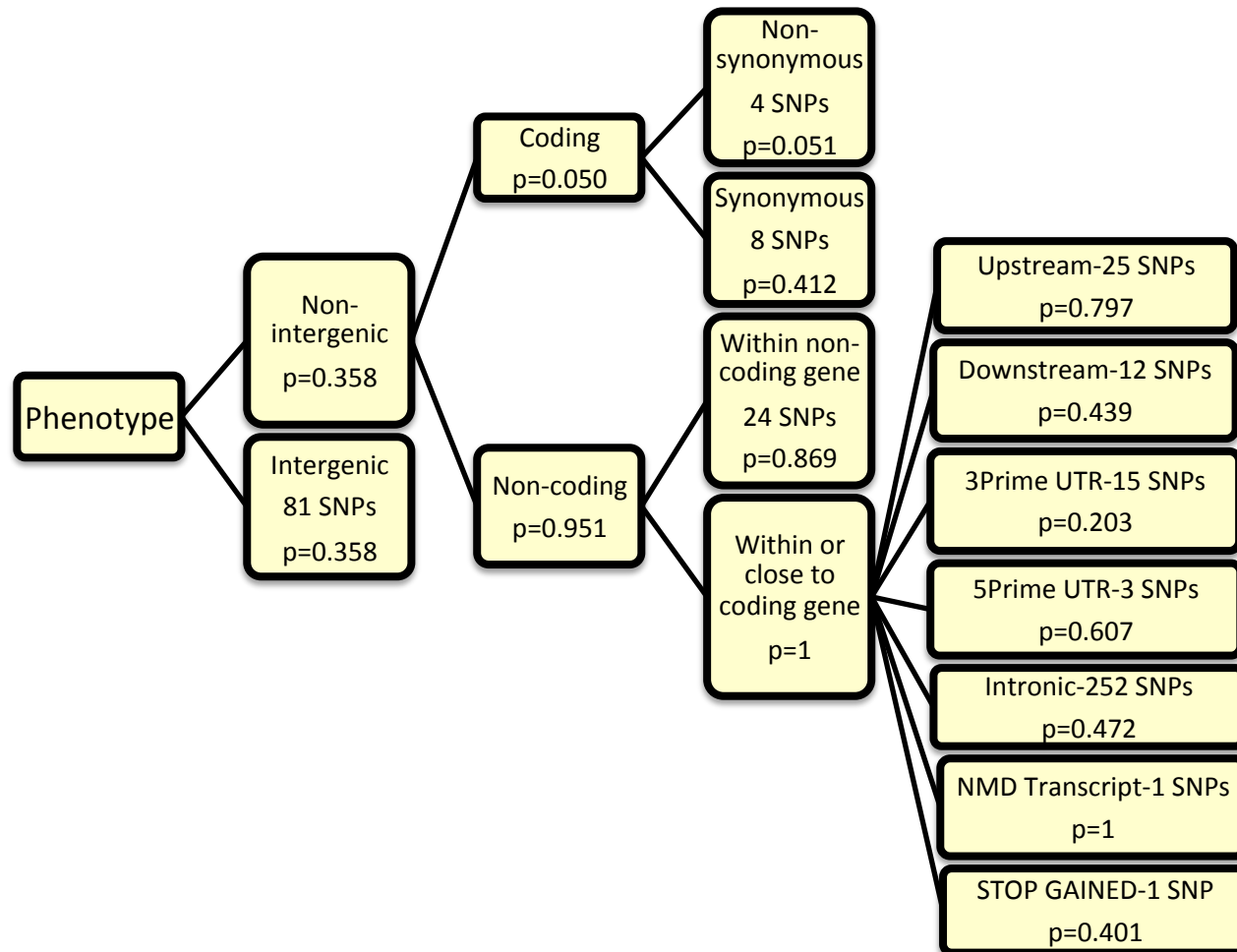
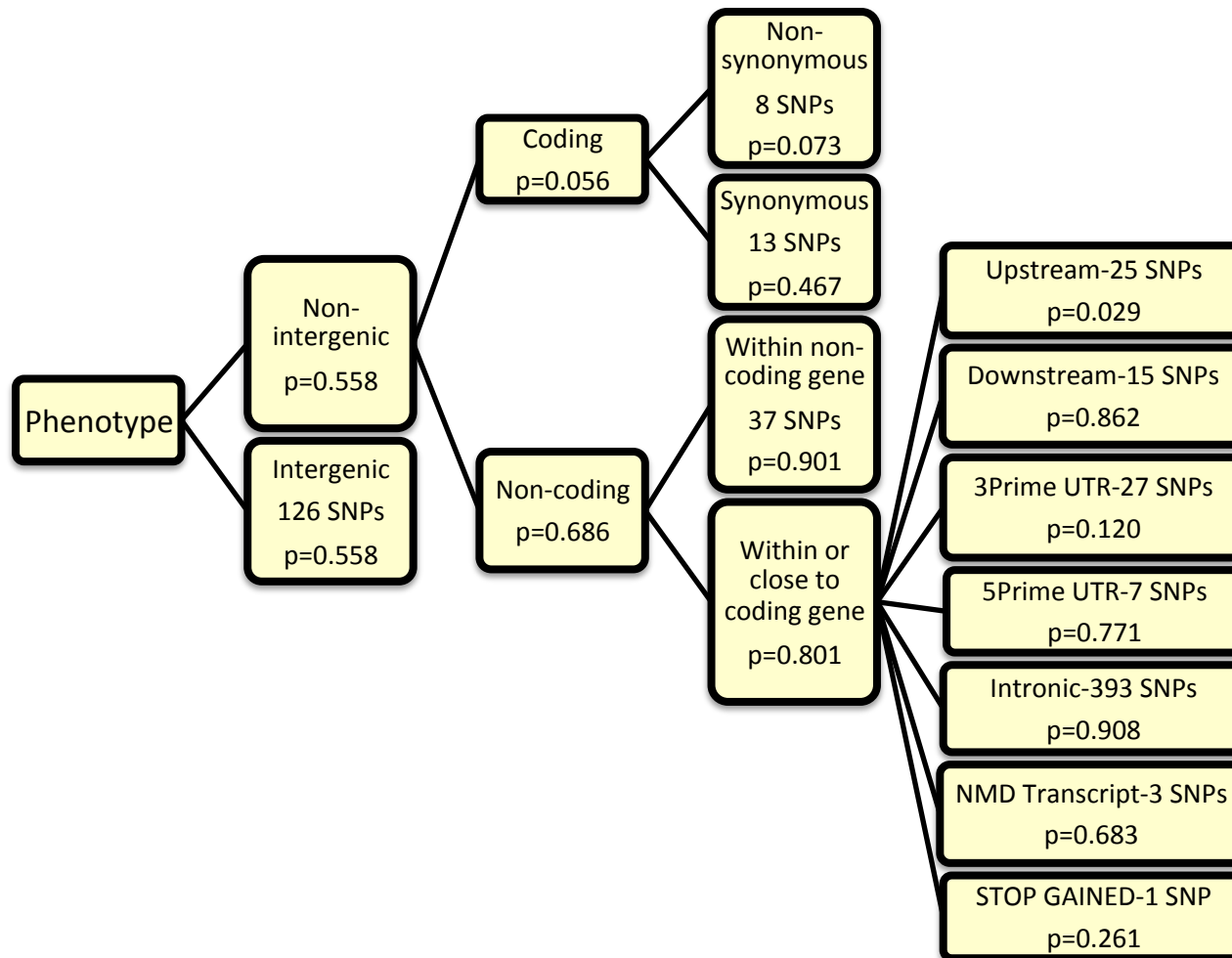


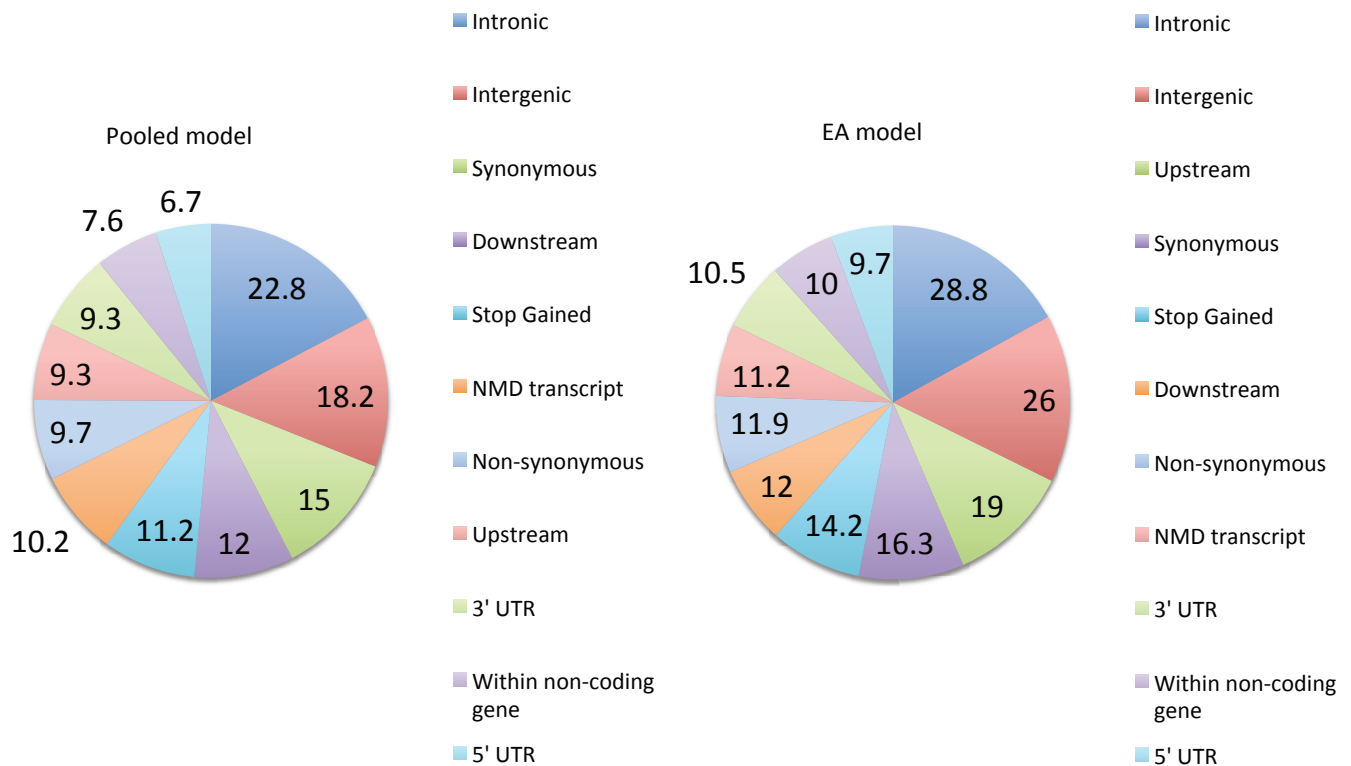
Supplementary Figure 2. A sub-network taken from the original network in Supplementary Figure 1. The figure shows the within-gene and between-gene SNP-SNP interactions in several previously reported genes as being associated with nicotine dependence. Each gene is a “box” with the SNPs shown inside. SNPs that are physically located in an intergenic region close to these genes (<25kbp) are shown by nodes close to the “gene-box”. Most identified interactions are across SNPs inside genes, and then across genes on the same chromosome, e.g. CHRNB1 and ZBTB4, both located at 17p13.1, CHRNB4, CHRNA3, CHRNA5, PSMA4, AGPHD1 and IREB2 all located at 15q24-25.1, CHRNA1 located at 2q31.1, and CHRNB3 and CHRNA6 located at 8p11.21.

Supplementary Figure 3. (a) An ontological representation of SNPs in the pooled model. The number of SNPs in each category is presented only for leaves. The p-value of enrichment analysis is shown in each category.



Supplementary Figure 3. (b) An ontological representation of SNPs in the EA model. The number of SNPs in each category is presented only for leaves. The p-value of enrichment analysis is shown in each category.





Supplementary Figure 4. Contribution of each functional type of SNPs considered in the models to predicting nicotine dependence susceptibility. Gender for the EA samples and both ethnicity and gender for the pooled samples are considered in the models constructed by each SNP type. The results indicate that intronic and intergenic SNPs have the strongest effects on modulating the risk of nicotine dependence in both EA and pooled scenarios. The numbers in the figures are computed as the AUROC evaluated on independent individuals (213 and 205 individuals for the pooled and EA models, respectively) minus 0.5 (that corresponds to random assignments).

Supplementary Notes:

Supplementary Note 1

The most common reasons smokers give for smoking are relaxation and enjoyment, yet nicotine dependence is the primary reason that many quit attempts fail within a week¹. Nicotine acts in the midbrain, prompting a person to smoke when faced with stimuli associated with smoking². It is generally known that nicotine acts on dopaminergic neurons in the ventral tegmental area (VTA), where they are linked to nucleus accumbens³. The effect of nicotine increases the level of dopamine in the shell of nucleus accumbens; however, after chronic use and a low level of nicotine, an abnormally low level of dopamine is observed and this produces 'nicotine hunger' when a smoker abstains from tobacco⁴. This fact and avoidance from other withdrawal symptoms of smoking cessation or reduction bring the powerful reinforcing effect of nicotine.

Supplementary Note 2

Figure S.1 presents a simple Bayesian network where variables A, B and C are probabilistically related to the variable P, and the variable C is related to both B and P. Based on the direction of the arrows, we call P the parent of A, B and C, and B the parent of C. In Bayesian network framework, the association of two variables is presented by their joint distribution. The joint distribution can be decomposed using the structure of the graph. For example, in order to fully characterize the joint distribution of two nodes, P and A, one only needs the marginal distribution of the parent, P, and the conditional distribution of the child, A, given P. This property allows compact factorization of complex distribution over a high-dimensional space, which, in turn, yields great advantage in "learning" and inference.

