation	35147	1071	15448	UK Biobank		

category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
category:1711377668	0.989	0.1203	3.646	0.002636	0.001911	0.001773	0.9984	0.006051	0.005024	0.005882	Dangerous - main (C1D1: ISO Heart failure	361194	1389	360700	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00100153
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
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category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
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category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
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category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
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category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
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category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
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biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
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category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
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biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097	3.649	0.002637	0.00791	0.001491	0.9997	0.007486	0.007189	0.004238	Unstable angina pectoris	361194	343775	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00197526	
biomarkers-1711377668	0.1501	0.04128	3.66	0.002768	0.0141	0.0345	1.23	0.0891	0.008625	0.00825	Cardiac	400498	400498	UK Bank	https://doi.org/10.1002/psd.12454	PHESANT Transformation No.	0.00115223	
category:1711377668	0.2954	0.8097</																

binary.20003.17113877660	0.2514	0.09307	2.701	0.000916	0.005576	0.001283	0.9839	0.006268	0.001736	0.004587	Treatment/medication code: progilfazole	361141	744	360397	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/360397	Transformation:20X	0.01883573
AAA_Bothna.17113877660	0.06711	2.651	0.07074	0.004942	0.005136	1.008	0.007571	0.002758	0.005423	Abdominal aortic aneurysm (AAA) (EUR Biobanks)	1264937	8184	1264937	Global Biobank	https://www.ebi.ac.uk/ena/browser/view/1264937	Transformation:0.011	0.01071093	
binary.6146.17113877660	0.3763	0.1388	2.693	0.007085	0.003457	0.00134	1.008	0.006448	-0.001409	0.004529	Newest egg, dairy, wheat, sugar: Wheat products	259777	9573	260204	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/260204	Transformation:0.011	0.01918629
binary.20002.17113877660	0.4848	0.1805	2.685	0.007246	0.002862	0.001229	0.9929	0.006381	0.001614	0.004425	Non-cancer illness code, self-reported: alcohol dependency	361141	561	360580	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/360580	Transformation:20X	0.01958449
binary.20004.17113877660	0.2787	0.1028	0.007304	0.040024	0.01118	0.9996	0.006383	0.006372	0.004632	Sleeping too much	45540	9354	361186	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/361186	Transformation:20X	0.01970414	
binary.20002.17113877660	0.2901	0.0765	2.682	0.007328	0.01084	0.001489	1.015	0.006748	-0.001492	0.004612	Non-cancer illness code, self-reported: gastro-oesophageal reflux (gord) / gastric reflux	361141	15070	345801	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/345801	Transformation:20X	0.01973137
binary.20047.17113877660	0.2499	0.09324	2.68	0.007361	0.0719	0.01448	0.9951	0.006355	0.004566	0.004417	Tense, sore, or aching muscles during worst period of anxiety	33301	12986	20305	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/20305	Transformation:20X	0.01978269
categorical.17113877660	0.396	0.1482	2.672	0.00754	0.003361	0.001293	1.001	0.006175	0.005249	0.004547	Certain infectious and parasitic diseases	361184	9097	351897	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/351897	Transformation:0.011	0.02022544
categorical.17113877660	0.5673	0.2135	2.657	0.007885	0.002846	0.001409	1.003	0.006542	0.007369	0.004683	Diagnoses - main (ICD10): T39 Poisoning by nonopioid analgesics, antipyretics and anti	361184	1161	360533	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/360533	Transformation:0.011	0.02021087
binary.2267.17113877660	-0.3528	0.1333	2.648	0.008108	0.01542	0.005204	0.9885	0.006841	0.00774	0.004378	Job SOC coding: Biological scientists and biochemists	91149	1067	90082	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/90082	Transformation:22X	0.02166714
binary.2011.17113877660	0.3305	0.125	2.643	0.008209	0.003126	0.001588	0.9943	0.005941	-0.001788	0.004628	Illnesses of salivary: Bovid cancer	279242	6727	272515	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/272515	Transformation:20X	0.02189581
binary.20004.17113877660	0.2901	0.0765	2.682	0.007328	0.01084	0.001489	1.015	0.006748	-0.001492	0.004612	Non-cancer illness code, self-reported: skin and subcutaneous tissue	361184	2536	358358	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/358358	Transformation:0.011	0.02207654
binary.2654.17113877660	0.2672	0.1015	2.633	0.008452	0.01128	0.002689	0.9963	0.006633	0.001238	0.004841	Non-butler spread type details: Other low or reduced fat spread	190094	19035	171059	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/171059	Transformation:28X	0.02245953
categorical.17113877660	0.3937	0.1496	2.632	0.00849	0.003019	0.001306	0.9967	0.006378	-0.00961	0.004644	Garland	361184	2239	358955	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/358955	Transformation:0.011	0.02251834
ENGM42.17113877660	-0.293	0.1114	-0.231	0.008522	0.1587	0.03772	1.001	0.006766	-0.000848	0.004841	Intestinal volume (CV)	30717	162	ENGM4	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/ENGM4	Transformation:0.011	0.02251834
binary.2300.17113877660	-0.3413	0.13	-0.253	0.008665	0.01793	0.005544	0.9746	0.007363	0.008001	0.005343	Job coding: researcher in broadcasting, journalism, photography, printing and publishin	88866	162	89704	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/89704	Transformation:20X	0.02257454
binary.5855.17113877660	-0.4503	0.1716	-0.262	0.008673	0.08974	0.04394	0.9938	0.005459	0.006138	0.004546	Which eye(s) affected by astigmatism: Both eyes	9749	6704	3045	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/3045	Transformation:58X	0.02257454
categorical.17113877660	0.2888	0.1102	2.62	0.008801	0.004936	0.001787	1.008	0.007004	0.004648	0.004329	Diagnoses - main (ICD10): M48 Other spondylopathies	361184	1890	359304	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/359304	Transformation:0.011	0.02353577
categorical.17113877660	0.1753	0.06736	2.602	0.009251	0.01372	0.001463	1.006	0.0074	0.005305	0.004446	Medication related adverse effect	361184	20994	341100	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/341100	Transformation:0.011	0.02353577
categorical.17113877660	0.2278	0.08804	2.588	0.009667	0.006487	0.001265	0.9991	0.005602	0.006823	0.004649	Diagnoses - main (ICD10): M48 Other spondylopathies	361184	1890	359304	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/359304	Transformation:0.011	0.02353577
categorical.17113877660	0.2244	0.08676	2.587	0.009669	0.006772	0.001249	0.999	0.005555	0.006823	0.004646	Spatial stresses	361184	1890	359304	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/359304	Transformation:0.011	0.02353577
binary.20027.17113877660	0.2605	0.1021	2.586	0.009716	0.01456	0.003037	0.9951	0.005529	0.007523	0.004025	Been involved in major accident or exposed to war-zone	117954	4010	113944	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/113944	Transformation:20X	0.02359043
categorical.17113877660	0.3708	0.1442	2.571	0.01015	0.003245	0.001275	0.9947	0.005915	-0.01199	0.004349	Death due to cardiac causes	361184	1597	359597	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/359597	Transformation:0.011	0.02647583
categorical.17113877660	0.3611	0.1406	2.569	0.0102	0.003652	0.001192	1.001	0.006457	-0.00994	0.004556	Primary gonarthrosis, bilateral	361184	849	360345	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/360345	Transformation:0.011	0.02650789
binary.6157.17113877660	-0.1891	0.0658	-0.269	0.01019	0.003363	0.000563	0.999	0.007557	-0.00557	0.004348	Why stopped smoking: Health precaution	88516	5563	32853	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/32853	Transformation:61X	0.02650789
binary.20003.17113877660	0.4203	0.1641	2.561	0.01043	0.003461	0.001347	0.9953	0.006076	0.003036	0.004929	Treatment/medication code: gabapentin	361141	1674	358467	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/358467	Transformation:20X	0.02705668
AAA_Bothna.17113877660	0.1617	0.06319	2.56	0.01048	0.004706	0.000432	1.008	0.007557	0.001851	0.004998	Abdominal aortic aneurysm (AAA) (All Biobanks)	1455875	9453	1446422	Global Biobank	https://www.ebi.ac.uk/ena/browser/view/1446422	Transformation:0.011	0.02713708
binary.20411.17113877660	-0.4787	0.188	-2.552	0.01072	0.008826	0.003862	1.01	0.006309	-0.01069	0.004684	Ever had or injured or injured someone due to drinking alcohol: No	118002	12909	5093	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/5093	Transformation:20X	0.02717078
binary.6152.17113877660	0.2375	0.09311	2.551	0.01074	0.003763	0.001396	1.011	0.006984	0.002715	0.004543	Blood clot: DVT, bronchitis, emphysema, asthma, rhinitis, eczema, allergy diagnosed by	307175	1674	3045	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/3045	Transformation:0.011	0.02717078
categorical.17113877660	0.4816	0.1889	2.55	0.01078	0.002492	0.001217	1.008	0.00607	0.01397	0.004609	STROKE	361184	6148	355048	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/355048	Transformation:0.011	0.02717078
binary.2267.17113877660	-0.3353	0.1277	-2.548	0.01083	0.01423	0.005119	0.9816	0.00684	0.001813	0.005238	Job SOC coding: Town planners	91149	221	90928	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/90928	Transformation:20X	0.02740016
binary.56994.17113877660	-0.2214	0.08701	-2.544	0.01096	0.1499	0.0238	0.9996	0.006555	0.01332	0.005077	F110 - antismetic sequence recognition	20880	16721	4159	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/4159	Transformation:56X	0.02913234
binary.6145.17113877660	0.3636	0.1431	2.541	0.01105	0.003003	0.001269	1.009	0.006327	0.01377	0.004574	Illness, injury, bereavement, stress in last 7 years: Marital separation/divorce	558336	10816	348020	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/348020	Transformation:61X	0.02930316
jointWeak4.17113877660	-0.1554	0.06119	-2.539	0.01111	0.07032	0.01598	0.9483	0.006474	0.006811	0.006129	High-density lipoprotein (HDL)	188577	1007	188577	Global	https://www.ebi.ac.uk/ena/browser/view/188577	Transformation:0.011	0.02930316
binary.20048.17113877660	0.3205	0.1264	2.536	0.01121	0.01121	0.004028	1.012	0.006073	0.002719	0.004575	Manifestations of malaria or iridiality: I was more creative or had more ideas than usual	114422	2090	111332	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/111332	Transformation:20X	0.02960909
binary.20004.17113877660	0.3424	0.09609	2.523	0.01145	0.005483	0.001401	1.01	0.006984	0.002873	0.004539	Non-cancer illness code, self-reported: pulmonary embolism u.i.d	359324	3991	358142	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/358142	Transformation:0.011	0.02960909
binary.22601.17113877660	-0.2934	0.1165	-2.519	0.01177	0.01648	0.005071	0.9792	0.006795	0.00195	0.005232	Job coding: town planner, development officer	88866	217	88649	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/88649	Transformation:22X	0.02993214
binary.20003.17113877660	0.1733	0.06804	2.513	0.01197	0.01078	0.001683	1.014	0.007507	0.01599	0.005344	Treatment/medication code: ramipril	361141	16869	344272	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/344272	Transformation:20X	0.03026358
binary.20126.17113877660	0.5005	0.198	2.507	0.01216	0.01634	0.005409	0.9996	0.006555	0.01332	0.005077	F110 - antismetic sequence recognition	20880	16721	4159	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/4159	Transformation:56X	0.03031234
binary.20547.17113877660	0.1658	0.06614	2.507	0.01219	0.04963	0.004769	1.002	0.006802	0.004769	0.005037	Activities undertaken to treat depression: Talking therapies, such as psychotherapy, cou	117763	25660	91803	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/91803	Transformation:20X	0.03063553
binary.20006.17113877660	0.3187	0.1277	2.497	0.01253	0.03317	0.009688	1.001	0.006509	-0.004488	0.004934	Type of special diet followed: Low calorie	51427	6077	43550	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/43550	Transformation:20X	0.03163714
categorical.17113877660	0.3593	0.144	2.496	0.01261	0.003827	0.001165	0.9981	0.0056	0.005994	0.004426	Diagnoses - main (ICD10): Z03 Medical observation and evaluation for suspected disease	361184	4951	356243	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/356243	Transformation:0.011	0.03172622
binary.2030.17113877660	0.1119	0.04485	2.495	0.0126	0.05104	0.002572	1.002	0.008148	0.003945	0.005283	Gully feelings	351907	10028	251779	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/251779	Transformation:20X	0.03172622
binary.3393.17113877660	0.1926	0.07725	2.493	0.01267	0.01848	0.002876	0.9983	0.006896	-0.003149	0.005235	Healing aid	219358	1042	208416	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/208416	Transformation:33X	0.03182076
categorical.17113877660	0.3204	0.1287	2.489	0.01278	0.003076	0.001274	0.9902	0.005653	0.003148	0.004626	Diagnoses - main (ICD10): S01 Open wound of head	361184	1694	359550	UK Biobank	https://www.ebi.ac.uk/ena/browser/view/359550	Transformation:0.011	0.03202646
binary.6162.17113																		