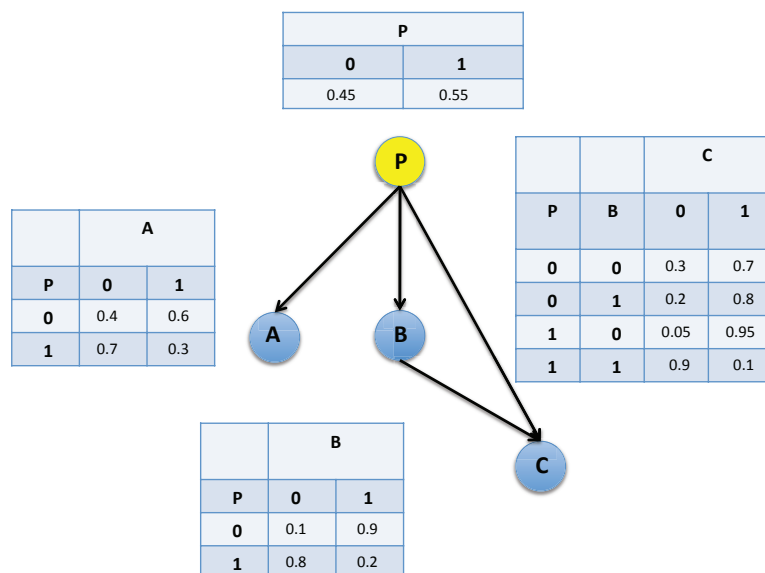


Figure S.1. A Bayesian network example. Representation of the full joint distribution of variables, A, B, C and P requires $2^4 - 1 = 15$ parameters. Assuming the above graphical representation induces the actual parameterization of the joint distribution, then we need only 9 parameters. We have one binomial distribution for P with one independent parameter, two binomial distributions for distribution of A given P, each with one independent parameter, two binomial distributions for distribution of B given P, each with one independent parameter, and 4 binomial distributions for distribution C given P and B, each with one independent parameter.

Supplementary Note 3

A non-synonymous CHRNA5 SNP (rs1699968) has the first and second ranks in the list of the association for the AA+EA and the EA models, respectively (Supplementary Table 1 and 2). This SNP has been associated with nicotine dependence and lung cancer⁵. Furthermore, this SNP had the fifth strongest association with nicotine dependence as reported in Saccone et al.⁶. This SNP appears to have functional consequences. It leads to a substitution of an amino acid at codon 398 (D398N)⁵, which affects nAChR trafficking^{7,8}. The significance of this SNP to nicotine dependence has been identified to be of such importance that Saccone et al.⁹ commented: “further work to definitively identify a causal variant from among all SNPs correlated with rs16969968 will be important”.

Five SNPs, rs16969968 and rs17486278 in CHRNA5, rs2036527 6247bp upstream of CHRNA5, rs1051730 in CHRNA3, and rs17487223 from CHRNB4 are thought to form one group of correlated genetic variants associated with nicotine dependence⁸. In another study¹⁰, the variant rs1051730 was indicated to have the strongest association to nicotine

dependence; furthermore, its association to lung cancer and peripheral arterial disease was established. In our list of associations, these five SNPs have ranks of first, third (1.51×10^{-7}), second ($p = 9.08 \times 10^{-8}$), fifth ($p = 2.61 \times 10^{-7}$), sixth ($p = 8.04 \times 10^{-7}$), respectively in AA+EA network, and, second, sixth ($p = 4.96 \times 10^{-6}$), third ($p = 2.17 \times 10^{-6}$), fourth ($p = 3.40 \times 10^{-6}$), and seventh ($p = 8.95 \times 10^{-6}$) in EA network. Furthermore, the strong association of rs578776 with nicotine dependence, a SNP in 3'-UTR of CHRNA3 and one of the two main findings highlighted in ref.⁸, is replicated in our results, with a rank of 12 in the AA+EA ($p = 3.02 \times 10^{-6}$) model association list, and a rank of one in the EA model association list ($p = 4.84 \times 10^{-7}$). This SNP, rs578776, was also associated with an increase in cigarettes per day for ever-smoker cases¹¹.

In prior studies association of SNPs in cluster of CHRNA5-CHRNA3-CHRNA4 to nicotine dependence^{6,10,12} and lung cancer^{7,13} has been implicated. Association of SNPs in IREB2, PSMA4 and AGPHD1 that we have found, can be seen as a verification of a claim made by Liu et al.¹⁴ on the involvement of all the genes, CHRNA5, CHRNA3, CHRNA4, IREB2, PSMA4 and AGPHD1, in nicotine dependence.

A non-synonymous CHRNA5 SNP rs1699968 has the first ($p = 6.95 \times 10^{-8}$) and second ($p = 1.83 \times 10^{-6}$) ranks in the list of the association for the pooled model and the EA model, respectively (Supplementary Table 1 and 2). This SNP has been investigated and confirmed for having association with nicotine dependence and lung cancer⁵ and was reported to have the strongest association with lung cancer in smokers¹⁵. Furthermore, this SNP had the fifth strongest association with nicotine dependence as reported in ref.⁶. This SNP has been highlighted in other reports through its functionality by the substitution it induces on an amino acid of CHRNA5 at codon 398 (D398N)⁵ and its role in nAChR trafficking^{7,8}. The significance of this SNP to nicotine dependence has been identified to be of such importance in ref.⁹ that they commented: "further work to definitively identify a causal variant from among all SNPs correlated with rs16969968 will be important". There is another study, however, that the association of this variant to nicotine dependence was reported to have not reached statistical significance¹³.

The variants rs1317286 and rs8040868 are observed to be strongly associated with nicotine dependence in an African-American data set as well as pooled sample of African-American and European Americans⁷. In our study, these SNPs are ranked 13th ($p = 3.26 \times$

10^{-6}) and 60th ($p=0.0004$) in the pooled model and 8th ($p=1.09 \times 10^{-5}$) and 80th ($p=0.0004$) in EA network. Seven SNPs from CHRNA5, CHRNA3, CHRNA4, rs684513, rs637137, rs16969968, rs578776, rs1051730, rs3743078, rs3813567, have been confirmed for association with nicotine dependence in ref.¹⁶. These SNPs have ranks 95 ($p=0.0011$), 17 ($p=0.0011$), 1 ($p=6.95 \times 10^{-8}$), 12 ($p=3.02 \times 10^{-6}$), 5 ($p=2.61 \times 10^{-7}$), 71 ($p=0.0005$), 106 (0.0013) in the pooled network and 45 ($p=7.21 \times 10^{-5}$), 9 ($p=1.13 \times 10^{-5}$), 2 ($p=1.83 \times 10^{-6}$), 1 ($p=4.84 \times 10^{-7}$), 4 ($p=3.40 \times 10^{-6}$), 32 ($p=3.91 \times 10^{-5}$) and 79 ($p=0.0004$) in the EA network.

While almost all the aforementioned studies are on the susceptibility variants in chromosome 15q24-25.1, the mechanism underlying nicotine dependence is far more complex than the associations discovered only in this region. Even considering only the nicotine acetylcholine receptors (nAChRs), which are primarily responsible for releasing dopamine through activation by nicotine, different regions are highlighted across five chromosomes, 1, 4, 8, 11, and 15, showing the possibility that causal variants are widely spread across the genome not only through these regions per se, but also through their neighboring regions or in general the interacting patterns they are involved in. This fact is apparent in Figure 2, in which the p-value for each association considered in our list is depicted across the genome.

There are many genes tagged in our models (Figures 1 and 2 and Supplementary Tables 1 and 2) that were highlighted in the literature for being associated with nicotine dependence. To name just a few, consider CHRNA4 located at 20q13.33, nicotine acetylcholine receptor subunit^{17,18}; CHRNA6 at 8p11.21 (only in the EA model), nicotine acetylcholine receptor subunit¹⁹; CTNNA3 at 10q21.3, alpha catenin gene-Wnt Signaling Inhibitor¹²; OPRM1 at 6q25.2, μ -opioid receptor gene^{6,20}; CSMD1 at 8p23.2, CUB and Sushi multiple domains¹²¹; ZBTB4 at 17p13.1, *a transcriptional repressor gene*²²; and FTO at 16q12.2, fat mass and obesity associated protein¹².

Supplementary Note 4

As expected, race plays an important role when inferring a predictive model from the pooled sample data set (see Figure 1). This is not only because many genes and SNPs (mostly out of chromosome 15q24-25.1) have ethnicity as one of the parents, but also

because removing ethnicity node from the pooled model diminishes the accuracy by 5%. This is due to different frequency of these SNPs across the two ethnic groups considered here. The effects of these differences on predicting the risk of nicotine dependence manifest themselves in the conditional probabilities induced over these SNPs by phenotype and ethnicity. This means that the influence of each node in the network on predicting the phenotype is different across the two ethnic groups if it has the node “ETHNIC” as one parent. ETHNIC, in turn, has gene WWOX as one parent beside phenotype (Figure 2 and Supplementary Table 1). This gene has been identified as one of the genes located on human accelerated regions (HAR6) that show a significant role in human evolution²³.

Supplementary Note 5

There are many more interactions in both models that can be traced by referring to Figure 1 and 2 and Supplementary Table 1 and 2 where the parents and their children are listed. For instance, five SNPs rs16969968, rs2036527, rs17486278, rs1051730 and rs17487223, previously reported to form a correlated group of SNPs using LD analysis⁸, are easily traced in Figure 3a and Supplementary Figure 2. Our models suggest the possibility of involvement of rs951266 in this correlated group of SNPs as this SNP is directly connected to rs16969968 in both models and several interactions with rs16969968 are mediated through it. It is interesting to notice the important role of ethnicity through interaction with many SNPs in the pooled model (see Supplementary Note 4). An interesting gene-gene pattern of interaction that is worth highlighting is the pattern among genes in 15q24-25.1 that, as mentioned before, is significantly enriched with causal variants. Tracing the SNP-SNP interaction among genes in this region for the pooled model reveals the following pattern of statistical dependencies: CHRNA4 \Leftrightarrow CHRNA3 \Leftrightarrow CHRNA5 \Leftrightarrow PSMA4 \Leftrightarrow AGPHD1 \Leftrightarrow IREB2 \Leftrightarrow CHRNA5 \Leftrightarrow AGPHD1. This pattern is depicted in Figure 3b. Interestingly, this gene-gene pattern persists for the EA model in Supplementary Figure 2, albeit partially through different SNP-SNP interactions.

Supplementary Note 6

We analyzed the role played by different functional categories of SNPs (intronic, intergenic, synonymous, nonsynonymous, upstream, downstream, 3' UTR, 5' UTR, stop gained, NMD transcript, and within non-coding genes) within the models constructed. A demonstrative

view of the predictive power of different types of SNPs combined with the available clinical variables (gender and ethnicity), is presented in Supplementary Figure 4. Although in this Figure, intronic and intergenic SNPs possess the two largest contributions to prediction of nicotine dependence, but using a similar approach as in section D only synonymous ($p < 0.032$) and intergenic SNPs ($p < 0.022$) have significant predictive power.

REFERENCES

1. Swan, G.E. *et al.* A genome-wide screen for nicotine dependence susceptibility loci. *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics* **141B**, 354-60 (2006).
2. Collective Expert Report. Tobacco: Understand dependence in order to act. (INSERM, 2004).
3. Foulds, J. The neurobiological basis for partial agonist treatment of nicotine dependence: varenicline. *International journal of clinical practice* **60**, 571-6 (2006).
4. West, R. The multiple facets of cigarette addiction and what they mean for encouraging and helping smokers to stop. *Chronic Obstructive Pulmonary Disease* **6**, 277-283 (2009).
5. Wang, J.C. *et al.* Risk for nicotine dependence and lung cancer is conferred by mRNA expression levels and amino acid change in CHRNA5. *Human Molecular Genetics* **18**, 3125-3135 (2009).
6. Saccone, S.F. *et al.* Cholinergic nicotinic receptor genes implicated in a nicotine dependence association study targeting 348 candidate genes with 3713 SNPs. *Human molecular genetics* **16**, 36-49 (2007).
7. Li, M.D. *et al.* Association and interaction analysis of variants in CHRNA5/CHRNA3/CHRNA4 gene cluster with nicotine dependence in African and European Americans. *Pharmacogenomics* **10**, 1353-57 (2010).
8. Bierut, L.J. *et al.* Variants in nicotinic receptors and risk for nicotine dependence. *The American journal of psychiatry* **165**, 1163-71 (2008).
9. Saccone, N.L. *et al.* Multiple distinct risk loci for nicotine dependence identified by dense coverage of the complete family of nicotinic receptor subunit (CHRN) genes. *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics* **150B**, 453-66 (2009).
10. Thorgeirsson, T.E. *et al.* A variant associated with nicotine dependence, lung cancer and peripheral arterial disease. *Nature* **452**, 638-42 (2008).
11. Hansen, H.M. *et al.* Fine mapping of chromosome 15q25.1 lung cancer susceptibility in African-Americans. *Human molecular genetics* **19**, 3652-61 (2010).

12. Bierut, L.J. *et al.* Novel genes identified in a high-density genome wide association study for nicotine dependence. *Human molecular genetics* **16**, 24-35 (2007).
13. Hung, R.J. *et al.* A susceptibility locus for lung cancer maps to nicotinic acetylcholine receptor subunit genes on 15q25. *Nature* **452**, 633-7 (2008).
14. Liu, P. *et al.* Familial aggregation of common sequence variants on 15q24-25.1 in lung cancer. *Journal of the National Cancer Institute* **100**, 1326-30 (2008).
15. Sakoda, L.C. *et al.* Chromosome 15q24-25.1 variants, diet, and lung cancer susceptibility in cigarette smokers. *Cancer causes & control : CCC* (2011).
16. Winterer, G. *et al.* Risk gene variants for nicotine dependence in the CHRNA5-CHRNA3-CHRNA4 cluster are associated with cognitive performance. *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics* **153B**, 1448-58 (2010).
17. Li, M.D. *et al.* Ethnic- and gender-specific association of the nicotinic acetylcholine receptor alpha4 subunit gene (CHRNA4) with nicotine dependence. *Human molecular genetics* **14**, 1211-9 (2005).
18. Saccone, N.L. *et al.* Multiple cholinergic nicotinic receptor genes affect nicotine dependence risk in African and European Americans. *Genes, brain, and behavior* **9**, 741-50 (2010).
19. Hoft, N.R. *et al.* Genetic association of the CHRNA6 and CHRNA3 genes with tobacco dependence in a nationally representative sample. *Neuropsychopharmacology* **34**, 698-706 (2009).
20. Zhang, H. *et al.* Association between two mu-opioid receptor gene (OPRM1) haplotype blocks and drug or alcohol dependence. *Human molecular genetics* **15**, 807-19 (2006).
21. Uhl, G.R. *et al.* Molecular genetics of nicotine dependence and abstinence: whole genome association using 520,000 SNPs. *BMC genetics* **8**, 10 (2007).
22. Lou, X.Y. *et al.* Gene-based analysis suggests association of the nicotinic acetylcholine receptor beta1 subunit (CHRNA1) and M1 muscarinic acetylcholine receptor (CHRM1) with vulnerability for nicotine dependence. *Human genetics* **120**, 381-9 (2006).
23. Pollard, K.S. *et al.* Forces shaping the fastest evolving regions in the human genome. *PLoS genetics* **2**, e168 (2006).

Supplementary Table 1: First column is the SNPs ID number used in the pooled model. Second column is one of the parents for the SNP in the first column. The other parent is phenotype (CASE). Third column is the p-value for CMH test.

SNP ID	Parent	P-val	chr	type	closest gene	dist. to gene
rs16969968	rs17483548	6.95E-08	15	NON_SYNONYM	CHRNA5;OTTHUMG000000143858	0
rs17486278	rs951266	9.08E-08	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs2036527	rs17486278	0.000000151	15	INTERGENIC	CHRNA5;OTTHUMG000000143858	-6247
rs951266	rs16969968	0.000000163	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs1051730	rs951266	0.000000261	15	STOP_GAINED	OTTHUMG000000143863;CHRNA3	0
rs17487223	rs16969968	0.000000804	15	INTRONIC	OTTHUMG000000143860;CHRNA4	0
rs17484235	rs17405217	0.00000101	15	INTRONIC	OTTHUMG000000143861;IREB2	0
rs8031948	rs8034191	0.00000125	15	INTRONIC	AGPHD1	0
rs17405217	rs17483686	0.00000134	15	INTRONIC	OTTHUMG000000143861;IREB2	0
rs17483548	rs17405217	0.00000214	15	UPSTREAM	OTTHUMG000000143861;IREB2	-218
rs8034191	rs2036527	0.00000231	15	INTRONIC	AGPHD1	0
rs578776	rs3743078	0.00000302	15	3PRIME_UTR	OTTHUMG000000143863;CHRNA3	0
rs1317286	rs1051730	0.00000326	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs16987905	rs2067008	0.00000712	20	INTERGENIC	ATG3P1;OTTHUMG000000032467	16978
rs28534575	rs12440014	0.0000135	15	INTRONIC	OTTHUMG000000143860;CHRNA4	0
rs3813570	rs2036534	0.0000208	15	5PRIME_UTR	PSMA4;OTTHUMG000000143859	0
rs637137	rs11637630	0.0000276	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs2632040	rs2729874	0.0000293	11	INTRONIC	NAV2;OTTHUMG000000151837	0
rs569207	rs637137	0.0000315	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs905739	rs503464	0.0000372	15	DOWNSTREAM	PSMA4;OTTHUMG000000143859	3506
rs667282	rs637137	0.0000376	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs17483686	rs1504549	0.0000445	15	INTRONIC	OTTHUMG000000143861;IREB2	0
rs9369005	ETHNIC	0.000045	6	INTRONIC	AL353597.1	0
rs931794	rs10519203	0.0000498	15	INTRONIC	AGPHD1	0
rs11637630	rs938682	0.0000528	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs9788721	rs10519203	0.0000529	15	INTRONIC	AGPHD1	0
rs12914385	rs951266	0.0000583	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs2889900	ETHNIC	0.0000657	9	UPSTREAM	OTTHUMG00000020075;RP11-394O9.1	-4421
rs12440014	rs3813567	0.0000658	15	INTRONIC	OTTHUMG000000143860;CHRNA4	0
rs10519203	rs8034191	0.0000686	15	INTRONIC	AGPHD1	0
rs938682	rs6495309	0.0000723	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs961459	rs7173377	0.0000763	2	INTRONIC	OTTHUMG000000153356;CNTNAP5	0
rs3015437	ETHNIC	0.0000936	6	INTERGENIC	OTTHUMG00000015697;RP5-899B16.1	-50912
rs17483721	rs17483686	0.0000936	15	INTRONIC	OTTHUMG000000143861;IREB2	0
rs12910984	rs938682	0.0001	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs7982220	ETHNIC	0.0001	13	INTERGENIC	OTTHUMG00000017189;RP11-430K10.1	24951
rs2036534	rs905739	0.0001	15	INTRONIC	AGPHD1	0

rs4461039	rs2036534	0.0001	15	INTRONIC	AGPHD1	0
rs6141319	ETHNIC	0.0001	20	INTRONIC	C20orf112;OTTHUMG00000032219	0
rs6495309	rs28534575	0.0001	15	UPSTREAM	OTTHUMG00000143860;CHRNA4	1216
rs10886113	rs1337327	0.0001	10	INTERGENIC	RP11-328K15.1;OTTHUMG00000019126	-47833
rs503464	rs569207	0.0001	15	5PRIME_UTR	CHRNA5;OTTHUMG00000143858	0
rs7181486	rs17483686	0.0001	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs7177514	rs8042059	0.0002	15	INTRONIC	OTTHUMG00000143863;CHRNA3	0
rs6495308	rs12910984	0.0002	15	INTRONIC	OTTHUMG00000143863;CHRNA3	0
rs17687429	rs7692208	0.0002	4	INTRONIC	OTTHUMG00000150252;CPE	0
rs10511193	rs8033972	0.0002	3	INTERGENIC	OTTHUMG00000159237;RP11-221J22.2	49647
rs11086322	ETHNIC	0.0002	20	INTERGENIC	RPSAP1;OTTHUMG00000032746	32566
rs4887069	rs6495308	0.0003	15	INTRONIC	OTTHUMG00000143863;CHRNA3	0
rs977590	rs541969	0.0003	7	WITHIN_NON_CODING	OTTHUMG00000153007;AC005582.1	0
rs2537832	ETHNIC	0.0003	17	INTRONIC	PITPNC1	0
rs4709491	rs1488	0.0003	6	INTRONIC	MAP3K4;OTTHUMG00000015968	0
rs17483929	rs7181486	0.0003	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs17295298	ETHNIC	0.0003	5	INTERGENIC	AC108099.1	8418
rs6697844	ETHNIC	0.0003	1	INTRONIC	OTTHUMG00000034913;DNM3	0
rs8042059	rs6495308	0.0003	15	INTRONIC	OTTHUMG00000143863;CHRNA3	0
rs7164594	rs4461039	0.0003	15	INTRONIC	AGPHD1	0
rs16833155	rs1955186	0.0003	2	INTRONIC	STAT1;LRG_111;OTTHUMG00000132699	0
rs6136853	rs11908323	0.0004	20	UPSTREAM	OTTHUMG00000031995;AL132821.1	-4105
rs8040868	rs1317286	0.0004	15	SYNONYMOUS_CODING	OTTHUMG00000143863;CHRNA3	0
rs17633211	ETHNIC	0.0004	11	INTERGENIC	5S_rRNA.86	6100
rs913930	ETHNIC	0.0004	9	DOWNSTREAM	OTTHUMG00000021046;TLR4	4860
rs4764931	rs2249100	0.0004	12	INTERGENIC	ASCL1	69436
rs11196344	ETHNIC	0.0004	10	INTERGENIC	OTTHUMG00000019071;RP11-481H12.1	-8230
rs12559898	ETHNIC	0.0004	X	INTRONIC	OTTHUMG00000022685;GRIA3	0
rs10501681	ETHNIC	0.0005	11	INTRONIC	GRM5;OTTHUMG00000134306	0
rs6472851	ETHNIC	0.0005	8	WITHIN_NON_CODING	GDAP1;OTTHUMG00000164509	0
rs10958726	rs13277254	0.0005	8	INTERGENIC	OTTHUMG00000165262;CHRNA3	-16610
rs10960477	rs17175889	0.0005	9	WITHIN_NON_CODING	OTTHUMG00000019555;RP11-74C3.1	0
rs8042374	rs8042059	0.0005	15	INTRONIC	OTTHUMG00000143863;CHRNA3	0
rs3743078	rs6495308	0.0005	15	INTRONIC	OTTHUMG00000143863;CHRNA3	0
rs1316971	ETHNIC	0.0006	15	INTRONIC	OTTHUMG00000143860;CHRNA4	0
rs4447083	rs10794077	0.0006	10	INTRONIC	ADAM12;OTTHUMG00000019243	0
rs2951800	ETHNIC	0.0006	3	INTRONIC	ZBTB20;OTTHUMG00000159366	0
rs2236196	ETHNIC	0.0006	20	3PRIME_UTR	OTTHUMG00000033080;CHRNA4	0
rs16894824	rs2494067	0.0007	4	INTERGENIC	SNORA75.1	12463
rs13208542	ETHNIC	0.0007	6	INTERGENIC	RP11-291C6.1;OTTHUMG00000015820	-25334
rs1042606	ETHNIC	0.0007	10	REGULATORY_REGION	DUSP5;OTTHUMG00000019040	0
rs10794077	ETHNIC	0.0007	10	INTRONIC	ADAM12;OTTHUMG00000019243	0

rs11187665	rs4531389	0.0008	10	INTRONIC	LGI1;OTTHUMG00000018777	0
rs4898698	ETHNIC	0.0009	14	INTRONIC	FRMD6;OTTHUMG000000140294	0
rs6933569	rs3015437	0.0009	6	INTERGENIC	OTTHUMG00000015697;RP5-899B16.1	-58531
rs6558951	rs11992884	0.0009	8	INTRONIC	CSMD1;OTTHUMG000000163605	0
rs4362358	rs1504549	0.0009	15	UPSTREAM	OTTHUMG000000143861;IREB2	2309
rs3772731	ETHNIC	0.0009	3	INTRONIC	OTTHUMG000000125545;KALRN	0
rs1504549	rs7164594	0.0009	15	INTRONIC	OTTHUMG000000143861;IREB2	0
rs13277254	rs6474412	0.0009	8	UPSTREAM	OTTHUMG000000165262;CHRN3	-2537
rs16922195	rs2729874	0.0009	11	INTERGENIC	Y_RNA.258	-85919
rs9872695	rs7639393	0.001	3	INTERGENIC	OTTHUMG000000154872;AC066595.1	23320
rs12441998	rs11636605	0.001	15	INTRONIC	OTTHUMG000000143860;CHRN4	0
rs17536666	ETHNIC	0.001	5	INTERGENIC	OTTHUMG000000161599;CTD-2194D22.1	-6749
rs17175889	ETHNIC	0.001	9	INTERGENIC	OTTHUMG00000019555;RP11-74C3.1	-47726
rs13103030	ETHNIC	0.001	4	INTRONIC	OTTHUMG000000128557;KCNP4	0
rs17841334	rs2494067	0.0011	16	INTERGENIC	CES1P1;OTTHUMG000000154668	-12675
rs684513	rs503464	0.0011	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs10914066	ETHNIC	0.0012	1	INTRONIC	XPR1;OTTHUMG000000035116	0
rs1530847	rs5005909	0.0012	8	UPSTREAM	OTTHUMG000000165262;CHRN3	-4280
rs17118980	ETHNIC	0.0012	14	INTRONIC	OTTHUMG000000028683;AE000661.28	0
rs17228571	ETHNIC	0.0012	15	INTRONIC	OTTHUMG000000159446;RP11-1000B6.2	0
rs6758173	rs17228571	0.0013	2	INTRONIC	OTTHUMG000000130205;REEP1	0
rs7209096	ETHNIC	0.0013	17	INTERGENIC	YWHAЕ;OTTHUMG000000134316	18344
rs10223990	ETHNIC	0.0013	7	INTRONIC	HDAC9;OTTHUMG000000152487	0
rs3813549	rs133482	0.0013	14	INTRONIC	C14orf179	0
rs10960468	rs10960477	0.0013	9	INTERGENIC	OTTHUMG00000019555;RP11-74C3.1	5406
rs2595211	ETHNIC	0.0013	2	INTRONIC	OTTHUMG000000128817;PRKCE	0
rs3813567	rs11636605	0.0013	15	UPSTREAM	OTTHUMG000000143860;CHRN4	-964
rs2590357	ETHNIC	0.0013	10	INTRONIC	IPMK;OTTHUMG000000018268	0
rs17319624	ETHNIC	0.0014	8	INTRONIC	CSMD1;OTTHUMG000000163605	0
rs11908323	rs12480480	0.0014	20	UPSTREAM	OTTHUMG000000031995;AL132821.1	-2892
rs1955186	rs6474413	0.0014	8	UPSTREAM	OTTHUMG000000165262;CHRN3	-3028
rs17715372	ETHNIC	0.0014	13	DOWNSTREAM	OTTHUMG00000017081;RP11-512C24.2	192
rs1488	ETHNIC	0.0015	6	3PRIME_UTR	MAP3K4;OTTHUMG000000015968	0
rs1388639	ETHNIC	0.0015	3	INTERGENIC	RP11-668N23.1;OTTHUMG000000159019	113135
rs6474412	rs4950	0.0016	8	UPSTREAM	OTTHUMG000000165262;CHRN3	-2021
rs17501974	ETHNIC	0.0016	13	INTRONIC	PCDH9;OTTHUMG000000017040	0
rs6957735	rs10488895	0.0016	7	INTRONIC	OTTHUMG000000150507;AC009365.3	0
rs11133773	ETHNIC	0.0016	5	INTERGENIC	DNAH5;OTTHUMG000000090533	-19936
rs11098193	ETHNIC	0.0017	4	SYNONYMOUS_C	OTTHUMG000000132910;CAMK2D	0
rs909431	ETHNIC	0.0017	2	INTRONIC	OTTHUMG000000133262;ECEL1	0
rs4950	ETHNIC	0.0017	8	5PRIME_UTR	OTTHUMG000000165262;CHRN3	0
rs10862582	rs10143569	0.0018	12	INTRONIC	TMTC2	0