Table S11: Exposome-wide association study results for pSIN.

exposure	coef	std err	t	p	[0.025	0.975]	p.adjusted
own_or_rent:Rent - from local authority, local council, housing association	0.73681777	0.03868421	19.0469891	1.49E-80	0.66099598	0.81263955	2.89E-78
townsend_deprivation_index	0.05557732	0.00323335	17.18877	5.31E-66	0.04923989	0.06191475	5.15E-64
education_years	-0.0805788	0.00474383	-16.986015	1.69E-64	-0.0898768	-0.0712808	1.09E-62
alcohol_freq	0.16154933	0.01028888	15.701348	2.29E-55	0.14138279	0.18171587	1.11E-53
summer_outdoors_time	0.06004445	0.00383494	15.6571967	4.19E-55	0.05252789	0.06756101	1.63E-53
salt	0.1573727	0.01061334	14.8278134	1.28E-49	0.13657035	0.17817504	4.13E-48
hshld_income	-0.1183721	0.008266	-14.320361	2.14E-46	-0.1345736	-0.1021705	5.92E-45
coffee	0.10872775	0.00800949	13.5748684	6.86E-42	0.09302901	0.1244265	1.66E-40
employed	-0.2409905	0.01836787	-13.120224	2.99E-39	-0.2769919	-0.2049892	6.45E-38
BMI	0.02423958	0.00190218	12.7430788	3.97E-37	0.02051128	0.02796788	7.70E-36
skin_tan_ease	0.11177405	0.00899084	12.4319851	2.01E-35	0.09415183	0.12939627	3.55E-34
employment_standing:Always	0.31354118	0.02689998	11.6558128	2.38E-31	0.26081672	0.36626564	3.86E-30
maternal_smoking	0.22581279	0.0200699	11.2513168	2.50E-29	0.18647542	0.26515016	3.74E-28
pub	0.23122501	0.02090894	11.0586659	2.17E-28	0.1902431	0.27220692	3.01E-27
winter_outdoors_time	0.0552818	0.00502304	11.0056568	3.91E-28	0.04543656	0.06512704	5.05E-27
total_fruit	-0.0871016	0.0079712	-10.927043	9.30E-28	-0.1027253	-0.0714779	1.13E-26
accommodation_type:A flat, maisonette or apartment	0.33748043	0.03169935	10.6462871	1.96E-26	0.27534911	0.39961175	2.23E-25
religious_group	-0.2596466	0.02509402	-10.346954	4.62E-25	-0.3088314	-0.2104619	4.98E-24
red_meat	0.09784575	0.00972884	10.0572905	9.05E-24	0.07877705	0.11691445	9.25E-23
nap	0.14496919	0.01503734	9.64061216	5.67E-22	0.11549572	0.17444266	5.50E-21
unenthusiasm_freq	0.13956976	0.01451327	9.6167017	7.15E-22	0.11112349	0.16801603	6.60E-21
sedentary	0.10818815	0.01148137	9.42293203	4.59E-21	0.08568446	0.13069184	4.05E-20
hshld_number	-0.061022	0.0070274	-8.6834493	3.97E-18	-0.0747959	-0.0472482	3.35E-17
sun_protection_use	-0.0855714	0.01013245	-8.445283	3.13E-17	-0.1054312	-0.0657116	2.53E-16
irritable	0.27407632	0.03272893	8.37413091	5.73E-17	0.20992703	0.33822562	4.44E-16
employment_standing:Sometimes	0.17891839	0.02172732	8.23472075	1.85E-16	0.13633246	0.22150433	1.38E-15
hshld_children	-0.1585402	0.01927233	-8.2263152	1.98E-16	-0.1963143	-0.1207661	1.43E-15
chronotype:Definitely an 'evening' person	0.2861513	0.03543031	8.0764555	6.84E-16	0.21670724	0.35559535	4.74E-15
own_or_rent:Rent - from private landlord or letting agent	0.40834587	0.05152056	7.92588231	2.32E-15	0.30736461	0.50932714	1.55E-14
depressed_mood_freq	0.11018974	0.01442163	7.64059041	2.21E-14	0.08192308	0.13845639	1.43E-13
processed_meat	0.07109988	0.00934147	7.61120571	2.77E-14	0.05279042	0.08940934	1.73E-13
financial_difficulty	0.21146509	0.02801042	7.54951503	4.45E-14	0.15656414	0.26636603	2.70E-13
hshld_partner	-0.1546018	0.02066695	-7.4806297	7.54E-14	-0.1951094	-0.1140942	4.43E-13
financial_satisfaction	-0.0960734	0.013025	-7.3760782	1.66E-13	-0.1216027	-0.0705442	9.47E-13
tiredness_freq	0.07850154	0.01072852	7.31708944	2.58E-13	0.05747345	0.09952964	1.43E-12
sleep_hours_categorical:>9 hours	0.2448246	0.03362677	7.28064572	3.38E-13	0.17891552	0.31073368	1.79E-12
sleep_hours_categorical:<7 hours	0.15572779	0.0213936	7.27917682	3.41E-13	0.11379595	0.19765963	1.79E-12
risk_taking	0.14839325	0.02082449	7.12590232	1.05E-12	0.10757688	0.18920962	5.36E-12
fed_up_feelings	0.13182305	0.01856344	7.10121949	1.26E-12	0.09543837	0.16820773	6.25E-12
cereal_fiber	-0.0453455	0.00646722	-7.011588	2.39E-12	-0.0580213	-0.0326696	1.16E-11
HRT	0.16783653	0.02462613	6.81538535	9.63E-12	0.11956774	0.21610532	4.56E-11
loneliness	0.15637908	0.02322125	6.73430899	1.67E-11	0.110865	0.20189316	7.70E-11
PM10_2007	0.03144911	0.00506609	6.20776992	5.42E-10	0.02151948	0.04137873	2.45E-09
snoring	0.11579339	0.01902432	6.08659852	1.16E-09	0.07850536	0.15308142	5.13E-09
employment_heavy_manual:Sometimes	0.12519001	0.02090169	5.98946731	2.12E-09	0.08422231	0.16615771	9.15E-09
country_birth:Scotland	0.30896634	0.05178101	5.96678908	2.44E-09	0.20747462	0.41045806	1.03E-08
chronotype:More an 'evening' than a 'morning' person	0.1339669	0.02260279	5.92700828	3.11E-09	0.08966503	0.17826878	1.28E-08
tenseness_freq	0.08494317	0.01449162	5.86153807	4.62E-09	0.05653933	0.11334701	1.87E-08
employment_heavy_manual:Always	0.2638097	0.04625352	5.70355953	1.18E-08	0.17315196	0.35446743	4.68E-08
diet_variation	0.08632721	0.01530051	5.64211288	1.69E-08	0.05633793	0.11631649	6.56E-08
menopause_age	-0.0002099	3.73E-05	-5.6257815	1.87E-08	-0.0002831	-0.0001368	7.10E-08
menopause	0.15322624	0.02727854	5.61709848	1.96E-08	0.09975855	0.20669394	7.33E-08
number_births	0.0542197	0.00981099	5.52642724	3.30E-08	0.03498954	0.07344987	1.21E-07
NO_2010	0.0034237	0.00062469	5.48061212	4.26E-08	0.00219929	0.00464811	1.53E-07
bread_fiber	-0.0358447	0.00659555	-5.4346784	5.52E-08	-0.0487721	-0.0229173	1.95E-07
NO2_2006	0.00755306	0.0013964	5.40895105	6.37E-08	0.00481609	0.01029003	2.21E-07
PM2_5_2010	0.05058853	0.00938717	5.38911387	7.12E-08	0.03218951	0.06898756	2.38E-07
NO2_2005	0.0071139	0.00131996	5.38946889	7.10E-08	0.00452675	0.00970106	2.38E-07
retired	0.10286268	0.01913358	5.37602927	7.65E-08	0.06536051	0.14036485	2.52E-07
worry_embarrassment	-0.0962274	0.01822645	-5.2795476	1.30E-07	-0.1319516	-0.0605032	4.21E-07
NO2_2010	0.00729465	0.00138783	5.25616591	1.48E-07	0.00457448	0.01001481	4.70E-07
NO2_2007	0.00671603	0.00131242	5.11728656	3.11E-07	0.00414367	0.0092884	9.74E-07
accommodation_type:Sheltered accommodation	0.7467739	0.15137113	4.93339706	8.11E-07	0.4500837	1.04346411	2.50E-06
domestic_garden_buffer_300m	-0.0032189	0.00066313	-4.854038	1.21E-06	-0.0045186	-0.0019191	3.68E-06
chronotype:Definitely a 'morning' person	0.11106889	0.02333977	4.75878263	1.95E-06	0.06532251	0.15681527	5.83E-06
LTPA	-0.06951	0.01477086	-4.7058882	2.54E-06	-0.0984612	-0.0405588	7.45E-06
mood_swings	0.08306155	0.01832107	4.53366205	5.81E-06	0.04715191	0.11897119	1.68E-05
employment_heavy_manual:Usually	0.18826699	0.041708	4.51392985	6.38E-06	0.10651855	0.27001543	1.82E-05
confide_freq	-0.0217033	0.00481155	-4.5106615	6.48E-06	-0.031134	-0.0122726	1.82E-05
menarche_age	-0.0325656	0.00728834	-4.4681736	7.93E-06	-0.0468512	-0.0182799	2.17E-05
cheese	-0.0433914	0.00971151	-4.4680377	7.91E-06	-0.0624261	-0.0243567	2.17E-05
hysterectomy	0.19330125	0.04471076	4.32337243	1.54E-05	0.10566529	0.28093721	4.13E-05

sleep_difficulty	0.05441486	0.01259379	4.32076888	1.56E-05	0.0297308	0.07909891	4.13E-05
nervous	-0.0915385	0.02119821	-4.3182209	1.58E-05	-0.1330874	-0.0499897	4.13E-05
manic	0.26766239	0.06221812	4.30200024	1.70E-05	0.14571373	0.38961105	4.39E-05
hshld_grandchild	0.39257812	0.09258508	4.24018762	2.24E-05	0.21110965	0.57404659	5.71E-05
gym	-0.0854345	0.02016299	-4.2371934	2.27E-05	-0.1249543	-0.0459146	5.71E-05
unemployed	0.25398561	0.06452105	3.93647669	8.28E-05	0.12752316	0.38044805	2.06E-04
mobile_phone_weekly_usage	0.02757827	0.00702542	3.92549607	8.67E-05	0.01380831	0.04134822	2.13E-04
domestic_garden_buffer_1000m	-0.0035565	0.00090662	-3.9228049	8.77E-05	-0.0053335	-0.0017795	2.13E-04
body_size_10yrs_old:Plumper	0.10041089	0.02624607	3.82574972	0.00013056	0.04896811	0.15185366	3.13E-04
unenthusiastic_whole_week	0.08553343	0.02311412	3.70048439	0.00021545	0.04022934	0.13083752	5.10E-04
adult_education	-0.1312586	0.03571159	-3.6755181	0.00023765	-0.201254	-0.0612632	5.55E-04
PM2_5_absorbance_2010	0.14640014	0.04036471	3.6269345	0.00028713	0.06728459	0.2255157	6.63E-04
country_birth:Elsewhere	-0.1555767	0.04371209	-3.5591225	0.00037249	-0.2412532	-0.0699002	8.50E-04
home_maker	-0.1469531	0.04163329	-3.5297025	0.00041646	-0.2285551	-0.0653511	9.39E-04
first_birth_age	-0.0001181	3.41E-05	-3.4606507	0.00053982	-0.000185	-5.12E-05	1.20E-03
birth_weight	-0.0469786	0.0137639	-3.413177	0.00064268	-0.0739561	-0.0200011	1.42E-03
zinc_supplements	-0.1551574	0.0458467	-3.3842651	0.00071432	-0.2450178	-0.065297	1.56E-03
last_birth_age	-0.000116	3.43E-05	-3.3782329	0.00073071	-0.0001833	-4.87E-05	1.58E-03
glucosamine_supplements	-0.077127	0.02334626	-3.3036139	0.00095524	-0.1228861	-0.0313679	2.04E-03
computer_games	0.05935088	0.01822077	3.25732017	0.00112555	0.02363784	0.09506392	2.37E-03
miserableness	0.0600135	0.01845074	3.25263313	0.00114428	0.0238497	0.09617729	2.39E-03
multivitamin_supplements	-0.0718788	0.02221869	-3.2350598	0.00121708	-0.1154279	-0.0283298	2.51E-03
gas_central_heat	-0.0693904	0.02163865	-3.2067803	0.00134326	-0.1118025	-0.0269782	2.74E-03
adopted	0.23970472	0.07518212	3.18832081	0.00143202	0.09234639	0.38706305	2.89E-03
employment_standing:Usually	0.11157602	0.03512849	3.17622623	0.00149308	0.04272355	0.1804285	2.99E-03
natural_environment_buffer_1000m	-0.0012651	0.00040526	-3.1216723	0.00179944	-0.0020594	-0.0004708	3.56E-03
family_visit_freq	0.02481262	0.00804452	3.08441359	0.00204081	0.00904522	0.04058002	4.00E-03
worrier	-0.0564494	0.01834608	-3.0769204	0.0020928	-0.0924081	-0.0204908	4.06E-03
accommodation_type:Mobile or temporary structure (i.e.	0.68368444	0.22546097	3.03238489	0.00242772	0.24177679	1.12559208	4.65E-03
job_satisfaction	0.0494855	0.0163304	3.0302677	0.00244573	0.01747703	0.08149397	4.65E-03
water	-0.0247775	0.00837865	-2.9572133	0.00310599	-0.0411998	-0.0083551	5.85E-03
gas_hob_heat	-0.0579678	0.02003231	-2.8937169	0.00380899	-0.0972315	-0.0187041	7.11E-03
mammogram	0.08742183	0.03036478	2.87905379	0.00399228	0.02790491	0.14693874	7.31E-03
happiness	-0.048622	0.01687329	-2.8815948	0.00395861	-0.081694	-0.01555	7.31E-03
country_birth:Wales	0.16087233	0.05781813	2.78238547	0.0053984	0.04754773	0.27419692	9.79E-03
population_density:Rural	-0.0753104	0.02768121	-2.7206333	0.00651827	-0.1295661	-0.0210547	1.17E-02
family_satisfaction	-0.0278169	0.01097185	-2.5353	0.01123856	-0.0493219	-0.0063119	2.00E-02
death_partner	0.18052912	0.07176088	2.51570381	0.01188307	0.03987646	0.32118178	2.02E-02
sound_average_16hr	0.00530676	0.0021064	2.5193497	0.01176071	0.00117818	0.00943534	2.02E-02
sound_average_24hr	0.00530571	0.0021061	2.51921374	0.01176526	0.00117772	0.00943369	2.02E-02
night_sound_average	0.00530362	0.00210669	2.51750564	0.01182245	0.00117446	0.00943278	2.02E-02
evening_sound_average	0.00530069	0.00210714	2.51558321	0.01188711	0.00117065	0.00943072	2.02E-02
daytime_sound_average	0.00528145	0.00210732	2.50624604	0.01220567	0.00115107	0.00941183	2.06E-02
tea	-0.0204861	0.00856033	-2.3931459	0.01670878	-0.0372645	-0.0037077	2.79E-02
volunteer	-0.1132554	0.04802128	-2.3584412	0.01835626	-0.207378	-0.0191328	3.04E-02
calcium_supplements	-0.0820231	0.03508569	-2.3377924	0.01940251	-0.1507916	-0.0132545	3.19E-02
PM10_2010	0.01169911	0.00502603	2.327701	0.01993252	0.00184799	0.02155023	3.25E-02
open_fire_heat	-0.0764473	0.03330733	-2.2952092	0.02172586	-0.1417303	-0.0111643	3.51E-02
childhood_sunburn_number	-0.0036753	0.00163071	-2.2537949	0.02421401	-0.0068715	-0.0004791	3.88E-02
solarium_freq	0.00409335	0.00182377	2.24444872	0.02480853	0.00051873	0.00766797	3.94E-02
cervical_smear	-0.1723578	0.07728996	-2.2300159	0.02575574	-0.3238511	-0.0208645	4.06E-02
bilateral_oophorectomy	0.09706912	0.04375809	2.21831261	0.02654299	0.01130045	0.18283778	4.15E-02
greenspace_buffer_1000m	-0.0010313	0.00048916	-2.1083061	0.03501019	-0.0019901	-7.25E-05	5.43E-02
tense	0.05004817	0.02391259	2.09296321	0.03635819	0.00317906	0.09691729	5.60E-02
friends_satisfaction	-0.0306155	0.01530688	-2.0001115	0.04549441	-0.0606172	-0.0006137	6.95E-02
own_or_rent:Pay part rent and part mortgage (shared ow	0.30691118	0.16429372	1.86806401	0.06175991	-0.0151076	0.62892998	9.36E-02
country_birth:Republic of Ireland	0.16057751	0.08886082	1.80706759	0.07075862	-0.0135913	0.33474635	1.06E-01
employment_hours	0.00111234	0.00062364	1.78363687	0.07448964	-0.00011	0.00233469	1.11E-01
oily_fish	-0.0177455	0.01007726	-1.7609462	0.0782545	-0.0374971	0.0020061	1.16E-01
height_10yrs_old:Shorter	-0.04097	0.023453	-1.7468993	0.08066183	-0.0869383	0.00499828	1.19E-01
vitamin_B_supplements	0.07565987	0.04406457	1.71702277	0.08598212	-0.0107075	0.16202725	1.25E-01
traffic_load_major_roads	1.36E-08	7.95E-09	1.71550964	0.08625891	-1.94E-09	2.92E-08	1.25E-01
natural_environment_buffer_300m	-0.0006569	0.00038996	-1.6845475	0.09208303	-0.0014212	0.00010742	1.32E-01
student	-0.1622412	0.09639944	-1.68301	0.09238032	-0.3511859	0.02670346	1.32E-01
PM2_5_to_10_2010	0.0171098	0.01046831	1.63443734	0.10217425	-0.0034083	0.03762787	1.45E-01
distance_to_coast	0.00190954	0.00117745	1.62175905	0.10486215	-0.0003983	0.00421737	1.47E-01
handedness:Use both right and left hands equally	0.11297468	0.07101873	1.59077307	0.11166788	-0.0262233	0.25217268	1.56E-01
folate_supplements	0.09426582	0.05961473	1.58125029	0.11382808	-0.0225802	0.2111118	1.58E-01
neuroticism	0.00432042	0.00280898	1.53807249	0.12403812	-0.0011852	0.00982608	1.70E-01
own_or_rent:Own with a mortgage	-0.0304481	0.0198354	-1.5350383	0.12478175	-0.0693258	0.00842966	1.70E-01
inverse_distance_nearest_road	0.17345788	0.1225023	1.41595607	0.15679548	-0.0666489	0.41356462	2.11E-01
sensitivity	-0.0259244	0.01829171	-1.4172752	0.1564096	-0.0617765	0.0099277	2.11E-01
close_to_major_road	0.04829265	0.03454954	1.39777986	0.16218627	-0.0194251	0.11601038	2.17E-01

road_length_sum_100m	0.00015948	0.00011514	1.38513705	0.16601763	-6.62E-05	0.00038515	2.19E-01
iron_supplements	-0.0684905	0.04932797	-1.3884719	0.16500047	-0.1651742	0.02819322	2.19E-01
depressed_whole_week	0.02966316	0.02153464	1.37746229	0.16837642	-0.0125451	0.07187145	2.21E-01
fish_oil_supplements	-0.0260365	0.01965007	-1.3250095	0.18517495	-0.064551	0.01247797	2.41E-01
greenspace_buffer_300m	-0.0005619	0.00042936	-1.3086755	0.19065118	-0.0014035	0.00027966	2.47E-01
total_veg	0.01152377	0.00888037	1.29766758	0.19440844	-0.0058819	0.02892945	2.50E-01
birth_age	5.92E-05	4.66E-05	1.26982402	0.20415982	-3.22E-05	0.00015051	2.61E-01
electric_storage_heat	0.10224727	0.08253505	1.2388346	0.2154134	-0.0595229	0.26401747	2.73E-01
stillbirth	0.03090858	0.02556495	1.20902165	0.22666673	-0.0192004	0.08101755	2.86E-01
irritability	0.02387144	0.02057424	1.16025832	0.24594999	-0.0164545	0.06419733	3.08E-01
water_buffer_1000m	0.00448816	0.00394679	1.13716884	0.25547394	-0.0032476	0.01222394	3.18E-01
balding	-0.0027599	0.00250128	-1.10341	0.2698624	-0.0076626	0.00214277	3.33E-01
accommodation_type:Care home	0.65261103	0.63276962	1.03135645	0.30237941	-0.5876291	1.89285112	3.71E-01
age_voice	-0.0025787	0.00253831	-1.0159308	0.30967462	-0.007554	0.00239655	3.78E-01
part_multiple_birth	0.06154515	0.06097115	1.00941423	0.3127816	-0.0579594	0.18104972	3.79E-01
height_10yrs_old:Taller	-0.0217594	0.02204814	-0.9869039	0.32369519	-0.0649742	0.02145536	3.89E-01
inverse_distance_nearest_major_road	-0.5718881	0.58130939	-0.983793	0.32522272	-1.7112651	0.56748885	3.89E-01
nerves	-0.0217125	0.02237327	-0.9704649	0.33182019	-0.0655645	0.02213955	3.95E-01
speakerphone	0.01024473	0.01103938	0.92801739	0.35340368	-0.0113926	0.03188211	4.18E-01
OPA	-0.0103903	0.01126932	-0.9219985	0.35653448	-0.0324784	0.01169778	4.19E-01
easy_wake	0.00925003	0.01153162	0.80214524	0.42247331	-0.0133521	0.03185222	4.94E-01
poultry	0.00822118	0.01069734	0.76852604	0.44217888	-0.0127458	0.02918816	5.14E-01
vitamin_A_supplements	0.04711404	0.06317962	0.74571579	0.45584315	-0.0767192	0.17094727	5.26E-01
traffic_intensity_nearest_road	1.33E-06	1.82E-06	0.73234554	0.46396161	-2.23E-06	4.89E-06	5.33E-01
years_at_address	0.00054968	0.00075546	0.72761628	0.46685241	-0.000931	0.00203039	5.33E-01
non_oily_fish	-0.0084538	0.01176335	-0.7186537	0.47235817	-0.0315101	0.0146026	5.36E-01
death_relative	0.01555758	0.02216448	0.70191476	0.48273608	-0.0278852	0.05900038	5.43E-01
private_healthcare	-0.0072562	0.01037442	-0.69943	0.48428707	-0.0275902	0.01307788	5.43E-01
traffic_intensity_nearest_major_road	2.86E-07	4.43E-07	0.64547683	0.51862161	-5.83E-07	1.16E-06	5.76E-01
selenium_supplements	-0.0379616	0.05890717	-0.6444316	0.51929896	-0.1534208	0.07749749	5.76E-01
oral_contraceptive	-0.0175868	0.03006451	-0.5849685	0.55857446	-0.0765152	0.04134158	6.16E-01
same_sex_intercourse	0.0275051	0.05248802	0.52402625	0.60026295	-0.0753724	0.1303826	6.58E-01
guilty_feelings	0.00864951	0.01996771	0.43317498	0.66488979	-0.0304876	0.04778659	7.25E-01
water_buffer_300m	0.00131649	0.00325732	0.40416402	0.68609409	-0.0050679	0.0077009	7.44E-01
divorce	0.01964237	0.0516283	0.38045737	0.7036078	-0.0815501	0.12083478	7.58E-01
vitamin_C_supplements	-0.0098404	0.03226063	-0.3050267	0.76034729	-0.0730718	0.05339109	8.15E-01
age_facial_hair	0.00053019	0.00179721	0.29500729	0.76799137	-0.0029925	0.00405287	8.19E-01
breastfed	-0.0050058	0.02249279	-0.2225493	0.82388737	-0.049092	0.03908052	8.64E-01
own_or_rent:Live in accommodation rent free	-0.0246022	0.10783517	-0.2281467	0.81953326	-0.2359612	0.18675673	8.64E-01
country_birth:Northern Ireland	-0.0265375	0.11865587	-0.2236509	0.82303003	-0.2591052	0.20603019	8.64E-01
vitamin_D_supplements	-0.0083456	0.04518121	-0.1847133	0.85345477	-0.0969016	0.08021043	8.90E-01
diet_change_5yrs, because of other reasons	0.00341556	0.0207422	0.16466721	0.86920679	-0.0372397	0.04407081	9.01E-01
IPAQ_activity_group	-0.0019682	0.01235763	-0.1592682	0.8734583	-0.0261894	0.02225301	9.01E-01
oil_central_heat	-0.0082786	0.06349823	-0.1303756	0.89626986	-0.1327363	0.11617906	9.20E-01
vitamin_E_supplements	0.00556937	0.05135108	0.10845673	0.9136339	-0.0950797	0.10621843	9.33E-01
body_size_10yrs_old:Thinner	0.00182587	0.02021686	0.0903141	0.92803803	-0.0377996	0.04145129	9.43E-01
gas_fire_heat	0.00144601	0.01907436	0.07580917	0.93957127	-0.0359401	0.0388321	9.49E-01
handedness:Left-handed	0.00154311	0.0312776	0.04933596	0.96065178	-0.0597616	0.06284777	9.66E-01
number_children	-5.39E-05	0.0024789	-0.0217341	0.98266031	-0.0049127	0.00480497	9.83E-01