rs3845412	rs10914066	0.0018	1	INTRONIC	OTTHUMG00000035183;KIAA1614	0
rs13277524	rs6474413	0.0018	8	UPSTREAM	OTTHUMG000000165262;CHRNA3	-2462
rs10819563	rs6474413	0.0018	9	INTRONIC	OTTHUMG00000020791;PTGES	0
rs7225663	rs17126078	0.0019	17	INTRONIC	RBFOX3;OTTHUMG000000150183	0
rs1358079	ETHNIC	0.0019	7	INTRONIC	CNTNAP2;OTTHUMG000000152743	0
rs2140553	rs1880260	0.0019	10	INTRONIC	OTTHUMG00000018772;MYOF	0
rs17032776	ETHNIC	0.002	2	WITHIN_NON_CODING	AC007403.2;OTTHUMG000000152853	0
rs4444771	ETHNIC	0.002	4	INTRONIC	ANTXR2;OTTHUMG000000151982	0
rs5911548	rs12559898	0.002	X	INTRONIC	OTTHUMG00000022685;GRIA3	0
rs3928773	ETHNIC	0.0021	10	INTRONIC	ST8SIA6;OTTHUMG00000017748	0
rs6474413	rs6474412	0.0021	8	UPSTREAM	OTTHUMG000000165262;CHRNA3	-1455
rs1417056	rs1832650	0.0021	6	INTERGENIC	AL513023.1	39735
rs1994406	ETHNIC	0.0021	11	INTRONIC	NAV2;OTTHUMG000000151837	0
rs1031076	ETHNIC	0.0021	1	INTRONIC	OTTHUMG00000035533;FAM5C	0
rs1337327	ETHNIC	0.0021	10	INTERGENIC	RP11-328K15.1;OTTHUMG00000019126	-38451
rs7210231	rs2302761	0.0022	17	INTRONIC	OTTHUMG000000108139;CHRNA1	0
rs1955185	rs6474413	0.0023	8	UPSTREAM	OTTHUMG000000165262;CHRNA3	-2872
rs2409665	rs11249877	0.0024	8	INTERGENIC	OTTHUMG000000129351;XKR6	17322
rs11636605	rs1316971	0.0024	15	INTRONIC	OTTHUMG000000143860;CHRNA4	0
rs13280301	rs1530847	0.0024	8	UPSTREAM	OTTHUMG000000165262;CHRNA3	-2502
rs4565373	ETHNIC	0.0025	7	INTRONIC	ELMO1;OTTHUMG00000023701	0
rs11257244	rs7809080	0.0026	10	INTRONIC	ASB13;OTTHUMG00000017603	0
rs4754592	ETHNIC	0.0026	11	INTRONIC	CNTN5;OTTHUMG000000167579	0
rs17111116	rs10891079	0.0026	11	UPSTREAM	RP11-347E10.1;OTTHUMG000000166588	-3806
rs2656052	rs7181486	0.0026	15	INTRONIC	OTTHUMG000000143861;IREB2	0
rs1034805	rs10223990	0.0026	7	INTRONIC	HDAC9;OTTHUMG000000152487	0
rs7118	rs4958469	0.0027	16	3PRIME_UTR	ZFP90	0
rs4910441	ETHNIC	0.0027	11	WITHIN_NON_CODING	OTTHUMG000000163880;SCUBE2	0
rs12676935	ETHNIC	0.0027	8	INTRONIC	PREX2;OTTHUMG000000164402	0
rs17097681	ETHNIC	0.0027	1	INTRONIC	MSH4;OTTHUMG00000009788	0
rs1202309	rs2782185	0.0028	6	INTERGENIC	ID4;OTTHUMG00000014333	79071
rs16839578	rs6591333	0.0028	2	INTERGENIC	OTTHUMG000000153834;AC093375.1	238436
rs704034	ETHNIC	0.0028	5	INTRONIC	OTTHUMG00000094775;CARD6	0
rs7809080	ETHNIC	0.0029	7	INTRONIC	OTTHUMG000000152524;DNAH11	0
rs2581435	ETHNIC	0.003	4	UPSTREAM	OTTHUMG000000160527;DCAF4L1	1814
rs16924076	rs2836391	0.0031	11	INTRONIC	SYT9;OTTHUMG000000165499	0
rs12768718	ETHNIC	0.0032	10	INTRONIC	ARHGAP22;OTTHUMG00000018176	0
rs7762788	ETHNIC	0.0032	6	INTRONIC	ARID1B;OTTHUMG00000015890	0
rs4952	rs4953	0.0033	8	SYNONYMOUS_CODING	OTTHUMG000000165262;CHRNA3	0
rs9530685	ETHNIC	0.0034	13	INTRONIC	NBEA;OTTHUMG00000016724	0
rs10509550	ETHNIC	0.0035	10	INTRONIC	RNLS;OTTHUMG00000018692	0
rs11992884	ETHNIC	0.0035	8	INTRONIC	CSMD1;OTTHUMG000000163605	0

rs11580609	rs781058	0.0036	1	3PRIME_UTR	MMACHC;OTTHUMG00000007742	0
rs1832650	rs1832655	0.0036	6	INTERGENIC	AL513023.1	39822
rs4310196	rs6472851	0.0037	8	INTRONIC	GDAP1;OTTHUMG000000164509	0
rs29854	ETHNIC	0.0037	5	WITHIN_NON_CODING	CTB-12O2.1;OTTHUMG000000163523	0
rs17109801	ETHNIC	0.0038	12	INTRONIC	LGR5	0
rs17636651	ETHNIC	0.0038	4	REGULATORY_REGION	OTTHUMG000000132910;CAMK2D	-721
rs3814231	ETHNIC	0.0039	10	INTRONIC	CASP7;OTTHUMG00000019076	0
rs17461079	ETHNIC	0.0039	13	INTRONIC	ENOX1;OTTHUMG00000016818	0
rs4792148	ETHNIC	0.0039	17	INTRONIC	OTTHUMG000000154121;SHISA6	0
rs17753750	rs9991444	0.0039	4	WITHIN_NON_CODING	RP11-93L9.1;OTTHUMG000000161162	0
rs17019859	ETHNIC	0.004	2	INTERGENIC	AC084193.1;OTTHUMG000000152890	-27921
rs6903494	rs11086322	0.004	6	INTERGENIC	OTTHUMG00000015458;NUS1	85799
rs11962730	rs6933569	0.0041	6	INTERGENIC	RP11-15H7.2;OTTHUMG00000015696	81335
rs2782185	ETHNIC	0.0041	6	INTERGENIC	RP1-130G2.1;OTTHUMG00000016195	85843
rs9878126	ETHNIC	0.0042	3	INTRONIC	SCHIP1;OTTHUMG000000162426;	0
rs10091164	ETHNIC	0.0042	8	UPSTREAM	AC090193.1	-934
rs10503128	ETHNIC	0.0043	18	INTERGENIC	AC114689.1	286318
rs1202285	rs1202309	0.0044	6	INTERGENIC	ID4;OTTHUMG00000014333	73264
rs2729874	rs1994406	0.0044	11	INTRONIC	RP11-808N1.2;OTTHUMG000000166105	0
rs2494067	ETHNIC	0.0045	1	INTRONIC	OTTHUMG00000010995;VAV3	0
rs1832655	ETHNIC	0.0045	6	INTERGENIC	AL513023.1	45873
rs2095606	ETHNIC	0.0045	13	INTERGENIC	OTTHUMG00000017315;RP11-357L1.1	-473831
rs17573998	rs2889900	0.0047	14	INTRONIC	OTTHUMG000000140203;PRKD1	0
rs4142603	ETHNIC	0.0047	9	INTERGENIC	RP11-470P4.2;OTTHUMG00000020054	22278
rs911700	rs2302374	0.0048	10	INTRONIC	OTTHUMG00000019073;HABP2	0
rs13420006	rs3813570	0.0049	2	INTRONIC	MPP4;OTTHUMG000000154525	0
rs17808417	ETHNIC	0.0049	3	INTRONIC	SUCLG2;OTTHUMG000000158740	0
rs2119397	ETHNIC	0.0049	8	INTERGENIC	FAM150A;OTTHUMG000000164256	-17547
rs1178014	ETHNIC	0.005	2	INTRONIC	METTL8;OTTHUMG000000132261	0
rs7550193	ETHNIC	0.005	1	INTERGENIC	PBX1;OTTHUMG00000034307	-72079
rs718307	ETHNIC	0.0051	20	INTERGENIC	OTTHUMG00000032824;ZBP1	-10397
rs4976489	rs10515479	0.0051	5	INTRONIC	AC008661.1;OTTHUMG000000162035	0
rs2302761	rs13331869	0.0052	17	INTRONIC	OTTHUMG000000108139;CHRNA1	0
rs7011083	ETHNIC	0.0053	8	INTRONIC	CSGALNACT1;OTTHUMG000000130827	0
rs4734633	ETHNIC	0.0053	8	INTERGENIC	KB-1980E6.3;OTTHUMG000000164777	-10324
rs7989852	ETHNIC	0.0053	13	INTRONIC	OTTHUMG00000017303;FGF14	0
rs4958726	rs27597	0.0054	5	INTRONIC	GALNT10;OTTHUMG000000130145	0
rs2836391	rs6957735	0.0055	21	INTRONIC	ERG;OTTHUMG000000090767	0
rs10143569	ETHNIC	0.0057	14	INTERGENIC	AL358913.1	-313488
rs10513041	ETHNIC	0.0058	5	INTRONIC	ARL15;OTTHUMG000000162287	0
rs2071556	rs4705732	0.0059	6	INTRONIC	HLA-DMB;OTTHUMG000000031176	0
rs1028575	ETHNIC	0.0059	1	DOWNSTREAM	OTTHUMG00000010254;CLCA1	879

rs16851270	rs2273500	0.006	1	INTRONIC	OTTHUMG00000037771;GALNT2	0
rs482322	rs10862582	0.006	11	INTRONIC	CAT;OTTHUMG00000044353	0
rs17170125	rs1358079	0.0061	7	INTRONIC	CNTNAP2;OTTHUMG00000152743	0
rs13063842	ETHNIC	0.0063	3	INTERGENIC	U6.223	-132017
rs27597	ETHNIC	0.0064	5	INTRONIC	CTB-157D17.1;OTTHUMG00000163570	0
rs4917093	ETHNIC	0.0064	7	INTRONIC	VWC2;OTTHUMG00000129265	0
rs6431305	ETHNIC	0.0065	2	INTRONIC	SAG;OTTHUMG00000153213	0
rs2271271	ETHNIC	0.0065	10	SYNONYMOUS_C	RP11-574K11.16;OTTHUMG00000018487	0
rs7517505	rs7550193	0.0066	1	INTERGENIC	PBX1;OTTHUMG00000034307	-71448
rs7215056	rs7210231	0.0066	17	INTRONIC	OTTHUMG00000108139;CHRNA1	0
rs17446920	ETHNIC	0.0068	2	INTRONIC	DCDC2C;OTTHUMG00000151490	0
rs6547333	rs17019859	0.0068	2	UPSTREAM	AC084193.1;OTTHUMG00000152890	-2005
rs2186609	ETHNIC	0.0068	11	WITHIN_NON_C	OTTHUMG00000167483;TRPC6	0
rs455635	ETHNIC	0.0069	3	INTRONIC	OTTHUMG00000090601;CHL1	0
rs13331869	ETHNIC	0.0071	16	INTRONIC	OTTHUMG00000158780;FTO	0
rs7903726	rs2140553	0.0072	10	INTRONIC	OTTHUMG00000018772;MYOF	0
rs2964608	rs29854	0.0075	5	INTRONIC	GLRA1;OTTHUMG00000130121	0
rs16943109	ETHNIC	0.0075	15	INTRONIC	RORA;OTTHUMG00000132769	0
rs2055145	rs781058	0.0076	1	INTRONIC	OTTHUMG00000007680;TESK2	0
rs11193101	ETHNIC	0.0076	10	INTRONIC	SORCS1;OTTHUMG00000019018	0
rs17674530	ETHNIC	0.0078	16	3PRIME_UTR	OTTHUMG00000048201;ABAT	0
rs750780	ETHNIC	0.008	11	UPSTREAM	LMO2;OTTHUMG00000157176	-3758
rs16968083	ETHNIC	0.008	15	INTRONIC	ETFA	0
rs10483521	rs4142603	0.0081	14	INTRONIC	OTTHUMG00000140261;LRFN5	0
rs270741	rs17007477	0.0081	1	INTRONIC	OTTHUMG00000007697;RNF220	0
rs6759039	ETHNIC	0.0083	2	INTRONIC	ERBB4;OTTHUMG00000133012	0
rs16930094	rs482322	0.0084	11	INTRONIC	OTTHUMG00000166451;ELF5	0
rs3756814	ETHNIC	0.0084	6	3PRIME_UTR	OTTHUMG00000014361;C6orf62	0
rs17732878	rs2302761	0.0085	17	DOWNSTREAM	OTTHUMG00000108137;ZBTB4	326
rs4810264	ETHNIC	0.0086	20	INTERGENIC	AL031661.1	38943
rs9991444	rs17007477	0.0086	4	WITHIN_NON_C	RP11-93L9.1;OTTHUMG00000161162	0
rs12533584	ETHNIC	0.0086	7	INTRONIC	OTTHUMG00000155231;CHCHD3	0
rs5005909	rs6474412	0.0087	8	INTERGENIC	OTTHUMG00000165262;CHRNA3	-23852
rs12413039	rs2271271	0.0088	10	INTRONIC	SEC24C;OTTHUMG00000018476	0
rs4958469	ETHNIC	0.0089	5	INTRONIC	CAMK2A;OTTHUMG00000134281	0
rs11685684	ETHNIC	0.0089	2	INTRONIC	OTTHUMG00000088987;CPO	0
rs7331003	rs9590768	0.009	13	INTRONIC	ENOX1;OTTHUMG00000016818	0
rs133482	ETHNIC	0.009	22	INTRONIC	FAM19A5;OTTHUMG00000150308	0
rs17397875	ETHNIC	0.0091	1	INTRONIC	OTTHUMG00000002498;UBR4	0
rs1522086	rs750780	0.0092	11	INTRONIC	OTTHUMG00000166244;FBXO3	0
rs1942486	ETHNIC	0.0093	11	INTERGENIC	AP001482.1	10790
rs10276256	rs1994406	0.0093	7	WITHIN_NON_C	AC007128.1;OTTHUMG00000151948	0