Table S12: Associations between clinical biomarkers and pSIN scores.

Biochemical measurements					
name	pval	fdr_pval	hr	ci_low	ci_high
Total bilirubin	1.75E-36	1.27E-35	-0.24	-0.28	-0.20
Total protein	2.49E-26	1.20E-25	-0.21	-0.24	-0.17
Urea	4.17E-16	1.21E-15	-0.16	-0.19	-0.12
Vitamin D	2.59E-14	6.83E-14	-0.15	-0.19	-0.11
Albumin	3.00E-11	7.24E-11	-0.13	-0.17	-0.09
HDL cholesterol	4.54E-10	8.77E-10	-0.12	-0.16	-0.08
Telomere length	8.89E-09	1.61E-08	-0.11	-0.15	-0.07
APOA	4.38E-08	7.48E-08	-0.11	-0.15	-0.07
IGF-1	2.68E-05	4.08E-05	-0.08	-0.12	-0.04
Creatinine	4.86E-04	7.05E-04	-0.07	-0.11	-0.03
SHBG	6.82E-02	8.99E-02	-0.04	-0.07	0.00
AST	2.93E-01	3.54E-01	-0.02	-0.06	0.02
Calcium	5.92E-01	6.61E-01	-0.01	-0.05	0.03
LDL cholesterol	6.90E-01	7.41E-01	-0.01	-0.05	0.03
Cholesterol	8.71E-01	8.71E-01	0.00	-0.04	0.03
Lipoprotein A	8.26E-01	8.55E-01	0.00	-0.03	0.04
ALT	4.22E-01	4.89E-01	0.02	-0.02	0.05
Glucose	9.79E-02	1.23E-01	0.03	-0.01	0.07
APOB	8.84E-04	1.22E-03	0.06	0.03	0.10
Urate	5.51E-06	8.87E-06	0.09	0.05	0.13
Testosterone	3.03E-10	6.28E-10	0.12	0.08	0.16
ALP	9.10E-11	2.03E-10	0.13	0.09	0.16
Phosphate	8.09E-18	2.61E-17	0.17	0.13	0.20
C-reactive protein	5.01E-26	2.08E-25	0.20	0.17	0.24
GGT	7.01E-26	2.54E-25	0.20	0.17	0.24
Triglycerides	2.43E-33	1.41E-32	0.23	0.19	0.27
Cystatin C	5.80E-38	5.60E-37	0.25	0.21	0.29
HbA1c	1.78E-44	2.58E-43	0.27	0.23	0.31
GlycA	9.53E-56	2.76E-54	0.31	0.27	0.35

Table S13: Cox regression results for all outcomes in the UK Biobank.

Clinical risk factors					
name	pval	fdr_pval	hr	ci_low	ci_high
Lung function (FEV1)	1.45E-48	2.75E-47	-0.29	-0.33	-0.25
Fluid intelligence	2.53E-09	8.03E-09	-0.14	-0.18	-0.09
Lung function (FVC)	3.96E-08	1.07E-07	-0.11	-0.15	-0.07
Heel bone mineral density	2.20E-03	3.48E-03	-0.06	-0.10	-0.02
Systolic blood pressure	9.71E-03	1.42E-02	-0.06	-0.10	-0.01
Diastolic blood pressure	6.47E-01	6.83E-01	-0.01	-0.05	0.03
Hypertension	7.03E-01	7.03E-01	0.02	-0.07	0.10
Reaction time	1.34E-01	1.49E-01	0.03	-0.01	0.07
Hand grip strength (right)	1.38E-02	1.87E-02	0.05	0.01	0.09
Hand grip strength (left)	9.31E-05	1.77E-04	0.08	0.04	0.12
Obesity	4.31E-02	5.12E-02	0.09	0.00	0.19
Frequent insomnia	1.93E-02	2.44E-02	0.10	0.02	0.18
Arterial stiffness index	8.26E-33	7.85E-32	0.23	0.19	0.27
Type II Diabetes	7.49E-06	1.58E-05	0.49	0.28	0.70
Tired/lethargic every day	1.12E-16	4.24E-16	0.52	0.40	0.64
Sleep 10+ hours / day	1.44E-04	2.49E-04	0.56	0.27	0.84
Self-rated facial aging	1.60E-07	3.81E-07	0.61	0.38	0.84
Slow walking pace	2.38E-20	1.13E-19	0.71	0.56	0.86
Poor self-rated health	3.41E-25	2.16E-24	1.05	0.85	1.24

Table S14: Cox regression results for validation in the China Kadoorie Biobank.

ncd_name	hazard_ratio	p_value1	ci_low1	ci_high1	event_count	hazard_ratio	p_value2	ci_low2	ci_high2	event_counts2
Lung cancer	2.13	3.27E-117	2.00	2.27	357	1.97	5.86E-79	1.83	2.11	357
COPD	1.89	0.00E+00	1.84	1.94	1972	1.72	2.34E-261	1.67	1.78	1972
Head and nec Peripheral arte	1.77	4.39E-21	1.58	1.99	120	1.64	1.79E-13	1.44	1.86	120
disease	1.73	1.75E-63	1.62	1.84	435	1.59	5.54E-39	1.48	1.70	435
Oesophageal	1.50	2.35E-08	1.30	1.72	106	1.45	2.41E-06	1.25	1.69	106
Bladder cance	1.42	1.24E-05	1.22	1.65	98	1.25	1.33E-02	1.06	1.47	98
All-cause mori	1.40	6.12E-136	1.36	1.44	3319	1.32	2.09E-81	1.28	1.36	3319
Congestive cardiac failure	1.35	4.04E-40	1.29	1.41	1245	1.27	2.80E-22	1.21	1.34	1245
Chronic liver c	1.35	2.73E-26	1.28	1.43	816	1.26	8.13E-14	1.19	1.34	816
All stroke	1.28	9.07E-27	1.23	1.34	1320	1.22	4.20E-15	1.16	1.27	1320
Ischemic strok	1.27	4.10E-21	1.21	1.34	1096	1.20	3.08E-11	1.14	1.26	1096
Cronh's disea	1.23	1.26E-02	1.05	1.45	113	1.23	2.34E-02	1.04	1.45	113
Ischemic hear	1.20	1.32E-61	1.17	1.22	6874	1.14	9.06E-32	1.12	1.17	6874
Ulcerative colit	1.19	7.43E-03	1.05	1.34	209	1.14	5.99E-02	1.00	1.29	209
Inflammatory bowel disease	1.18	2.65E-03	1.07	1.31	284	1.15	2.31E-02	1.03	1.28	284
Kidney cancer	1.17	6.80E-02	0.99	1.38	117	1.16	1.10E-01	0.98	1.38	117
Chronic kidne	1.16	6.18E-15	1.12	1.21	2271	1.10	1.98E-06	1.06	1.15	2271
Rheumatoid a	1.15	6.37E-07	1.09	1.21	1142	1.11	3.31E-04	1.05	1.18	1142
Colorectal can	1.14	3.71E-03	1.05	1.24	460	1.10	4.68E-02	1.01	1.21	460
Asthma	1.12	2.35E-08	1.08	1.17	2217	1.09	6.02E-05	1.05	1.14	2217
Vascular demen	1.11	1.65E-01	0.96	1.28	167	1.03	7.87E-01	0.88	1.20	167
All-cause dem	1.11	3.21E-03	1.04	1.18	836	1.04	3.15E-01	0.97	1.11	836
Pancreatic can	1.09	3.89E-01	0.90	1.33	90	1.11	3.47E-01	0.90	1.37	90
Osteoporosis	1.06	1.78E-02	1.01	1.11	1671	1.03	3.15E-01	0.98	1.08	1671
Osteoarthritis	1.04	3.37E-04	1.02	1.07	7879	1.00	8.22E-01	0.97	1.02	7879
Macular deger	1.04	2.88E-01	0.97	1.11	932	1.00	9.02E-01	0.94	1.07	932
Alzheimer's di	0.94	2.88E-01	0.85	1.05	434	0.91	1.01E-01	0.82	1.01	434
Parkinson's di	0.87	1.69E-02	0.78	0.97	441	0.84	4.45E-03	0.75	0.94	441

Table S15: Cumulative incidence of outcomes across pSIN quartiles for all participants.

outcome	N	HR (CI)	fdrp
Any vascular disease	2479	1.10 (1.05-1.15)	3.41E-05
Ischaemic heart disease	2132	1.10 (1.05-1.15)	7.74E-05
Ischaemic stroke	526	1.14 (1.03-1.25)	8.55E-03
Lung cancer	68	1.55 (1.22-1.96)	3.17E-04
Respiratory disease	570	1.14 (1.04-1.25)	5.40E-03
COPD	181	1.29 (1.11-1.51)	1.23E-03
Any stroke	570	1.13 (1.03-1.23)	1.14E-02

Table S16: Number at risk tables for cumulative incidence in all participants.

Outcome	PredSmoking	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Top 25%	0.02%	0.16%	0.36%	0.90%	2.27%	4.94%
Lung cancer	Median 25%	0.00%	0.00%	0.02%	0.07%	0.21%	0.74%
Lung cancer	Bottom 25%	0.00%	0.02%	0.02%	0.05%	0.11%	0.48%
COPD	Top 25%	0.24%	0.71%	1.67%	3.96%	8.48%	14.36%
COPD	Median 25%	0.04%	0.14%	0.40%	0.92%	1.99%	3.74%
COPD	Bottom 25%	0.07%	0.11%	0.23%	0.68%	1.44%	2.48%
Head and neck	Top 25%	0.02%	0.09%	0.16%	0.40%	0.83%	1.20%
Head and neck	Median 25%	0.01%	0.03%	0.05%	0.08%	0.12%	0.17%
Head and neck	Bottom 25%	0.01%	0.04%	0.07%	0.09%	0.16%	0.27%
Peripheral artery	Top 25%	0.05%	0.15%	0.30%	0.71%	1.78%	3.69%
Peripheral artery	Median 25%	0.01%	0.02%	0.06%	0.17%	0.34%	1.05%
Peripheral artery	Bottom 25%	0.01%	0.03%	0.06%	0.16%	0.36%	0.56%
Oesophageal	Top 25%	0.01%	0.02%	0.10%	0.27%	0.57%	0.84%
Oesophageal	Median 25%	0.00%	0.01%	0.02%	0.04%	0.23%	0.49%
Oesophageal	Bottom 25%	0.00%	0.00%	0.01%	0.02%	0.10%	0.20%
Bladder cancer	Top 25%	0.01%	0.02%	0.02%	0.08%	0.30%	0.80%
Bladder cancer	Median 25%	0.00%	0.01%	0.02%	0.08%	0.20%	0.36%
Bladder cancer	Bottom 25%	0.00%	0.00%	0.03%	0.06%	0.21%	0.39%
All-cause mortality	Top 25%	0.17%	0.71%	1.79%	4.25%	9.36%	18.97%
All-cause mortality	Median 25%	0.07%	0.33%	0.74%	1.81%	4.13%	8.78%
All-cause mortality	Bottom 25%	0.05%	0.24%	0.73%	1.47%	3.48%	6.66%
Congestive heart failure	Top 25%	0.08%	0.18%	0.66%	1.63%	3.82%	7.82%
Congestive heart failure	Median 25%	0.03%	0.12%	0.26%	0.71%	1.70%	3.48%
Congestive heart failure	Bottom 25%	0.02%	0.06%	0.20%	0.51%	1.25%	2.65%
Chronic liver disease	Top 25%	0.16%	0.52%	1.04%	1.70%	2.83%	4.36%
Chronic liver disease	Median 25%	0.10%	0.20%	0.45%	0.89%	1.57%	2.36%
Chronic liver disease	Bottom 25%	0.08%	0.21%	0.44%	0.87%	1.35%	1.96%
All stroke	Top 25%	0.10%	0.23%	0.67%	1.56%	3.27%	5.93%
All stroke	Median 25%	0.04%	0.19%	0.35%	0.73%	1.51%	2.86%
All stroke	Bottom 25%	0.06%	0.15%	0.30%	0.66%	1.33%	2.86%
Ischemic stroke	Top 25%	0.10%	0.19%	0.50%	1.25%	2.78%	5.11%
Ischemic stroke	Median 25%	0.03%	0.16%	0.28%	0.61%	1.28%	2.48%
Ischemic stroke	Bottom 25%	0.06%	0.12%	0.24%	0.52%	1.07%	2.38%
Cronh's disease	Top 25%	0.03%	0.06%	0.12%	0.22%	0.35%	0.61%
Cronh's disease	Median 25%	0.02%	0.05%	0.06%	0.11%	0.21%	0.37%
Cronh's disease	Bottom 25%	0.05%	0.07%	0.13%	0.18%	0.27%	0.37%
Ischemic heart disease	Top 25%	0.70%	1.87%	3.69%	6.87%	12.67%	19.56%
Ischemic heart disease	Median 25%	0.43%	1.14%	2.49%	4.71%	8.47%	13.07%
Ischemic heart disease	Bottom 25%	0.51%	1.22%	2.30%	4.30%	7.74%	12.14%
Inflammatory bowel disease	Top 25%	0.06%	0.11%	0.27%	0.48%	0.93%	1.39%
Inflammatory bowel disease	Median 25%	0.05%	0.08%	0.18%	0.37%	0.67%	1.00%
Inflammatory bowel disease	Bottom 25%	0.06%	0.11%	0.23%	0.37%	0.61%	0.83%
Chronic kidney disease	Top 25%	0.14%	0.43%	0.85%	2.01%	4.99%	10.06%
Chronic kidney disease	Median 25%	0.12%	0.35%	0.68%	1.61%	3.36%	6.61%
Chronic kidney disease	Bottom 25%	0.07%	0.24%	0.54%	1.32%	2.77%	5.30%
Rheumatoid arthritis	Top 25%	0.12%	0.35%	0.67%	1.33%	2.20%	3.25%
Rheumatoid arthritis	Median 25%	0.15%	0.33%	0.52%	0.90%	1.67%	2.68%
Rheumatoid arthritis	Bottom 25%	0.12%	0.30%	0.51%	0.90%	1.31%	2.06%
Colorectal cancer	Top 25%	0.03%	0.09%	0.26%	0.56%	1.34%	2.63%
Colorectal cancer	Median 25%	0.00%	0.04%	0.16%	0.35%	0.93%	1.93%

Colorectal c	Bottom 25%	0.04%	0.09%	0.26%	0.48%	0.71%	1.44%
Asthma	Top 25%	0.47%	1.29%	2.44%	4.45%	7.27%	10.50%
Asthma	Median 25%	0.51%	1.24%	2.11%	3.69%	5.95%	8.72%
Asthma	Bottom 25%	0.48%	1.04%	1.89%	3.24%	5.33%	8.09%
Pancreatic c	Top 25%	0.00%	0.02%	0.06%	0.10%	0.27%	0.55%
Pancreatic c	Median 25%	0.00%	0.02%	0.03%	0.06%	0.14%	0.33%
Pancreatic c	Bottom 25%	0.00%	0.00%	0.03%	0.12%	0.28%	0.50%
Parkinson's c	Top 25%	0.01%	0.05%	0.08%	0.17%	0.52%	1.28%
Parkinson's c	Median 25%	0.01%	0.02%	0.06%	0.19%	0.52%	1.17%
Parkinson's c	Bottom 25%	0.02%	0.05%	0.10%	0.22%	0.51%	0.98%

Table S17: Cox regression results for current smokers.

Outcome	PredSmoking	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Top 25%	10944	10321	8978	7380	5265	2762
Lung cancer	Median 25%	13146	12370	10739	8995	6772	3596
Lung cancer	Bottom 25%	10952	10215	8758	7186	5292	2738
COPD	Top 25%	10725	10413	9100	7479	5390	3185
COPD	Median 25%	12904	12562	11012	9318	7210	4502
COPD	Bottom 25%	10750	10438	9032	7526	5688	3481
Head and neck	Top 25%	10934	10313	8967	7374	5271	2781
Head and neck	Median 25%	13135	12358	10730	8986	6764	3596
Head and neck	Bottom 25%	10944	10208	8748	7180	5283	2739
Peripheral artery	Top 25%	10913	10689	9449	7887	5902	3596
Peripheral artery	Median 25%	13114	12842	11308	9640	7578	4814
Peripheral artery	Bottom 25%	10931	10684	9258	7765	5946	3744
Oesophageal	Top 25%	10950	10336	8986	7397	5292	2792
Oesophageal	Median 25%	13153	12376	10746	9000	6773	3598
Oesophageal	Bottom 25%	10959	10225	8766	7193	5292	2742
Bladder cancer	Top 25%	10941	10324	8980	7388	5280	2771
Bladder cancer	Median 25%	13143	12366	10735	8986	6763	3587
Bladder cancer	Bottom 25%	10951	10216	8755	7182	5276	2733
All-cause mortality	Top 25%	10960	10756	9539	7983	6036	3740
All-cause mortality	Median 25%	13166	12912	11400	9723	7648	4928
All-cause mortality	Bottom 25%	10974	10742	9336	7849	6031	3835
Congestive heart failure	Top 25%	10863	10644	9385	7804	5808	3507
Congestive heart failure	Median 25%	13051	12773	11235	9550	7470	4729
Congestive heart failure	Bottom 25%	10881	10631	9206	7718	5890	3671
Chronic liver disease	Top 25%	10875	10573	9309	7779	5798	3508
Chronic liver disease	Median 25%	13071	12728	11172	9485	7386	4651
Chronic liver disease	Bottom 25%	10894	10570	9141	7631	5792	3575
All stroke	Top 25%	10822	10540	9259	7699	5707	3398
All stroke	Median 25%	13007	12656	11113	9432	7340	4591
All stroke	Bottom 25%	10837	10516	9095	7587	5739	3491
Ischemic stroke	Top 25%	10853	10573	9299	7735	5730	3410
Ischemic stroke	Median 25%	13045	12695	11152	9469	7366	4605
Ischemic stroke	Bottom 25%	10869	10549	9127	7617	5766	3517
Cronh's disease	Top 25%	10921	10705	9474	7928	5971	3671
Cronh's disease	Median 25%	13119	12848	11323	9648	7583	4845
Cronh's disease	Bottom 25%	10933	10684	9264	7777	5961	3763
Ischemic heart disease	Top 25%	9670	9329	8077	6544	4639	2664
Ischemic heart disease	Median 25%	11645	11261	9729	8062	6063	3641
Ischemic heart disease	Bottom 25%	9699	9355	7983	6523	4786	2814
Inflammatory bowel disease	Top 25%	10866	10649	9412	7868	5911	3629
Inflammatory bowel disease	Median 25%	13053	12782	11261	9585	7523	4800
Inflammatory bowel disease	Bottom 25%	10878	10630	9212	7729	5913	3726
Chronic kidney disease	Top 25%	10751	10452	9178	7595	5554	3220
Chronic kidney disease	Median 25%	12915	12556	11007	9281	7144	4376
Chronic kidney disease	Bottom 25%	10768	10438	9008	7483	5617	3375
Rheumatoid arthritis	Top 25%	10770	10481	9220	7665	5694	3430
Rheumatoid arthritis	Median 25%	12931	12578	11041	9362	7267	4554
Rheumatoid arthritis	Bottom 25%	10779	10448	9028	7524	5708	3516
Colorectal cancer	Top 25%	10897	10279	8932	7336	5222	2732
Colorectal cancer	Median 25%	13092	12311	10676	8927	6691	3527

Colorectal c	Bottom 25%	10904	10168	8705	7131	5238	2696
Asthma	Top 25%	10562	10276	9050	7480	5547	3357
Asthma	Median 25%	12679	12334	10840	9172	7107	4459
Asthma	Bottom 25%	10569	10292	8910	7414	5610	3448
Pancreatic c	Top 25%	10953	10340	8993	7407	5303	2797
Pancreatic c	Median 25%	13156	12379	10749	9003	6779	3602
Pancreatic c	Bottom 25%	10962	10227	8768	7194	5295	2744
Parkinson's c	Top 25%	10916	10641	9377	7833	5838	3513
Parkinson's c	Median 25%	13112	12775	11224	9536	7422	4659
Parkinson's c	Bottom 25%	10927	10609	9178	7669	5823	3592

Table S18: Cumulative incidence of outcomes across pSIN quartiles in current smokers.

ncd_name	hazard_ratio:p_value1		ci_low1	ci_high1	event_count	hazard_ratio:p_value2		ci_low2	ci_high2	event_count	hazard_ratio:p_value3		ci_low3	ci_high3	event_counts3
Lung cancer	2.24	6.34E-13	1.80	2.79	151	1.93	1.32E-08	1.54	2.42	151	1.78	1.13E-06	1.41	2.25	151
Peripheral arte															
disease	2.10	8.93E-10	1.66	2.66	119	1.80	3.93E-06	1.40	2.31	119	1.58	3.83E-04	1.23	2.04	119
COPD	2.00	3.78E-42	1.81	2.21	624	1.71	4.61E-24	1.54	1.89	624	1.51	2.53E-14	1.36	1.68	624
Osteoporosis	1.43	1.04E-05	1.22	1.68	183	1.31	1.63E-03	1.11	1.55	183	1.30	3.73E-03	1.09	1.55	183
All-cause mor	1.51	1.81E-18	1.38	1.66	577	1.38	8.64E-11	1.25	1.52	577	1.21	1.41E-04	1.10	1.34	577
Asthma	1.27	5.74E-04	1.11	1.46	221	1.17	3.29E-02	1.01	1.36	221	1.16	6.58E-02	0.99	1.35	221
Rheumatoid a	1.23	1.39E-02	1.04	1.45	150	1.18	6.46E-02	0.99	1.42	150	1.15	1.34E-01	0.96	1.39	150
Type II diabet	1.25	4.03E-05	1.13	1.40	355	1.23	5.45E-04	1.09	1.38	355	1.12	6.41E-02	0.99	1.26	355
Ischemic hear	1.27	1.15E-11	1.19	1.37	855	1.20	1.98E-06	1.11	1.29	855	1.12	5.10E-03	1.03	1.21	855
Inflammatory															
bowel disease	1.22	1.84E-02	1.03	1.44	151	1.19	5.77E-02	0.99	1.41	151	1.11	2.62E-01	0.92	1.33	151
Congestive															
cardiac failure	1.30	7.00E-04	1.12	1.51	187	1.23	1.42E-02	1.04	1.44	187	1.09	3.33E-01	0.92	1.28	187
Chronic liver c	1.22	2.38E-02	1.03	1.45	139	1.09	3.69E-01	0.90	1.31	139	1.07	5.08E-01	0.88	1.29	139
Hypertension	1.19	3.44E-10	1.13	1.26	1290	1.14	1.47E-05	1.07	1.21	1290	1.06	8.80E-02	0.99	1.12	1290
All stroke	1.29	5.52E-04	1.12	1.48	209	1.18	3.17E-02	1.01	1.38	209	1.05	5.43E-01	0.90	1.23	209
Osteoarthritis	1.10	1.13E-02	1.02	1.18	693	1.07	9.92E-02	0.99	1.16	693	1.04	3.60E-01	0.96	1.13	693
Ischemic strok	1.29	2.02E-03	1.10	1.51	168	1.15	9.71E-02	0.97	1.37	168	1.04	6.73E-01	0.87	1.24	168
Chronic kidney	1.17	1.37E-02	1.03	1.33	244	1.06	3.73E-01	0.93	1.22	244	1.00	9.70E-01	0.87	1.15	244

Table S19: Number at risk tables for current smokers.