rs10207124	rs1441456	0.0095	2	INTRONIC	OTTHUMG00000131799;LRP1B	0
rs1468673	ETHNIC	0.0095	9	INTRONIC	LRG_28;C5;OTTHUMG00000020579	0
rs12425606	ETHNIC	0.0098	12	INTRONIC	PLBD1	0
rs7753810	ETHNIC	0.0098	6	INTRONIC	UST;OTTHUMG00000016135	0
rs9332386	rs13063842	0.0098	14	INTERGENIC	ARHGAP5	8868
rs2738710	rs10871351	0.01	16	INTRONIC	WWOX	0
rs10836409	rs2409665	0.0101	11	INTRONIC	OTTHUMG00000166328;PAMR1	0
rs574141	ETHNIC	0.0102	3	INTRONIC	RFTN1;OTTHUMG00000156973	0
rs781058	ETHNIC	0.0103	1	INTRONIC	OTTHUMG00000007680;TESK2	0
rs1491377	rs10938953	0.0103	4	WITHIN_NON_CC	OTTHUMG00000160278;RP11-380P13.1	0
rs890	ETHNIC	0.0103	12	3PRIME_UTR	GRIN2B;OTTHUMG00000137373	0
rs16926407	ETHNIC	0.0104	8	INTRONIC	OTTHUMG00000165332;CHD7	0
rs9803946	ETHNIC	0.0107	1	INTERGENIC	RP4-617C6.1;OTTHUMG00000010909	-33270
rs1364494	rs12234934	0.0107	7	INTRONIC	OTTHUMG00000155658;CHRM2	0
rs7692208	ETHNIC	0.0108	4	INTRONIC	OTTHUMG00000150252;CPE	0
rs16984240	ETHNIC	0.0108	20	INTRONIC	OTTHUMG00000149988;MYT1	0
rs10049135	ETHNIC	0.0108	3	WITHIN_NON_CC	AC114876.1	0
rs17541037	ETHNIC	0.0109	6	INTERGENIC	AL139097.1	-30174
rs12620126	ETHNIC	0.0109	2	INTRONIC	SLC25A12;OTTHUMG00000134290	0
rs1779517	rs1652920	0.011	14	INTERGENIC	AL390335.1	-87976
rs2290332	ETHNIC	0.0112	15	SYNONYMOUS_C	LRG_86;MYO5A;OTTHUMG00000137383	0
rs683979	rs10503128	0.0112	18	INTERGENIC	AC114689.1	286935
rs4525160	ETHNIC	0.0113	10	INTRONIC	RBM20;OTTHUMG00000019043	0
rs16873950	ETHNIC	0.0113	4	WITHIN_NON_CC	OTTHUMG00000160278;RP11-380P13.1	0
rs2888881	ETHNIC	0.0113	2	INTRONIC	OTTHUMG00000128657;PLEKHH2	0
rs249637	rs8033972	0.0114	5	3PRIME_UTR	NDFIP1;OTTHUMG00000129659	0
rs4237713	rs7013362	0.0114	11	INTRONIC	OTTHUMG00000165777;MICALCL	0
rs10871351		0.0114	16	INTRONIC	WWOX	0
rs12725346	ETHNIC	0.0116	1	INTRONIC	OTTHUMG00000010995;VAV3	0
rs2291100	ETHNIC	0.0117	3	SYNONYMOUS_C	OTTHUMG00000119030;CNTN6	0
rs4859365	rs907978	0.0118	4	INTERGENIC	U6.413	24907
rs10876164	ETHNIC	0.0119	12	INTRONIC	GALNT6	0
rs12249410	ETHNIC	0.0119	10	INTRONIC	OTTHUMG00000018302;ZNF365	0
rs3787138	rs2236196	0.0119	20	INTRONIC	OTTHUMG00000033080;CHRNA4	0
rs2273500	rs3787140	0.012	20	ESSENTIAL_SPLIC	OTTHUMG00000033080;CHRNA4	0
rs745075	rs12768718	0.0121	4	INTRONIC	OTTHUMG00000161582;RP11-766F14.1	0
rs162495	ETHNIC	0.0122	21	INTRONIC	OTTHUMG00000078686;ADAMTS5	0
rs4471623	ETHNIC	0.0122	15	INTRONIC	UNC13C	0
rs10441748	ETHNIC	0.0123	9	INTRONIC	ZNF618;OTTHUMG00000020532	0
rs1548038	rs893073	0.0123	1	INTRONIC	OTTHUMG00000009030;CACHD1	0
rs4356237	ETHNIC	0.0124	11	DOWNSTREAM	OR8B9P;OTTHUMG00000154393	1184
rs13146211	rs11098193	0.0124	4	INTRONIC	OTTHUMG00000132910;CAMK2D	0

rs4732682	rs13274396	0.0127	8	INTRONIC	ADRA1A;OTTHUMG00000099459	0
rs2249100	ETHNIC	0.0128	21	INTRONIC	OTTHUMG00000074508;CXADR	0
rs17020402	rs6547333	0.0129	3	WITHIN_NON_CC	AC098973.2;OTTHUMG00000155653	0
rs16851537	ETHNIC	0.013	2	INTRONIC	OTTHUMG00000133015;SPAG16	0
rs4942302	rs3116379	0.013	13	INTERGENIC	RP11-478K15.2;OTTHUMG00000016829	24747
rs2791944	rs11196344	0.013	1	INTRONIC	ABL2;OTTHUMG00000035199	0
rs17126078	ETHNIC	0.0131	12	INTRONIC	SCN8A	0
rs9332406	ETHNIC	0.0132	10	INTRONIC	CTNNA3;OTTHUMG00000018334	0
rs4531389	rs7604514	0.0134	10	INTRONIC	LGI1;OTTHUMG00000018777	0
rs2615891	ETHNIC	0.0134	10	INTRONIC	OTTHUMG00000019096;ATRNL1	0
rs16858320	ETHNIC	0.0135	2	INTRONIC	OTTHUMG00000133056;TNS1	0
rs12209447	ETHNIC	0.0135	6	INTRONIC	OTTHUMG00000015870;OPRM1	0
rs9920506	rs3813567	0.0136	15	INTRONIC	OTTHUMG00000143860;CHRNA4	0
rs16982453	ETHNIC	0.0136	22	UPSTREAM	CRYBB1;OTTHUMG00000150980	-376
rs10938953	rs16873950	0.0136	4	WITHIN_NON_CC	OTTHUMG00000160278;RP11-380P13.1	0
rs285164	rs10960477	0.0139	20	INTRONIC	OTTHUMG00000033062;MYBL2	0
rs6746740	ETHNIC	0.014	2	INTRONIC	OTTHUMG00000129565;CNRIP1	0
GSC3_26	rs684513	0.014	15	INTRONIC	OTTHUMG00000143863;CHRNA3	0
rs4770950	ETHNIC	0.014	13	WITHIN_NON_CC	RNF6;OTTHUMG00000016614	0
rs9590768	ETHNIC	0.014	13	INTRONIC	ENOX1;OTTHUMG00000016818	0
rs13274396	ETHNIC	0.0142	8	REGULATORY_RE	ADRA1A;OTTHUMG00000099459	0
rs7173377	ETHNIC	0.0142	15	INTRONIC	IGF1R;OTTHUMG00000149851	0
rs685884	rs638299	0.0143	5	INTRONIC	OTTHUMG00000128894;CCDC112	0
rs4705732	ETHNIC	0.0143	13	INTRONIC	OTTHUMG00000017342;COL4A1	0
rs5927822	SEX	0.0145	X	INTRONIC	DMD;OTTHUMG00000021336	0
rs8067254	ETHNIC	0.0147	17	3PRIME_UTR	GFAP	0
rs2067008	rs4810264	0.0147	20	INTERGENIC	ATG3P1;OTTHUMG00000032467	-6532
rs928485	rs3092084	0.0148	20	INTERGENIC	7SK.169	-31532
rs205907	rs911700	0.0148	20	INTRONIC	OTTHUMG00000031636;CSNK2A1	0
rs17007477	ETHNIC	0.0151	4	WITHIN_NON_CC	RP11-93L9.1;OTTHUMG00000161162	0
rs6497755	rs12768718	0.0153	16	INTRONIC	TNRC6A;OTTHUMG00000096999	0
rs3867465	ETHNIC	0.0154	11	INTRONIC	OTTHUMG00000166819;FDXACB1	0
rs12914008	rs12914385	0.0154	15	NON_SYNONYM	OTTHUMG00000143860;CHRNA4	0
rs6452345	ETHNIC	0.0158	5	INTERGENIC	CTD-2533K21.3;OTTHUMG00000161965	-101212
rs113877	ETHNIC	0.0158	7	INTRONIC	ORC5;OTTHUMG00000157275	0
rs12440118	ETHNIC	0.0158	15	NON_SYNONYM	ZFP106	0
rs1880260	ETHNIC	0.016	10	INTRONIC	OTTHUMG00000018772;MYOF	0
rs4655330	rs11086322	0.016	1	INTRONIC	OTTHUMG00000037066;SMYD2	0
rs13164327	ETHNIC	0.0161	5	INTRONIC	OTTHUMG00000159785;FBXL17	0
rs2251107	rs4837062	0.0161	15	UPSTREAM	RYR3	-4775
rs11694463	rs3756814	0.0161	2	INTERGENIC	OTTHUMG00000151710;AC096559.2	36350
rs7074696	ETHNIC	0.0162	10	INTRONIC	CTNNA3;OTTHUMG00000018334	0

rs9332436	ETHNIC	0.0162	8	WITHIN_NON_CC	RP11-770E5.1;OTTHUMG000000164198	0
rs12097652	rs1548038	0.0163	1	INTRONIC	OTTHUMG00000009030;CACHD1	0
rs807429	ETHNIC	0.0165	22	INTRONIC	CLTCL1	0
rs6685390	ETHNIC	0.0167	1	INTRONIC	AL139151.1	0
rs10812315	ETHNIC	0.0167	9	WITHIN_NON_CC	RP11-125B21.2;OTTHUMG00000019448	0
rs7838246	rs1955185	0.0168	8	INTRONIC	OTTHUMG000000165262;CHRNA3	0
rs12992296	ETHNIC	0.0168	2	INTERGENIC	AC012498.1	21721
rs17204499	ETHNIC	0.017	10	INTRONIC	OTTHUMG00000019011;SORCS3	0
rs2483424	rs3116379	0.0175	4	UPSTREAM	OTTHUMG000000160374;RP11-89I4.1	-523
rs907978	rs11098193	0.0175	13	INTRONIC	FREM2;OTTHUMG00000016759	0
rs6505717	ETHNIC	0.0176	18	INTRONIC	ANKRD62	0
rs55952530	rs8042374	0.0178	15	NON_SYNONYMOUS	OTTHUMG000000143860;CHRNA4	0
rs6591333	rs12768718	0.0179	11	DOWNSTREAM	OTTHUMG000000167388;CTD-2655K5.1	4781
rs7604514	ETHNIC	0.0181	2	INTRONIC	CTNNA2;OTTHUMG000000152903	0
rs2798983	rs1652920	0.0181	14	INTERGENIC	AL390335.1	-46264
rs12218075	ETHNIC	0.0182	10	INTERGENIC	OTTHUMG00000018900;ERLIN1	9658
rs17301591	ETHNIC	0.0183	5	INTRONIC	MAP1B;OTTHUMG000000100952	0
rs2572324	ETHNIC	0.0183	4	INTRONIC	SNCA;OTTHUMG000000130948	0
rs7743315	ETHNIC	0.0184	6	INTRONIC	SLC26A8;OTTHUMG00000014586	0
rs17301314	ETHNIC	0.0185	4	INTRONIC	DCHS2;OTTHUMG000000161556	0
rs17150357	ETHNIC	0.0185	7	INTRONIC	OSBPL3;OTTHUMG00000023277	0
rs4246675	ETHNIC	0.0187	3	INTRONIC	OTTHUMG000000158390;ERC2	0
rs3797026	ETHNIC	0.019	2	WITHIN_NON_CC	AC092594.1;OTTHUMG000000151766	0
rs16985798	ETHNIC	0.019	4	SYNONYMOUS_CC	RP11-714G18.1;OTTHUMG000000160464	0
rs13385999	ETHNIC	0.0191	2	INTRONIC	EML6;OTTHUMG000000152035	0
rs12205364	ETHNIC	0.0192	6	INTRONIC	OTTHUMG00000015195;GABRR1	0
rs4953	rs7838246	0.0193	8	SYNONYMOUS_CC	OTTHUMG000000165262;CHRNA3	0
rs11249877	ETHNIC	0.0195	8	INTERGENIC	OTTHUMG000000163674;CLDN23	-24674
rs9840967	rs1548038	0.0196	3	INTRONIC	OTTHUMG000000159517;ADCY5	0
rs1445112	rs6141319	0.0196	3	INTRONIC	OTTHUMG000000130571;NEK10	0
rs2237635	ETHNIC	0.0196	7	INTRONIC	RELN;OTTHUMG000000157247	0
rs12234934	ETHNIC	0.0196	8	INTRONIC	OTTHUMG000000164516;TRPA1	0
rs4837062	ETHNIC	0.0199	9	INTRONIC	ASTN2;OTTHUMG00000021013	0
rs12480480	ETHNIC	0.0201	20	INTERGENIC	AL121761.1	-5639
rs2374094	rs4859365	0.0201	7	WITHIN_NON_CC	OTTHUMG000000065036;AC002064.3	0
rs893073	ETHNIC	0.0204	1	INTRONIC	OTTHUMG00000009030;CACHD1	0
rs3092084	ETHNIC	0.0208	20	INTERGENIC	7SK.169	-26106
rs1779534	rs1782134	0.0209	14	INTERGENIC	AL390335.1	-119093
rs8033972	ETHNIC	0.0211	15	INTRONIC	OTTHUMG000000133019;CSNK1G1	0
rs884945	ETHNIC	0.0211	20	INTERGENIC	PMEPA1;OTTHUMG000000032831	-96811
rs16952906	rs13331869	0.0211	16	INTRONIC	OTTHUMG000000158780;FTO	0
rs17415676	rs4525160	0.0213	8	INTRONIC	CSMD1;OTTHUMG000000163605	0