Outcome	PredSmoking	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Top 25%	0.00%	0.26%	1.38%	3.14%	8.35%	15.58%
Lung cancer	Median 25%	0.14%	0.58%	0.67%	1.48%	3.68%	9.90%
Lung cancer	Bottom 25%	0.00%	0.00%	0.11%	0.41%	0.60%	2.08%
COPD	Top 25%	0.98%	2.96%	5.57%	13.64%	25.56%	38.20%
COPD	Median 25%	0.60%	1.13%	3.16%	6.90%	16.09%	25.69%
COPD	Bottom 25%	0.09%	0.36%	0.87%	1.42%	2.88%	4.89%
Peripheral ai	Top 25%	0.09%	0.51%	0.71%	2.06%	4.71%	10.03%
Peripheral ai	Median 25%	0.07%	0.14%	0.46%	1.08%	2.59%	6.97%
Peripheral ai	Bottom 25%	0.09%	0.09%	0.19%	0.19%	0.38%	0.65%
All-cause mc	Top 25%	0.00%	0.93%	2.90%	7.70%	16.83%	31.28%
All-cause mc	Median 25%	0.56%	1.77%	2.99%	6.32%	13.61%	25.64%
All-cause mc	Bottom 25%	0.08%	0.25%	1.44%	3.83%	7.24%	12.10%
Ischemic hea	Top 25%	0.67%	2.80%	6.18%	10.86%	20.27%	26.83%
Ischemic hea	Median 25%	1.12%	3.56%	5.69%	10.25%	17.42%	24.91%
Ischemic hea	Bottom 25%	0.96%	1.74%	3.97%	6.55%	9.04%	16.80%
Osteoporosis	Top 25%	0.09%	0.44%	0.72%	1.92%	4.52%	8.13%
Osteoporosis	Median 25%	0.14%	0.44%	0.60%	2.12%	4.13%	7.69%
Osteoporosis	Bottom 25%	0.00%	0.18%	0.62%	1.79%	2.21%	3.51%

Table S20: Cox regression results for previous smokers.

Outcome	PredSmoking	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Top 25%	1182	1098	890	658	382	151
Lung cancer	Median 25%	1408	1315	1124	884	593	282
Lung cancer	Bottom 25%	1181	1044	804	585	391	179
COPD	Top 25%	1110	1053	872	613	371	160
COPD	Median 25%	1331	1280	1079	844	550	279
COPD	Bottom 25%	1119	1059	816	621	408	212
Peripheral ai	Top 25%	1170	1141	960	716	463	219
Peripheral ai	Median 25%	1396	1360	1176	946	674	366
Peripheral ai	Bottom 25%	1170	1126	876	668	448	248
All-cause mc	Top 25%	1183	1159	982	734	488	239
All-cause mc	Median 25%	1412	1377	1196	969	697	389
All-cause mc	Bottom 25%	1182	1141	892	681	461	256
Ischemic hea	Top 25%	1035	984	802	579	355	165
Ischemic hea	Median 25%	1231	1165	988	764	525	277
Ischemic hea	Bottom 25%	1032	972	738	549	356	172
Osteoporosis	Top 25%	1161	1120	941	700	451	215
Osteoporosis	Median 25%	1384	1336	1152	911	643	336
Osteoporosis	Bottom 25%	1161	1100	851	645	429	228

Table S21: Cumulative incidence of outcomes across pSIN quartiles in previous smokers.

ncd_name	hazard_ratio:p_value1				ci_low1	ci_high1	event_countshazard_ratio:p_value2				ci_low2	ci_high2	event_countshazard_ratio:p_value3				ci_low3	ci_high3	event_counts3											
COPD	1.66	1.70E-78	1.58	1.75	832	1.59	7.31E-61	1.51	1.68	832	1.40	1.68E-24	1.31	1.49	832	1.65	6.60E-15	1.46	1.87	144	1.59	2.85E-12	1.40	1.79	144	1.37	1.28E-04	1.19	1.58	144
Lung cancer																														
Peripheral artery disease	1.43	3.84E-08	1.27	1.62	187	1.39	6.50E-06	1.22	1.58	187	1.22	2.05E-02	1.06	1.42	187	1.37	8.98E-35	1.30	1.43	1189	1.32	4.34E-26	1.26	1.39	1189	1.31	1.27E-19	1.24	1.38	1189
All-cause mortality	1.32	8.57E-07	1.19	1.47	264	1.31	1.71E-05	1.17	1.46	264	1.23	3.90E-03	1.09	1.39	264															
Chronic liver disease																														
Congestive cardiac failure	1.28	1.47E-08	1.18	1.38	482	1.22	2.52E-05	1.12	1.33	482	1.18	3.10E-03	1.07	1.29	482															
Inflammatory bowel disease	1.23	3.87E-02	1.04	1.47	105	1.21	9.06E-02	1.01	1.45	105	1.14	3.24E-01	0.94	1.38	105															
Chronic kidney disease	1.21	3.37E-08	1.14	1.29	774	1.16	3.79E-05	1.09	1.25	774	1.17	2.97E-04	1.08	1.26	774															
Ischemic stroke	1.18	1.80E-03	1.08	1.30	364	1.14	2.73E-02	1.03	1.26	364	1.16	2.05E-02	1.04	1.29	364															
Ulcerative colitis	1.16	1.95E-01	0.95	1.42	82	1.11	4.10E-01	0.90	1.37	82	1.04	7.53E-01	0.83	1.31	82															
All stroke	1.16	3.54E-03	1.06	1.26	432	1.12	4.77E-02	1.02	1.23	432	1.14	2.39E-02	1.03	1.26	432															
Ischemic heart disease	1.14	3.09E-09	1.09	1.18	2200	1.10	3.45E-05	1.05	1.14	2200	1.09	1.47E-03	1.04	1.13	2200															
Colorectal cancer	1.12	1.58E-01	0.97	1.30	169	1.10	3.25E-01	0.94	1.27	169	1.10	3.65E-01	0.93	1.29	169															
Asthma	1.11	1.30E-02	1.03	1.20	618	1.10	5.52E-02	1.01	1.19	618	1.12	2.58E-02	1.03	1.21	618															
Macular degeneration	1.09	1.58E-01	0.98	1.22	311	1.08	2.81E-01	0.97	1.21	311	1.11	2.25E-01	0.98	1.25	311															
All-cause dementia	1.09	1.93E-01	0.97	1.23	265	1.05	4.44E-01	0.94	1.19	265	1.06	4.96E-01	0.93	1.20	265															
Rheumatoid arthritis	1.09	1.58E-01	0.98	1.21	331	1.07	3.25E-01	0.96	1.18	331	1.06	4.12E-01	0.95	1.19	331															
Osteoarthritis	1.07	2.71E-03	1.03	1.11	2325	1.03	2.94E-01	0.99	1.07	2325	1.06	2.39E-02	1.02	1.11	2325															
Osteoporosis	1.02	7.04E-01	0.93	1.12	418	1.02	7.61E-01	0.93	1.12	418	1.01	8.63E-01	0.91	1.12	418															
Parkinson's disease	0.96	6.67E-01	0.80	1.14	130	0.94	5.71E-01	0.79	1.13	130	1.01	9.54E-01	0.83	1.22	130															
Alzheimer's disease	0.94	5.82E-01	0.78	1.13	121	0.91	4.10E-01	0.76	1.10	121	0.95	6.45E-01	0.77	1.15	121															

Table S22: Number at risk tables for previous smokers.

Outcome	PredSmoking	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Top 25%	0.00%	0.03%	0.11%	0.43%	1.18%	3.40%
Lung cancer	Median 25%	0.00%	0.00%	0.00%	0.11%	0.45%	0.99%
Lung cancer	Bottom 25%	0.00%	0.03%	0.05%	0.12%	0.28%	0.85%
COPD	Top 25%	0.05%	0.32%	0.80%	2.15%	5.54%	12.20%
COPD	Median 25%	0.02%	0.11%	0.47%	1.32%	2.68%	5.93%
COPD	Bottom 25%	0.05%	0.05%	0.20%	0.94%	2.11%	4.15%
Peripheral ai	Top 25%	0.03%	0.10%	0.24%	0.46%	1.43%	2.94%
Peripheral ai	Median 25%	0.00%	0.00%	0.05%	0.17%	0.45%	1.49%
Peripheral ai	Bottom 25%	0.03%	0.08%	0.11%	0.17%	0.36%	0.97%
All-cause mc	Top 25%	0.13%	0.34%	1.07%	2.99%	7.60%	17.74%
All-cause mc	Median 25%	0.06%	0.20%	0.61%	1.80%	4.60%	9.84%
All-cause mc	Bottom 25%	0.05%	0.21%	0.74%	1.51%	3.79%	7.69%
Congestive c	Top 25%	0.05%	0.16%	0.55%	1.24%	3.45%	7.48%
Congestive c	Median 25%	0.02%	0.04%	0.11%	0.57%	1.91%	4.19%
Congestive c	Bottom 25%	0.00%	0.03%	0.17%	0.57%	1.33%	3.17%
Chronic liver	Top 25%	0.08%	0.24%	0.68%	1.43%	2.62%	4.25%
Chronic liver	Median 25%	0.11%	0.28%	0.47%	0.83%	1.83%	2.77%
Chronic liver	Bottom 25%	0.10%	0.26%	0.49%	0.90%	1.53%	2.28%
All stroke	Top 25%	0.03%	0.03%	0.19%	0.68%	2.42%	4.85%
All stroke	Median 25%	0.09%	0.20%	0.27%	0.66%	1.57%	2.83%
All stroke	Bottom 25%	0.05%	0.19%	0.49%	0.78%	1.54%	2.97%
Ischemic str	Top 25%	0.03%	0.03%	0.16%	0.68%	2.27%	4.36%
Ischemic str	Median 25%	0.07%	0.18%	0.22%	0.51%	1.39%	2.54%
Ischemic str	Bottom 25%	0.03%	0.13%	0.44%	0.63%	1.31%	2.58%
Ischemic hea	Top 25%	0.54%	1.27%	2.61%	5.02%	10.44%	16.68%
Ischemic hea	Median 25%	0.35%	0.83%	2.29%	4.96%	8.52%	13.60%
Ischemic hea	Bottom 25%	0.36%	0.97%	1.91%	4.12%	8.43%	13.65%
Inflammatory	Top 25%	0.16%	0.54%	1.19%	2.25%	4.13%	6.31%
Inflammatory	Median 25%	0.11%	0.40%	0.90%	1.83%	3.12%	5.08%
Inflammatory	Bottom 25%	0.27%	0.70%	1.05%	1.76%	3.21%	4.41%
Chronic kidn	Top 25%	0.11%	0.11%	0.30%	1.67%	4.65%	9.39%
Chronic kidn	Median 25%	0.09%	0.18%	0.37%	1.23%	3.15%	7.69%
Chronic kidn	Bottom 25%	0.08%	0.29%	0.43%	1.18%	3.11%	5.79%
Asthma	Top 25%	0.27%	0.83%	1.54%	3.59%	6.35%	10.28%
Asthma	Median 25%	0.40%	1.08%	1.93%	3.57%	5.91%	8.84%
Asthma	Bottom 25%	0.32%	0.76%	1.39%	2.83%	4.90%	7.74%

Table S23: Cox regression results for recovery analysis among previous smokers.