rs11989847	ETHNIC	0.0214	8	INTRONIC	COL22A1;OTTHUMG000000150035	0
rs16925377	rs3732300	0.0216	11	INTRONIC	ART1;OTTHUMG000000011845	0
rs12922217	ETHNIC	0.0216	16	INTERGENIC	RP11-545E8.1;OTTHUMG000000158084	-51335
rs12264321	rs17204499	0.0217	10	3PRIME_UTR	OTTHUMG000000019011;SORCS3	0
rs6140549	ETHNIC	0.0221	20	INTRONIC	PLCB1;OTTHUMG000000031849	0
rs670562	ETHNIC	0.0226	20	WITHIN_NON_CODING	OTTHUMG000000031867;RP5-839B4.7	0
rs11026030	rs6141319	0.0229	11	INTRONIC	CTD-2302A16.2;OTTHUMG000000166204	0
rs1031006	rs11133773	0.023	5	INTERGENIC	DNAH5;OTTHUMG000000090533	-42451
rs9302842	rs12922217	0.023	16	INTERGENIC	RP11-545E8.1;OTTHUMG000000158084	-62134
rs638299	ETHNIC	0.023	11	INTERGENIC	OR10D4P;OTTHUMG000000165970	7894
rs2987298	ETHNIC	0.0231	6	INTRONIC	PDE10A;OTTHUMG000000015986	0
rs1441456	ETHNIC	0.0232	2	INTRONIC	OTTHUMG000000131799;LRP1B	0
rs10487133	rs8033972	0.0233	7	INTRONIC	PON2;OTTHUMG000000153948	0
rs904951	ETHNIC	0.0233	15	INTRONIC	CHRNA7;OTTHUMG000000129285	0
rs595227	ETHNIC	0.0236	8	DOWNSTREAM	OTTHUMG000000164837;KB-1507C5.4	10
rs1782134	rs1652920	0.0237	14	INTERGENIC	AL390335.1	-102929
rs9653332	ETHNIC	0.0238	2	INTRONIC	KLF7;OTTHUMG000000132935	0
rs1652920	ETHNIC	0.0239	14	INTERGENIC	AL390335.1	-52213
rs10891112	rs17111116	0.0241	11	INTRONIC	OTTHUMG000000166589;FDX1	0
rs3787140	rs3787138	0.0243	20	INTRONIC	OTTHUMG000000033080;CHRNA4	0
rs17310148	rs1178014	0.0243	14	INTERGENIC	7SK.214	-52036
rs1540461	ETHNIC	0.0246	13	INTRONIC	OTTHUMG000000017296;ITGBL1	0
rs10488895	ETHNIC	0.0247	4	INTRONIC	OTTHUMG000000132910;CAMK2D	0
rs2813563	rs2095606	0.025	6	3PRIME_UTR	OTTHUMG000000015841;SYNE1	0
rs17717503	ETHNIC	0.0251	5	INTRONIC	OTTHUMG000000130304;EBF1	0
rs11811181	ETHNIC	0.0251	1	INTRONIC	RASSF5;OTTHUMG000000036343	0
rs596631	rs595227	0.0252	8	DOWNSTREAM	OTTHUMG000000164837;KB-1507C5.4	252
rs424405	ETHNIC	0.0252	6	WITHIN_NON_CODING	AL355365.1	0
rs13287	rs7173377	0.0253	10	3PRIME_UTR	OTTHUMG000000018956;ACTR1A	0
rs17016316	rs2572324	0.0257	4	UPSTREAM	OTTHUMG000000130947;MMRN1	-3448
rs17062395	rs12249410	0.026	6	INTRONIC	OTTHUMG000000016328;GRIK2	0
rs7013362	rs595227	0.0261	8	INTRONIC	ATP6V1C1;OTTHUMG000000164761	0
rs2302374	rs3814231	0.0262	10	INTRONIC	OTTHUMG000000019073;HABP2	0
rs17826767	ETHNIC	0.0267	15	INTRONIC	OTTHUMG000000133510;BBS4	0
rs541969	ETHNIC	0.0267	11	INTERGENIC	KIRREL3;OTTHUMG000000165831	-27154
rs10759	ETHNIC	0.0269	1	3PRIME_UTR	RGS4;OTTHUMG000000034417	0
rs6987323	rs4952	0.027	8	DOWNSTREAM	OTTHUMG000000165262;CHRN3	4682
rs1778365	rs2798983	0.0271	14	INTERGENIC	AL390335.1	-51936
rs10515479	ETHNIC	0.0272	5	INTRONIC	AC008661.1;OTTHUMG000000162035	0
rs12641370	rs1491377	0.0283	4	WITHIN_NON_CODING	OTTHUMG000000160278;RP11-380P13.1	0
rs7639393	rs455635	0.0288	3	INTERGENIC	OTTHUMG000000154872;AC066595.1	30527
rs3732300	rs17732878	0.0289	2	INTRONIC	OTTHUMG000000129972;HK2	0

rs10891079	ETHNIC	0.029	11	INTRONIC	RDX;OTTHUMG00000166574	0
rs3116379	ETHNIC	0.0292	11	DOWNSTREAM	OTTHUMG00000165738;OR10A5	3064
rs2071896	ETHNIC	0.0294	22	NMD_TRANSCRIF	OTTHUMG00000150300;RP1-29C18.10	0
rs17435204	ETHNIC	0.0295	1	INTRONIC	OTTHUMG00000035923;ARL8A	0
rs1782156	rs1778365	0.0296	14	INTERGENIC	AL390335.1	-65828
rs1431041	rs2798983	0.0298	14	INTERGENIC	AL390335.1	-51491
rs2253941	ETHNIC	0.0298	10	INTRONIC	OTTHUMG00000018650;GRID1	0
rs2010033	rs10794077	0.0299	1	INTRONIC	RYR2;OTTHUMG00000039543	0
rs11847777	rs17310148	0.0299	14	INTERGENIC	7SK.214	-48492
rs13276328	rs12676935	0.0301	8	INTRONIC	PREX2;OTTHUMG00000164402	0
rs742428	rs3116379	0.0301	20	DOWNSTREAM	AL031664.1	1750
SEX	rs12559898					
ETHNIC	rs10871351					

Supplementary Table 2: First column is the SNPs ID number used in the EA model. Second column is one of the parents for the SNP in the first column. The other parent is phenotype (CASE). Third column is the p-value for Cochran-Armitage test.

SNP ID	Parent	P-val	chr	type	closest gene	dist. to gene
rs578776	rs938682	4.84E-07	15	3PRIME_UTR	OTTHUMG000000143863;CHRNA3	0
rs16969968	rs1051730	1.83E-06	15	NON_SYNONYM	CHRNA5;OTTHUMG000000143858	0
rs17486278	rs951266	2.17E-06	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs1051730	rs17487223	3.40E-06	15	STOP_GAINED	OTTHUMG000000143863;CHRNA3	0
rs951266	rs16969968	3.74E-06	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs2036527	rs951266	4.96E-06	15	INTERGENIC	CHRNA5;OTTHUMG000000143858	-6247
rs17487223	SEX	8.95E-06	15	INTRONIC	OTTHUMG000000143860;CHRNA4	0
rs1317286	rs1051730	1.09E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs637137	rs667282	1.13E-05	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs7164594	rs3813570	1.15E-05	15	INTRONIC	AGPHD1	0
rs8034191	rs10519203	1.29E-05	15	INTRONIC	AGPHD1	0
rs905739	rs684513	1.43E-05	15	DOWNSTREAM	PSMA4;OTTHUMG000000143859	3506
rs569207	rs637137	1.54E-05	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs9788721	rs8034191	1.72E-05	15	INTRONIC	AGPHD1	0
rs6933569	rs11962730	1.72E-05	6	INTERGENIC	OTTHUMG00000015697;RP5-899B16.1	-58531
rs667282	rs2036534	1.96E-05	15	INTRONIC	CHRNA5;OTTHUMG000000143858	0
rs8031948	rs10519203	2.09E-05	15	INTRONIC	AGPHD1	0
rs11637630	rs637137	2.19E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs12440014	rs28534575	2.31E-05	15	INTRONIC	OTTHUMG000000143860;CHRNA4	0
rs4461039	rs2036534	2.71E-05	15	INTRONIC	AGPHD1	0
rs6495308	rs938682	3.04E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs938682	rs11637630	3.14E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs4887069	rs6495308	3.16E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs1028575	rs1321687	3.16E-05	1	DOWNSTREAM	OTTHUMG00000010254;CLCA1	879
rs28534575	rs6495309	3.25E-05	15	INTRONIC	OTTHUMG000000143860;CHRNA4	0
rs12910984	rs11637630	3.33E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs3813570	rs905739	3.49E-05	15	5PRIME_UTR	PSMA4;OTTHUMG000000143859	0
rs2036534	rs3813570	3.68E-05	15	INTRONIC	AGPHD1	0
rs17019859	SEX	3.77E-05	2	INTERGENIC	AC084193.1;OTTHUMG000000152890	-27921
rs7177514	rs6495308	3.82E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs3015437	rs6933569	3.85E-05	6	INTERGENIC	OTTHUMG00000015697;RP5-899B16.1	-50912
rs3743078	rs6495308	3.91E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs17295298	SEX	3.95E-05	5	INTERGENIC	AC108099.1	8418
rs8042059	rs7177514	4.01E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0
rs11908323	rs6136853	4.33E-05	20	UPSTREAM	OTTHUMG000000031995;AL132821.1	-2892
rs6495309	rs11637630	4.34E-05	15	UPSTREAM	OTTHUMG000000143860;CHRNA4	1216
rs8042374	rs6495308	4.49E-05	15	INTRONIC	OTTHUMG000000143863;CHRNA3	0