Outcome	PredSmoking	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Top 25%	3838	3708	3404	2978	2266	1252
Lung cancer	Median 25%	4609	4412	4015	3487	2722	1517
Lung cancer	Bottom 25%	3840	3662	3277	2832	2215	1180
COPD	Top 25%	3736	3676	3382	2960	2286	1395
COPD	Median 25%	4487	4396	3999	3514	2826	1799
COPD	Bottom 25%	3739	3658	3288	2874	2295	1457
Peripheral ai	Top 25%	3822	3779	3516	3111	2486	1573
Peripheral ai	Median 25%	4591	4519	4125	3668	3002	1941
Peripheral ai	Bottom 25%	3827	3754	3398	2997	2438	1609
All-cause mc	Top 25%	3846	3808	3551	3151	2543	1648
All-cause mc	Median 25%	4618	4548	4162	3707	3036	2006
All-cause mc	Bottom 25%	3850	3784	3425	3020	2465	1654
Congestive c	Top 25%	3800	3756	3487	3075	2448	1534
Congestive c	Median 25%	4563	4490	4099	3632	2958	1914
Congestive c	Bottom 25%	3804	3732	3372	2968	2406	1577
Chronic liver	Top 25%	3815	3760	3486	3073	2436	1545
Chronic liver	Median 25%	4580	4484	4099	3622	2932	1897
Chronic liver	Bottom 25%	3818	3732	3369	2965	2383	1541
All stroke	Top 25%	3789	3738	3469	3057	2409	1505
All stroke	Median 25%	4548	4452	4069	3592	2905	1876
All stroke	Bottom 25%	3792	3708	3334	2933	2357	1503
Ischemic stro	Top 25%	3803	3752	3482	3068	2418	1513
Ischemic stro	Median 25%	4565	4469	4085	3609	2917	1882
Ischemic stro	Bottom 25%	3807	3723	3348	2949	2369	1516
Ischemic hea	Top 25%	3294	3225	2944	2540	1919	1170
Ischemic hea	Median 25%	3961	3859	3469	2982	2336	1424
Ischemic hea	Bottom 25%	3301	3208	2866	2463	1897	1158
Inflammatory	Top 25%	3710	3655	3388	2978	2366	1498
Inflammatory	Median 25%	4457	4373	3980	3510	2858	1848
Inflammatory	Bottom 25%	3709	3626	3280	2878	2318	1524
Chronic kidn	Top 25%	3762	3710	3438	3003	2330	1425
Chronic kidn	Median 25%	4518	4424	4035	3544	2838	1774
Chronic kidn	Bottom 25%	3766	3679	3313	2903	2305	1446
Asthma	Top 25%	3708	3646	3386	2952	2328	1454
Asthma	Median 25%	4443	4350	3964	3491	2808	1803
Asthma	Bottom 25%	3706	3630	3274	2858	2296	1478

Table S24: Cumulative incidence of recovery outcomes in previous smokers.

ncd_name	hazard_ratio:p_value1		ci_low1	ci_high1	event_count	hazard_ratio:p_value2		ci_low2	ci_high2	event_count	hazard_ratio:p_value3		ci_low3	ci_high3	event_counts3
Osteoarthritis	0.93	1.56E-01	0.84	1.03	2325	0.99	9.22E-01	0.90	1.10	2325	0.95	3.28E-01	0.85	1.05	2325
Ischemic hear	0.79	5.90E-06	0.72	0.88	2200	0.85	1.08E-03	0.76	0.94	2200	0.87	1.21E-02	0.79	0.97	2200
Asthma	0.77	5.05E-03	0.64	0.92	618	0.78	9.98E-03	0.65	0.94	618	0.76	5.91E-03	0.62	0.92	618
Ischemic strok	0.69	2.09E-03	0.55	0.87	364	0.74	1.52E-02	0.59	0.94	364	0.73	1.51E-02	0.57	0.94	364
All stroke	0.69	5.99E-04	0.55	0.85	432	0.73	5.27E-03	0.59	0.91	432	0.71	3.59E-03	0.57	0.89	432
Chronic kidney	0.68	2.25E-06	0.58	0.80	774	0.73	1.77E-04	0.62	0.86	774	0.74	6.67E-04	0.63	0.88	774
Congestive															
cardiac failure	0.55	3.12E-09	0.45	0.67	482	0.61	1.20E-06	0.50	0.75	482	0.66	9.11E-05	0.53	0.81	482
Chronic liver c	0.55	9.19E-06	0.42	0.72	264	0.58	4.94E-05	0.44	0.75	264	0.66	3.66E-03	0.50	0.87	264
Peripheral arte															
disease	0.54	1.01E-04	0.39	0.74	187	0.59	1.20E-03	0.43	0.81	187	0.79	1.82E-01	0.57	1.11	187
All-cause mor	0.52	9.69E-26	0.46	0.59	1189	0.56	4.53E-20	0.49	0.63	1189	0.59	7.24E-15	0.52	0.68	1189
Lung cancer	0.37	6.85E-09	0.27	0.52	144	0.40	9.91E-08	0.28	0.56	144	0.58	3.08E-03	0.40	0.83	144
COPD	0.33	3.32E-55	0.29	0.38	832	0.37	2.19E-44	0.32	0.42	832	0.49	4.18E-21	0.42	0.57	832

Table S25: Number at risk tables for recovery analysis.

Outcome	Smoking stat	pSIN quartile	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Current	Current	0.04%	0.35%	0.74%	1.81%	4.65%	9.98%
Lung cancer	Previous	High risk (Prev	0.00%	0.04%	0.17%	0.45%	1.34%	4.20%
Lung cancer	Previous	Low risk (Prev	0.00%	0.01%	0.02%	0.14%	0.48%	1.27%
Lung cancer	Never	Never	0.00%	0.01%	0.03%	0.08%	0.15%	0.42%
COPD	Current	Current	0.54%	1.44%	3.27%	7.57%	15.93%	24.41%
COPD	Previous	High risk (Prev	0.00%	0.38%	1.05%	2.89%	6.96%	14.23%
COPD	Previous	Low risk (Prev	0.04%	0.09%	0.33%	1.12%	2.73%	5.62%
COPD	Never	Never	0.06%	0.12%	0.27%	0.62%	1.33%	2.30%
Peripheral ai	Current	Current	0.09%	0.26%	0.48%	1.16%	2.88%	6.40%
Peripheral ai	Previous	High risk (Prev	0.04%	0.08%	0.24%	0.48%	1.51%	3.15%
Peripheral ai	Previous	Low risk (Prev	0.01%	0.06%	0.09%	0.21%	0.56%	1.51%
Peripheral ai	Never	Never	0.01%	0.03%	0.08%	0.20%	0.39%	0.74%
All-cause mc	Current	Current	0.21%	1.08%	2.79%	6.32%	13.59%	24.63%
All-cause mc	Previous	High risk (Prev	0.12%	0.43%	1.12%	3.37%	8.60%	19.41%
All-cause mc	Previous	Low risk (Prev	0.05%	0.18%	0.63%	1.65%	4.37%	9.97%
All-cause mc	Never	Never	0.08%	0.33%	0.84%	1.87%	3.98%	8.11%
Congestive c	Current	Current	0.13%	0.26%	0.87%	2.18%	4.95%	10.00%
Congestive c	Previous	High risk (Prev	0.04%	0.20%	0.58%	1.44%	3.91%	8.69%
Congestive c	Previous	Low risk (Prev	0.02%	0.05%	0.19%	0.63%	1.79%	3.99%
Congestive c	Never	Never	0.03%	0.10%	0.28%	0.72%	1.59%	3.23%
Chronic liver	Current	Current	0.26%	0.80%	1.50%	2.38%	3.68%	5.10%
Chronic liver	Previous	High risk (Prev	0.12%	0.31%	0.85%	1.61%	3.10%	4.51%
Chronic liver	Previous	Low risk (Prev	0.09%	0.24%	0.43%	0.86%	1.73%	2.67%
Chronic liver	Never	Never	0.08%	0.22%	0.52%	0.98%	1.46%	2.24%
All stroke	Current	Current	0.17%	0.41%	1.13%	2.78%	4.96%	8.19%
All stroke	Previous	High risk (Prev	0.00%	0.00%	0.25%	0.80%	2.42%	4.91%
All stroke	Previous	Low risk (Prev	0.07%	0.19%	0.35%	0.72%	1.70%	3.19%
All stroke	Never	Never	0.06%	0.17%	0.36%	0.79%	1.57%	3.11%
Ischemic stro	Current	Current	0.17%	0.32%	0.82%	2.18%	4.11%	6.91%
Ischemic stro	Previous	High risk (Prev	0.00%	0.00%	0.17%	0.76%	2.26%	4.16%
Ischemic stro	Previous	Low risk (Prev	0.05%	0.14%	0.31%	0.61%	1.51%	2.90%
Ischemic stro	Never	Never	0.06%	0.15%	0.29%	0.65%	1.33%	2.66%
Ischemic hea	Current	Current	0.98%	2.71%	5.14%	9.38%	16.32%	24.15%
Ischemic hea	Previous	High risk (Prev	0.48%	1.24%	2.55%	5.07%	10.72%	16.94%
Ischemic hea	Previous	Low risk (Prev	0.40%	0.98%	2.12%	4.40%	8.70%	14.20%
Ischemic hea	Never	Never	0.50%	1.30%	2.66%	4.84%	8.46%	13.10%
Chronic kidn	Current	Current	0.26%	0.76%	1.27%	2.51%	5.39%	10.71%
Chronic kidn	Previous	High risk (Prev	0.16%	0.16%	0.41%	1.81%	5.05%	9.95%
Chronic kidn	Previous	Low risk (Prev	0.06%	0.19%	0.38%	1.20%	3.17%	6.92%
Chronic kidn	Never	Never	0.09%	0.31%	0.73%	1.60%	3.30%	6.37%
Asthma	Current	Current	0.59%	1.55%	2.98%	4.65%	7.31%	9.51%
Asthma	Previous	High risk (Prev	0.28%	1.06%	1.70%	3.78%	6.65%	10.85%
Asthma	Previous	Low risk (Prev	0.38%	0.90%	1.67%	3.30%	5.60%	8.60%
Asthma	Never	Never	0.55%	1.24%	2.21%	3.74%	6.12%	8.90%
Osteoarthritis	Current	Current	0.79%	2.33%	4.55%	8.71%	13.37%	20.92%
Osteoarthritis	Previous	High risk (Prev	0.27%	0.86%	3.13%	6.74%	12.53%	21.94%
Osteoarthritis	Previous	Low risk (Prev	0.38%	1.35%	2.87%	6.23%	11.93%	19.54%
Osteoarthritis	Never	Never	0.57%	1.70%	3.46%	6.95%	11.85%	18.77%

Table S26: Cox regression results for low-risk current smoker subgroup.