rs2290332	SEX	4.58E-05	15	SYNONYMOUS_C	LRG_86;MYO5A;OTTHUMG0000013738:	0
rs503464	rs2036534	4.86E-05	15	5PRIME_UTR	CHRNA5;OTTHUMG00000143858	0
rs17633211	SEX	4.93E-05	11	INTERGENIC	5S_rRNA.86	6100
rs10519203	rs2036527	5.46E-05	15	INTRONIC	AGPHD1	0
rs1316971	rs11636605	5.76E-05	15	INTRONIC	OTTHUMG00000143860;CHRNA4	0
rs931794	rs10519203	6.47E-05	15	INTRONIC	AGPHD1	0
rs11962730	SEX	6.78E-05	6	INTERGENIC	RP11-15H7.2;OTTHUMG0000015696	81335
rs684513	rs2568488	7.21E-05	15	INTRONIC	CHRNA5;OTTHUMG00000143858	0
rs2595211	SEX	7.33E-05	2	INTRONIC	OTTHUMG00000128817;PRKCE	0
rs17484235	rs17483548	7.95E-05	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs16922195	SEX	9.13E-05	11	INTERGENIC	Y_RNA.258	-85919
rs17483548	rs8034191	9.50E-05	15	UPSTREAM	OTTHUMG00000143861;IREB2	-218
rs10819563	SEX	0.0001	9	INTRONIC	OTTHUMG00000020791;PTGES	0
rs3813549	rs1805124	0.0001	14	INTRONIC	C14orf179	0
rs17405217	rs17483548	0.0001	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs29854	rs2964608	0.0001	5	WITHIN_NON_C	CTB-12O2.1;OTTHUMG00000163523	0
rs12441998	rs12440014	0.0001	15	INTRONIC	OTTHUMG00000143860;CHRNA4	0
rs1994406	rs2632040	0.0001	11	INTRONIC	NAV2;OTTHUMG00000151837	0
rs17319624	SEX	0.0002	8	INTRONIC	CSMD1;OTTHUMG00000163605	0
rs2729874	rs1994406	0.0002	11	INTRONIC	RP11-808N1.2;OTTHUMG00000166105	0
rs7209096	SEX	0.0002	17	INTERGENIC	YWHAE;OTTHUMG00000134316	18344
rs9369005	SEX	0.0002	6	INTRONIC	AL353597.1	0
rs6141319	SEX	0.0002	20	INTRONIC	C20orf112;OTTHUMG00000032219	0
rs4447083	rs728104	0.0002	10	INTRONIC	ADAM12;OTTHUMG00000019243	0
rs2236196	rs3787138	0.0002	20	3PRIME_UTR	OTTHUMG00000033080;CHRNA4	0
rs17483686	rs17405217	0.0002	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs11636605	rs12441998	0.0003	15	INTRONIC	OTTHUMG00000143860;CHRNA4	0
rs1337327	SEX	0.0003	10	INTERGENIC	RP11-328K15.1;OTTHUMG00000019126	-38451
rs1358079	rs17170125	0.0003	7	INTRONIC	CNTNAP2;OTTHUMG00000152743	0
rs2889900	SEX	0.0003	9	UPSTREAM	OTTHUMG00000020075;RP11-394O9.1	-4421
rs9872695	rs7639393	0.0003	3	INTERGENIC	OTTHUMG00000154872;AC066595.1	23320
rs17483721	rs7181486	0.0003	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs17753750	rs9991444	0.0003	4	WITHIN_NON_C	RP11-93L9.1;OTTHUMG00000161162	0
rs17228571	SEX	0.0003	15	INTRONIC	OTTHUMG00000159446;RP11-1000B6.2	0
rs12914385	rs1051730	0.0003	15	INTRONIC	OTTHUMG00000143863;CHRNA3	0
rs7331003	rs9590779	0.0003	13	INTRONIC	ENOX1;OTTHUMG00000016818	0
rs2632040	rs2702636	0.0004	11	INTRONIC	NAV2;OTTHUMG00000151837	0
rs1031076	SEX	0.0004	1	INTRONIC	OTTHUMG00000035533;FAM5C	0
rs2468406	SEX	0.0004	12	WITHIN_NON_C	AC008033.1	0
rs1488	rs4709491	0.0004	6	3PRIME_UTR	MAP3K4;OTTHUMG00000015968	0
rs2537832	SEX	0.0004	17	INTRONIC	PITPNC1	0
rs3813567	rs11636605	0.0004	15	UPSTREAM	OTTHUMG00000143860;CHRNA4	-964

rs8040868	rs12914385	0.0004	15	SYNONYMOUS_C	OTTHUMG000000143863;CHRNA3	0
rs977590	SEX	0.0004	7	WITHIN_NON_C	OTTHUMG000000153007;AC005582.1	0
rs13331869	rs16952906	0.0004	16	INTRONIC	OTTHUMG000000158780;FTO	0
rs16987905	SEX	0.0005	20	INTERGENIC	ATG3P1;OTTHUMG00000032467	16978
rs17175889	rs10960468	0.0005	9	INTERGENIC	OTTHUMG00000019555;RP11-74C3.1	-47726
rs10960468	SEX	0.0005	9	INTERGENIC	OTTHUMG00000019555;RP11-74C3.1	5406
rs7550193	SEX	0.0005	1	INTERGENIC	PBX1;OTTHUMG00000034307	-72079
rs7181486	rs17483686	0.0006	15	INTRONIC	OTTHUMG000000143861;IREB2	0
rs7517505	rs7550193	0.0006	1	INTERGENIC	PBX1;OTTHUMG00000034307	-71448
rs9590779	rs9590768	0.0006	13	INTRONIC	ENOX1;OTTHUMG00000016818	0
rs10891079	rs17111116	0.0006	11	INTRONIC	RDX;OTTHUMG000000166574	0
rs16968083	SEX	0.0006	15	INTRONIC	ETFA	0
rs6136853	SEX	0.0006	20	UPSTREAM	OTTHUMG00000031995;AL132821.1	-4105
rs17301314	SEX	0.0006	4	INTRONIC	DCHS2;OTTHUMG000000161556	0
rs12948015	SEX	0.0006	17	INTRONIC	CALCOCO2;OTTHUMG000000160505	0
rs961459	SEX	0.0006	2	INTRONIC	OTTHUMG000000153356;CNTNAP5	0
rs2862312	rs17019859	0.0007	2	WITHIN_NON_C	AC084193.1;OTTHUMG000000152890	0
rs685884	SEX	0.0007	13	INTRONIC	OTTHUMG00000017342;COL4A1	0
rs6431305	SEX	0.0007	2	INTRONIC	SAG;OTTHUMG000000153213	0
rs9991444	rs17007477	0.0007	4	WITHIN_NON_C	RP11-93L9.1;OTTHUMG000000161162	0
rs17715372	SEX	0.0007	13	DOWNSTREAM	OTTHUMG00000017081;RP11-512C24.2	192
rs10794077	SEX	0.0007	10	INTRONIC	ADAM12;OTTHUMG00000019243	0
rs12559898	SEX	0.0007	X	INTRONIC	OTTHUMG00000022685;GRIA3	0
rs11992884	SEX	0.0007	8	INTRONIC	CSMD1;OTTHUMG000000163605	0
rs7118	SEX	0.0007	16	3PRIME_UTR	ZFP90	0
rs7809080	SEX	0.0007	7	INTRONIC	OTTHUMG000000152524;DNAH11	0
rs4764931	SEX	0.0007	12	INTERGENIC	ASCL1	69436
rs6758173	SEX	0.0007	2	INTRONIC	OTTHUMG000000130205;REEP1	0
rs11086322	SEX	0.0007	20	INTERGENIC	RPSAP1;OTTHUMG00000032746	32566
rs11580609	rs781058	0.0007	1	3PRIME_UTR	MMACHC;OTTHUMG00000007742	0
rs11167923	rs6869382	0.0007	5	INTRONIC	SH3RF2;OTTHUMG000000129685	0
rs17483929	rs17483686	0.0008	15	INTRONIC	OTTHUMG000000143861;IREB2	0
rs10871351	rs2738710	0.0008	16	INTRONIC	WVOX	0
rs16952906	SEX	0.0008	16	INTRONIC	OTTHUMG000000158780;FTO	0
rs12725346	SEX	0.0009	1	INTRONIC	OTTHUMG00000010995;VAV3	0
rs718307	SEX	0.0009	20	INTERGENIC	OTTHUMG00000032824;ZBP1	-10397
rs1779517	rs2798983	0.0009	14	INTERGENIC	AL390335.1	-87976
rs10091164	SEX	0.0009	8	UPSTREAM	AC090193.1	-934
rs17007477	SEX	0.001	4	WITHIN_NON_C	RP11-93L9.1;OTTHUMG000000161162	0
rs13211840	SEX	0.001	6	INTRONIC	UST;OTTHUMG00000016135	0
rs7982220	SEX	0.001	13	INTERGENIC	OTTHUMG00000017189;RP11-430K10.1	24951
rs10960477	rs10960468	0.001	9	WITHIN_NON_C	OTTHUMG00000019555;RP11-74C3.1	0

rs1491377	rs12641370	0.0011	4	WITHIN_NON_C	OTTHUMG00000160278;RP11-380P13.1	0
rs6547333	rs2862312	0.0011	2	UPSTREAM	AC084193.1;OTTHUMG00000152890	-2005
rs10511193	SEX	0.0011	3	INTERGENIC	OTTHUMG00000159237;RP11-221J22.2	49647
rs10504631	rs7838141	0.0012	8	WITHIN_NON_C	RP11-65D13.1;OTTHUMG00000164554	0
rs2738710	SEX	0.0012	16	INTRONIC	WWOX	0
rs2244501	rs3845412	0.0012	1	5PRIME_UTR	TTF2;OTTHUMG00000012030	0
rs2568483	rs2656071	0.0012	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs11196344	rs911700	0.0012	10	INTERGENIC	OTTHUMG00000019071;RP11-481H12.1	-8230
rs924840	rs2568485	0.0013	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs2568485	rs2568483	0.0013	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs11989847	SEX	0.0013	8	INTRONIC	COL22A1;OTTHUMG00000150035	0
rs2958719	rs2656071	0.0013	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs2656069	rs2568485	0.0013	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs455635	rs7639393	0.0013	3	INTRONIC	OTTHUMG00000090601;CHL1	0
rs3928773	SEX	0.0013	10	INTRONIC	ST8SIA6;OTTHUMG00000017748	0
rs10207124	SEX	0.0014	2	INTRONIC	OTTHUMG00000131799;LRP1B	0
rs2656071	rs1504549	0.0014	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs17687429	SEX	0.0014	4	INTRONIC	OTTHUMG00000150252;CPE	0
rs2568488	rs2568485	0.0015	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs7639393	SEX	0.0015	3	INTERGENIC	OTTHUMG00000154872;AC066595.1	30527
rs16930094	SEX	0.0015	11	INTRONIC	OTTHUMG00000166451;ELF5	0
rs2656052	rs17483686	0.0015	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs4754592	SEX	0.0016	11	INTRONIC	CNTN5;OTTHUMG00000167579	0
rs13063842	SEX	0.0016	3	INTERGENIC	U6.223	-132017
rs13385999	SEX	0.0016	2	INTRONIC	EML6;OTTHUMG00000152035	0
rs7753810	rs13211840	0.0016	6	INTRONIC	UST;OTTHUMG00000016135	0
rs9803946	SEX	0.0016	1	INTERGENIC	RP4-617C6.1;OTTHUMG00000010909	-33270
rs12218075	SEX	0.0016	10	INTERGENIC	OTTHUMG00000018900;ERLIN1	9658
rs728104	rs10794077	0.0017	10	INTRONIC	ADAM12;OTTHUMG00000019243	0
rs7838141	SEX	0.0017	8	INTRONIC	ZFX4;OTTHUMG00000164557	0
rs6505717	SEX	0.0017	18	INTRONIC	ANKRD62	0
rs10869910	rs4142603	0.0017	9	INTRONIC	OTTHUMG00000020055;VPS13A	0
rs867056	SEX	0.0018	6	UPSTREAM	U1.39	-270
rs17170125	SEX	0.0018	7	INTRONIC	CNTNAP2;OTTHUMG00000152743	0
rs16839578	SEX	0.0018	2	INTERGENIC	OTTHUMG00000153834;AC093375.1	238436
rs1441456	rs10207124	0.0019	2	INTRONIC	OTTHUMG00000131799;LRP1B	0
rs4770950	rs7338440	0.0019	13	WITHIN_NON_C	RNF6;OTTHUMG00000016614	0
rs3814231	rs911700	0.0019	10	INTRONIC	CASP7;OTTHUMG00000019076	0
rs16924076	rs1487874	0.0019	11	INTRONIC	SYT9;OTTHUMG00000165499	0
rs11187665	SEX	0.0019	10	INTRONIC	LGI1;OTTHUMG00000018777	0
rs16943109	SEX	0.0019	15	INTRONIC	RORA;OTTHUMG00000132769	0
rs2798983	rs1652920	0.002	14	INTERGENIC	AL390335.1	-46264

rs750780	SEX	0.002	11	UPSTREAM	LMO2;OTTHUMG000000157176	-3758
rs1202309	rs2782185	0.002	6	INTERGENIC	ID4;OTTHUMG00000014333	79071
rs12676935	rs13276328	0.002	8	INTRONIC	PREX2;OTTHUMG000000164402	0
rs1881492	SEX	0.002	2	INTRONIC	OTTHUMG000000153327;CHRNA3	0
rs17541037	SEX	0.002	6	INTERGENIC	AL139097.1	-30174
rs1652920	rs1611914	0.002	14	INTERGENIC	AL390335.1	-52213
rs16833155	SEX	0.002	2	INTRONIC	STAT1;LRG_111;OTTHUMG000000132699	0
rs205907	SEX	0.0021	20	INTRONIC	OTTHUMG000000031636;CSNK2A1	0
rs12933259	rs10871351	0.0021	16	INTRONIC	WWOX	0
rs2724432	SEX	0.0021	11	INTERGENIC	RP11-347E10.1;OTTHUMG000000166588	7069
rs2251107	SEX	0.0022	15	UPSTREAM	RYS3	-4775
rs4680860	SEX	0.0022	3	INTRONIC	OTTHUMG000000155699;RBMS3	0
rs6685390	SEX	0.0022	1	INTRONIC	AL139151.1	0
rs2119397	rs7834013	0.0022	8	INTERGENIC	FAM150A;OTTHUMG000000164256	-17547
rs6472851	SEX	0.0022	8	WITHIN_NON_CODING	GDAP1;OTTHUMG000000164509	0
rs11133773	rs1031006	0.0023	5	INTERGENIC	DNAH5;OTTHUMG000000090533	-19936
rs11098193	SEX	0.0023	4	SYNONYMOUS_CODING	OTTHUMG000000132910;CAMK2D	0
rs13277254	rs10958726	0.0023	8	UPSTREAM	OTTHUMG000000165262;CHRNA3	-2537
rs2302761	rs17732878	0.0024	17	INTRONIC	OTTHUMG000000108139;CHRNA1	0
rs13277524	rs6474413	0.0024	8	UPSTREAM	OTTHUMG000000165262;CHRNA3	-2462
rs6759039	SEX	0.0024	2	INTRONIC	ERBB4;OTTHUMG000000133012	0
rs2055145	SEX	0.0024	1	INTRONIC	OTTHUMG000000007680;TESK2	0
rs13103030	SEX	0.0024	4	INTRONIC	OTTHUMG000000128557;KCNIP4	0
rs17732878	SEX	0.0024	17	DOWNSTREAM	OTTHUMG000000108137;ZBTB4	326
rs7834013	SEX	0.0025	8	INTRONIC	FAM150A;OTTHUMG000000164256	0
rs1388639	SEX	0.0025	3	INTERGENIC	RP11-668N23.1;OTTHUMG000000159019	113135
rs1031006	SEX	0.0025	5	INTERGENIC	DNAH5;OTTHUMG000000090533	-42451
rs7645379	SEX	0.0025	3	INTRONIC	LPP;OTTHUMG000000156387	0
rs1202285	rs1202309	0.0025	6	INTERGENIC	ID4;OTTHUMG00000014333	73264
rs4734633	SEX	0.0025	8	INTERGENIC	KB-1980E6.3;OTTHUMG000000164777	-10324
rs1778365	rs1782156	0.0025	14	INTERGENIC	AL390335.1	-51936
rs6903494	SEX	0.0026	6	INTERGENIC	OTTHUMG00000015458;NUS1	85799
rs4362358	rs1504549	0.0026	15	UPSTREAM	OTTHUMG000000143861;IREB2	2309
rs1955186	rs1955185	0.0026	8	UPSTREAM	OTTHUMG000000165262;CHRNA3	-3028
rs4237598	rs4754592	0.0026	11	INTRONIC	CNTN5;OTTHUMG000000167579	0
rs3787138	rs2229959	0.0027	20	INTRONIC	OTTHUMG000000033080;CHRNA4	0
rs6536719	rs9764	0.0027	4	INTERGENIC	RP11-719L21.1;OTTHUMG000000161352	-27360
rs10886113	rs1337327	0.0028	10	INTERGENIC	RP11-328K15.1;OTTHUMG00000019126	-47833
rs2246583	rs1028575	0.0028	1	DOWNSTREAM	OTTHUMG00000010254;CLCA1	744
rs4444771	SEX	0.0028	4	INTRONIC	ANTXR2;OTTHUMG000000151982	0
rs913930	SEX	0.0028	9	DOWNSTREAM	OTTHUMG000000021046;TLR4	4860
rs7039966	SEX	0.0028	9	3PRIME_UTR	OTTHUMG00000019469;C9orf68	0