Outcome	Smoking stat	pSIN quartile	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Current	All	4713	4308	3513	2661	1691	768
Lung cancer	Previous	High risk	2562	2465	2270	1987	1504	827
Lung cancer	Previous	Low risk	12799	12269	11124	9667	7543	4176
Lung cancer	Never	All	23731	22106	18772	15179	11058	5714
COPD	Current	All	4448	4233	3443	2600	1637	824
COPD	Previous	High risk	2374	2330	2143	1850	1420	857
COPD	Previous	Low risk	12578	12336	11234	9860	7876	5028
COPD	Never	All	23584	22902	19691	16152	12106	7415
Peripheral ai	Current	All	4670	4523	3747	2909	1956	1033
Peripheral ai	Previous	High risk	2536	2506	2333	2049	1632	1027
Peripheral ai	Previous	Low risk	12765	12563	11502	10194	8316	5464
Peripheral ai	Never	All	23732	23204	20020	16526	12528	7815
All-cause mc	Current	All	4722	4587	3821	2974	2037	1102
All-cause mc	Previous	High risk	2573	2546	2376	2093	1685	1079
All-cause mc	Previous	Low risk	12822	12637	11581	10276	8423	5637
All-cause mc	Never	All	23760	23266	20138	16650	12659	7965
Congestive c	Current	All	4673	4529	3746	2901	1941	1020
Congestive c	Previous	High risk	2519	2487	2310	2020	1601	991
Congestive c	Previous	Low risk	12691	12492	11428	10106	8206	5381
Congestive c	Never	All	23619	23083	19884	16379	12370	7644
Chronic liver	Current	All	4658	4452	3684	2877	1941	1030
Chronic liver	Previous	High risk	2549	2509	2326	2040	1609	1016
Chronic liver	Previous	Low risk	12719	12465	11395	10056	8116	5282
Chronic liver	Never	All	23633	22941	19702	16193	12201	7499
All stroke	Current	All	4642	4447	3660	2822	1887	982
All stroke	Previous	High risk	2520	2484	2307	2020	1590	989
All stroke	Previous	Low risk	12641	12390	11310	9976	8038	5181
All stroke	Never	All	23530	22840	19631	16118	12098	7360
Ischemic stro	Current	All	4667	4474	3692	2851	1906	992
Ischemic stro	Previous	High risk	2533	2497	2320	2031	1599	997
Ischemic stro	Previous	Low risk	12685	12435	11351	10020	8070	5204
Ischemic stro	Never	All	23576	22887	19678	16163	12136	7391
Ischemic hea	Current	All	4119	3898	3160	2372	1514	748
Ischemic hea	Previous	High risk	2094	2046	1873	1599	1206	734
Ischemic hea	Previous	Low risk	11100	10822	9753	8411	6518	3988
Ischemic hea	Never	All	21464	20696	17496	14062	10229	6000
Chronic kidn	Current	All	4644	4440	3667	2832	1882	953
Chronic kidn	Previous	High risk	2502	2465	2286	1983	1526	925
Chronic kidn	Previous	Low risk	12556	12304	11222	9856	7856	4940
Chronic kidn	Never	All	23345	22634	19402	15841	11781	7052
Asthma	Current	All	4523	4346	3587	2779	1881	1016
Asthma	Previous	High risk	2454	2406	2238	1940	1524	940
Asthma	Previous	Low risk	12365	12129	11074	9715	7817	5066
Asthma	Never	All	22921	22283	19161	15690	11717	7175
Osteoarthritis	Current	All	4242	4003	3230	2410	1551	769
Osteoarthritis	Previous	High risk	2206	2158	1949	1641	1210	686
Osteoarthritis	Previous	Low risk	11172	10841	9712	8255	6289	3739
Osteoarthritis	Never	All	21066	20196	16938	13350	9492	5407

Table S27: Cumulative incidence of resilience outcomes in current smokers.

ncd_name	hazard_ratio:p_value1			ci_low1	ci_high1	event_count	hazard_ratio:p_value2			ci_low2	ci_high2	event_count	hazard_ratio:p_value3			ci_low3	ci_high3	event_counts3
Peripheral arte																		
disease	0.07	2.75E-04		0.02	0.30	119	0.10	1.54E-03		0.03	0.42	119	0.13	4.31E-03		0.03	0.53	119
Lung cancer	0.09	4.09E-05		0.03	0.29	151	0.12	3.79E-04		0.04	0.39	151	0.15	1.07E-03		0.05	0.46	151
COPD	0.15	4.28E-18		0.09	0.23	624	0.20	1.17E-12		0.13	0.32	624	0.25	7.35E-10		0.16	0.39	624
Osteoporosis	0.31	9.18E-05		0.17	0.56	183	0.36	7.06E-04		0.20	0.65	183	0.37	1.10E-03		0.20	0.67	183
All-cause mor	0.35	6.30E-11		0.26	0.48	577	0.43	2.12E-07		0.31	0.59	577	0.53	1.01E-04		0.38	0.73	577
Ischemic hear	0.51	1.32E-09		0.41	0.63	855	0.58	2.08E-06		0.46	0.73	855	0.64	1.33E-04		0.51	0.81	855

Table S28: Number at risk tables for resilience analysis.

Outcome	Smoking stat	pSIN quartile	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Current	Current	0.04%	0.35%	0.74%	1.81%	4.65%	9.99%
Lung cancer	Current	High risk (Cur	0.05%	0.41%	0.87%	2.07%	5.36%	11.34%
Lung cancer	Current	Low risk (Curr	0.00%	0.00%	0.00%	0.25%	0.25%	1.35%
Lung cancer	Never	Never	0.00%	0.01%	0.03%	0.08%	0.15%	0.42%
COPD	Current	Current	0.54%	1.44%	3.27%	7.57%	15.93%	24.41%
COPD	Current	High risk (Cur	0.61%	1.62%	3.72%	8.70%	18.28%	27.81%
COPD	Current	Low risk (Curr	0.14%	0.55%	0.87%	1.30%	2.45%	4.56%
COPD	Never	Never	0.06%	0.12%	0.27%	0.62%	1.33%	2.30%
Peripheral ai	Current	Current	0.09%	0.26%	0.48%	1.16%	2.88%	6.40%
Peripheral ai	Current	High risk (Cur	0.10%	0.31%	0.54%	1.33%	3.29%	7.41%
Peripheral ai	Current	Low risk (Curr	0.00%	0.00%	0.17%	0.17%	0.46%	0.46%
Peripheral ai	Never	Never	0.01%	0.03%	0.08%	0.20%	0.39%	0.74%
All-cause mc	Current	Current	0.21%	1.08%	2.79%	6.32%	13.59%	24.63%
All-cause mc	Current	High risk (Cur	0.25%	1.23%	3.06%	6.83%	14.74%	26.64%
All-cause mc	Current	Low risk (Curr	0.00%	0.27%	1.24%	3.31%	6.38%	11.50%
All-cause mc	Never	Never	0.08%	0.33%	0.84%	1.87%	3.98%	8.11%
Ischemic hea	Current	Current	0.98%	2.71%	5.14%	9.38%	16.32%	24.15%
Ischemic hea	Current	High risk (Cur	0.98%	2.92%	5.52%	10.09%	17.87%	25.91%
Ischemic hea	Current	Low risk (Curr	1.03%	1.63%	3.12%	5.47%	7.36%	13.92%
Ischemic hea	Never	Never	0.50%	1.30%	2.66%	4.84%	8.46%	13.10%
Osteoporosis	Current	Current	0.09%	0.37%	0.80%	2.20%	4.00%	6.82%
Osteoporosis	Current	High risk (Cur	0.10%	0.39%	0.89%	2.36%	4.35%	7.54%
Osteoporosis	Current	Low risk (Curr	0.00%	0.28%	0.28%	1.30%	1.95%	2.60%
Osteoporosis	Never	Never	0.11%	0.31%	0.67%	1.29%	2.66%	4.71%

Table S29: Previously identified smoking-associated protein markers.

Outcome	Smoking status	pSIN quartile	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75
Lung cancer	Current	All	4713	4308	3514	2662	1692	770
Lung cancer	Current	High risk	3976	3667	3019	2295	1446	662
Lung cancer	Current	Low risk	737	642	496	368	247	109
Lung cancer	Never	All	23730	22106	18769	15184	11062	5716
COPD	Current	All	4448	4233	3443	2600	1637	824
COPD	Current	High risk	3715	3544	2911	2193	1357	685
COPD	Current	Low risk	734	689	532	407	281	140
COPD	Never	All	23584	22902	19691	16152	12106	7415
Peripheral artery disease	Current	All	4670	4523	3747	2909	1956	1033
Peripheral artery disease	Current	High risk	3933	3814	3202	2494	1667	882
Peripheral artery disease	Current	Low risk	737	709	545	415	290	152
Peripheral artery disease	Never	All	23732	23204	20020	16526	12528	7815
All-cause mortality	Current	All	4722	4587	3821	2974	2037	1102
All-cause mortality	Current	High risk	3985	3876	3274	2556	1744	947
All-cause mortality	Current	Low risk	737	711	548	418	294	155
All-cause mortality	Never	All	23760	23266	20138	16650	12659	7965
Ischemic heart disease	Current	All	4119	3898	3160	2372	1514	748
Ischemic heart disease	Current	High risk	3445	3266	2679	2011	1271	633
Ischemic heart disease	Current	Low risk	675	632	481	361	244	116
Ischemic heart disease	Never	All	21464	20696	17496	14062	10229	6000
Osteoporosis	Current	All	4634	4439	3657	2816	1881	975
Osteoporosis	Current	High risk	3901	3750	3125	2412	1602	834
Osteoporosis	Current	Low risk	733	689	532	404	280	142
Osteoporosis	Never	All	23305	22588	19360	15831	11779	7132

Table S30: Definitions of diseases and ICD codes used in the study.

Protein list	Transcriptome study	Genome study	Epigenome study	Other evidences	Novel
DKK4					1
CSPG4				PMC5577392	
CST5				PMC3265743	
CXCL17				PMC5797131	
EDIL3		TRUE			
DPP6				PMC9771818	
EBI3_IL27				doi: 10.1002/eji.202049076	
CLEC10A	TRUE		TRUE		
CEACAM5				DOI: 10.1126/sciadv.aaw3413	
CELSR2					1
HEPH					1
IL12B				PMC5725480	
ICAM5			TRUE		
IGFBP4	TRUE				
TINAGL1			TRUE		
TFF2				DOI:10.1165/rcmb.2021-0373TR	
TNFSF12	TRUE		TRUE		
TNR					1
ADGRE2					1
ACVRL1			TRUE		
ACRV1					1
TSPAN1	TRUE	TRUE			
CA4					1
BPIFB1				DOI: 10.1152/ajplung.00082.2015	
CD207					1
CD1C			TRUE		
CD101					1
ALDH3A1				PMC3941192	
SLITRK1					1
ALPP			TRUE		
MMP12				PMC2200652	
MIA					1
MSMB					1
NCAM1	TRUE	TRUE	TRUE		
SELPLG			TRUE		
SCGB1A1				PMC8472904	
SCGB3A2					1
SCGB3A1			TRUE		
MERTK				PMC2586050	
PRL				10.3109/01485018908986788	
PZP			TRUE		
PDCD1		TRUE	TRUE		
PCDH17	TRUE				
PDGFRA			TRUE		
OPTC			TRUE		
PIGR				10.1021/pr2006395	
KIT	TRUE		TRUE		
LAMP3					1
KLK13					1
IL7R	TRUE				
ISLR2			TRUE		
Total number of novel genes					15

Chronic diseases	Baseline measures (field ID)	Baseline verbal interview diagnosis codes	ICD-10 codes	ICD-9 codes
Lung cancer	-	-	C33,C34	162
Colorectal cancer	-	-	C18-C20	153,154
Pancreatic cancer	-	-	C25	157
Kidney cancer	-	-	C64	189
Bladder cancer	-	-	C67	188
Head and neck cancer	-	-	C00-C14,C30-C32	140,141,143-149,161
Oesophageal cancer	-	-	C15	150
Liver cancer	-	-	C22	155
Stomach cancer	-	-	C16	151,152
Ischemic heart disease	-	1074, 1075	I20-I25	410-414
Cerebrovascular diseases	-	1081, 1086, 1491, 1583	I60-I69	430-438
Emphysema, COPD	-	1112, 1472	J43-J44	492
Peripheral artery disease		1087	I702,I739	443,944,094,402
Inflammatory bowel disease		337	K50-K52	555,556,558
Congestive cardiac failure		1,039	I500,I501,I509	428,042,814,289
Asthma		1111	J45	493
Chronic liver diseases	-	1157, 1158, 1604	K70, K73-K74, K75.8, K76.0	571
Chronic kidney diseases	-	1192, 1193, 1194	N18	585
All-cause dementia	-	1263	A81.0, F00-F03, F05.1, F10.6, G30-G31, I67.3	331.0, 290.4, 331.1, 290.2, 290.3, 291.2, 294.1, 331.2, 331.5

Alzheimer's disease	-	1263	F00, G30	331
Parkinson's disease and parkinsonism	-	1262	G20-G22	332
Rheumatoid arthritis	-	1464	M05-M06	714
Macular degeneration	-	1528	H35.3	362.5
Osteoporosis	-	1309	M80-M81	733
Osteoarthritis	-	1465	M15-M19	715
Clinical risk factors	Baseline measures (field ID)	Baseline verbal interview diagnosis codes	ICD-10 codes	ICD-9 codes
Prevalent hypertension	High blood pressure diagnosis by physician (6150) Taking medication for high blood pressure (6153, 6177)	1065, 1072	I10-I15	401-405
Type 2 diabetes	Taking insulin medication (6153, 6177) Non-fasting blood hbA1c ≥ 48 mmol/mol (30750) Non-fasting blood glucose ≥ 11.1 mmol/L (30740)	1223	E11	250