rs1778408	rs1778365	0.0029	14	INTERGENIC	AL390335.1	-74303
rs1504549	rs17483686	0.0029	15	INTRONIC	OTTHUMG00000143861;IREB2	0
rs1417056	rs1832650	0.003	6	INTERGENIC	AL513023.1	39735
rs1779534	SEX	0.003	14	INTERGENIC	AL390335.1	-119093
rs2511553	SEX	0.003	8	INTRONIC	RIMS2;OTTHUMG00000162097	0
rs2782185	SEX	0.0031	6	INTERGENIC	RP1-130G2.1;OTTHUMG0000016195	85843
rs6474413	rs1955185	0.0032	8	UPSTREAM	OTTHUMG00000165262;CHRN83	-1455
rs1782134	rs1611914	0.0032	14	INTERGENIC	AL390335.1	-102929
rs1782156	rs2798983	0.0032	14	INTERGENIC	AL390335.1	-65828
rs4565373	SEX	0.0032	7	INTRONIC	ELMO1;OTTHUMG00000023701	0
rs16851270	SEX	0.0032	1	INTRONIC	OTTHUMG00000037771;GALNT2	0
rs6715980	rs13385999	0.0032	2	INTRONIC	RTN4;OTTHUMG00000129337	0
rs2249100	SEX	0.0033	21	INTRONIC	OTTHUMG00000074508;CXADR	0
rs10483521	SEX	0.0033	14	INTRONIC	OTTHUMG00000140261;LRFN5	0
rs1431041	rs2798983	0.0034	14	INTERGENIC	AL390335.1	-51491
rs10958726	SEX	0.0034	8	INTERGENIC	OTTHUMG00000165262;CHRN83	-16610
rs7000142	SEX	0.0034	8	NMD_TRANSCRIF	OTTHUMG00000149877;COL14A1	0
rs1611914	rs1779534	0.0036	14	INTERGENIC	AL390335.1	-115814
rs12209447	rs1772941	0.0037	6	INTRONIC	OTTHUMG00000015870;OPRM1	0
rs7210231	rs2302761	0.0037	17	INTRONIC	OTTHUMG00000108139;CHRN81	0
rs9332406	SEX	0.0037	10	INTRONIC	CTNNA3;OTTHUMG00000018334	0
rs1955185	rs13277254	0.0038	8	UPSTREAM	OTTHUMG00000165262;CHRN83	-2872
rs2791944	SEX	0.0038	1	INTRONIC	ABL2;OTTHUMG00000035199	0
rs16894824	SEX	0.0038	4	INTERGENIC	SNORA75.1	12463
rs10938953	rs1491377	0.0038	4	WITHIN_NON_C	OTTHUMG00000160278;RP11-380P13.1	0
rs2469665	SEX	0.0039	8	INTRONIC	OTTHUMG00000164725;SNX31	0
rs2271271	rs2688617	0.0039	10	SYNONYMOUS_C	RP11-574K11.16;OTTHUMG0000001848	0
rs1778400	rs1611914	0.0039	14	INTERGENIC	AL390335.1	-98359
rs2941954	rs10871351	0.004	16	INTRONIC	WWOX	0
rs1522086	SEX	0.0041	11	INTRONIC	OTTHUMG00000166244;FBXO3	0
rs1805124	SEX	0.0041	3	NON_SYNONYM	SCN5A;OTTHUMG00000156166	0
rs10812315	SEX	0.0041	9	WITHIN_NON_C	RP11-125B21.2;OTTHUMG00000019448	0
rs4709491	SEX	0.0043	6	INTRONIC	MAP3K4;OTTHUMG00000015968	0
rs10143569	SEX	0.0044	14	INTERGENIC	AL358913.1	-313488
rs5911548	rs12559898	0.0044	X	INTRONIC	OTTHUMG00000022685;GRIA3	0
rs16984240	SEX	0.0044	20	INTRONIC	OTTHUMG00000149988;MYT1	0
rs4950	rs1955185	0.0044	8	5PRIME_UTR	OTTHUMG00000165262;CHRN83	0
rs2841615	SEX	0.0044	1	INTRONIC	KCNK2;OTTHUMG00000037017	0
rs911700	rs7331003	0.0045	10	INTRONIC	OTTHUMG00000019073;HABP2	0
rs4792148	SEX	0.0046	17	INTRONIC	OTTHUMG00000154121;SHISA6	0
rs2296910	rs1540461	0.0046	13	INTRONIC	OTTHUMG00000017296;ITGBL1	0
rs9590768	SEX	0.0046	13	INTRONIC	ENOX1;OTTHUMG00000016818	0

rs1536701	SEX	0.0046	6	DOWNSTREAM	OTTHUMG00000014689;MED20	3168
rs2009315	rs6452345	0.0046	5	INTERGENIC	RP11-351N6.1;OTTHUMG000000161971	-59796
rs1772941	SEX	0.0047	6	INTERGENIC	OTTHUMG000000015870;OPRM1	-9963
rs781058	rs2055145	0.0047	1	INTRONIC	OTTHUMG000000007680;TESK2	0
rs4142603	SEX	0.0047	9	INTERGENIC	RP11-470P4.2;OTTHUMG000000020054	22278
rs6474412	rs6474413	0.0047	8	UPSTREAM	OTTHUMG000000165262;CHRN83	-2021
rs1832650	rs1832655	0.0047	6	INTERGENIC	AL513023.1	39822
rs2302374	rs911700	0.0048	10	INTRONIC	OTTHUMG000000019073;HABP2	0
rs9302842	rs12922217	0.0048	16	INTERGENIC	RP11-545E8.1;OTTHUMG000000158084	-62134
rs12768718	SEX	0.0049	10	INTRONIC	ARHGAP22;OTTHUMG000000018176	0
rs1540461	SEX	0.005	13	INTRONIC	OTTHUMG000000017296;ITGBL1	0
rs17301591	SEX	0.005	5	INTRONIC	MAP1B;OTTHUMG000000100952	0
rs17109801	SEX	0.005	12	INTRONIC	LGR5	0
rs10487133	SEX	0.005	7	INTRONIC	PON2;OTTHUMG000000153948	0
rs4810264	rs2067008	0.0051	20	INTERGENIC	AL031661.1	38943
rs1493050	SEX	0.0051	9	INTRONIC	C9orf135;OTTHUMG000000019985	0
rs11685684	SEX	0.0052	2	INTRONIC	OTTHUMG000000088987;CPO	0
rs2409665	SEX	0.0052	8	INTERGENIC	OTTHUMG000000129351;XKR6	17322
rs2326427	rs7835799	0.0053	8	INTRONIC	DEPDC6;OTTHUMG000000165052	0
rs7338440	SEX	0.0053	13	WITHIN_NON_CODING	RNF6;OTTHUMG000000016614	0
rs13208542	SEX	0.0054	6	INTERGENIC	RP11-291C6.1;OTTHUMG000000015820	-25334
rs2888881	SEX	0.0056	2	INTRONIC	OTTHUMG000000128657;PLEKHH2	0
rs2615891	SEX	0.0056	10	INTRONIC	OTTHUMG000000019096;ATRN1	0
rs16873950	rs10938953	0.0056	4	WITHIN_NON_CODING	OTTHUMG000000160278;RP11-380P13.1	0
rs17032776	SEX	0.0057	2	WITHIN_NON_CODING	AC007403.2;OTTHUMG000000152853	0
rs2235902	rs6141319	0.0058	20	INTRONIC	TM9SF4;OTTHUMG000000032206	0
rs638299	SEX	0.0059	11	INTERGENIC	OR10D4P;OTTHUMG000000165970	7894
rs9920506	rs11636605	0.006	15	INTRONIC	OTTHUMG000000143860;CHRN84	0
rs7743315	SEX	0.006	6	INTRONIC	SLC26A8;OTTHUMG000000014586	0
rs2067008	rs16987905	0.0061	20	INTERGENIC	ATG3P1;OTTHUMG000000032467	-6532
rs17011356	rs1366812	0.0062	2	INTRONIC	OTTHUMG000000099385;XDH	0
rs2590357	SEX	0.0064	10	INTRONIC	IPMK;OTTHUMG000000018268	0
rs1321687	SEX	0.0064	1	INTERGENIC	OTTHUMG000000010254;CLCA1	8062
rs2579174	SEX	0.0064	10	INTERGENIC	U6.50	6496
rs6476090	SEX	0.0065	9	INTERGENIC	LINGO2;OTTHUMG000000019721	-43300
rs9764	SEX	0.0065	4	3PRIME_UTR	OTTHUMG000000161371;NPY1R	0
rs17604548	SEX	0.0067	2	INTRONIC	TANC1;OTTHUMG000000153945	0
rs1364494	SEX	0.0067	7	INTRONIC	OTTHUMG000000155658;CHRM2	0
rs7798970	SEX	0.0067	7	WITHIN_NON_CODING	OTTHUMG000000065036;AC002064.3	0
rs6452345	SEX	0.0067	5	INTERGENIC	CTD-2533K21.3;OTTHUMG000000161965	-101212
rs11078682	rs4627421	0.0068	17	INTRONIC	POLR2A	0
rs10862582	SEX	0.007	12	INTRONIC	TMTC2	0

rs1001594	SEX	0.0071	7	INTRONIC	PCLO;OTTHUMG00000154853	0
rs2041497	SEX	0.0073	7	INTRONIC	CREB5;OTTHUMG00000097081	0
rs17049483	SEX	0.0073	2	INTERGENIC	snoU13.127	16888
rs1070488	SEX	0.0073	16	INTRONIC	GRIN2A;OTTHUMG00000129721	0
rs10223990	SEX	0.0075	7	INTRONIC	HDAC9;OTTHUMG00000152487	0
rs907944	SEX	0.0075	17	INTRONIC	PITPNM3;OTTHUMG00000102039	0
rs4627421	rs17732878	0.0075	17	INTRONIC	POLR2A	0
rs3741947	SEX	0.0077	12	INTRONIC	TSPAN9;OTTHUMG00000150333	0
rs17658005	rs17598411	0.0077	8	WITHIN_NON_C	OTTHUMG00000164139;RP11-30J20.1	0
rs17636651	SEX	0.0078	4	REGULATORY_RE	OTTHUMG00000132910;CAMK2D	-721
rs1832655	SEX	0.0079	6	INTERGENIC	AL513023.1	45873
rs7923885	rs8040868	0.0079	10	INTRONIC	CACNB2;OTTHUMG00000017764	0
rs16911639	SEX	0.0079	11	INTERGENIC	RP11-945A11.1;OTTHUMG00000166086	-80710
rs2836391	SEX	0.008	21	INTRONIC	ERG;OTTHUMG00000090767	0
rs8001012	SEX	0.008	13	INTRONIC	KLF12;OTTHUMG00000017078	0
rs17629798	SEX	0.008	17	INTERGENIC	AC022916.1	11537
rs11193101	SEX	0.008	10	INTRONIC	SORCS1;OTTHUMG00000019018	0
rs17397875	SEX	0.0081	1	INTRONIC	OTTHUMG00000002498;UBR4	0
rs10509550	SEX	0.0081	10	INTRONIC	RNLS;OTTHUMG00000018692	0
rs10800749	SEX	0.0081	1	INTRONIC	OTTHUMG00000035787;KIF21B	0
rs3756814	SEX	0.0081	6	3PRIME_UTR	OTTHUMG00000014361;C6orf62	0
rs7100211	SEX	0.0081	10	INTERGENIC	OTTHUMG00000017566;RP11-184A2.3	-65312
rs2229959	rs3787140	0.0083	20	SYNONYMOUS_C	OTTHUMG00000033080;CHRNA4	0
rs2835150	SEX	0.0083	21	WITHIN_NON_C	RUNX1;OTTHUMG00000086299	0
rs6591333	SEX	0.0083	11	DOWNSTREAM	OTTHUMG00000167388;CTD-2655K5.1	4781
rs683979	rs10503128	0.0083	18	INTERGENIC	AC114689.1	286935
rs2999279	SEX	0.0084	10	INTRONIC	ZNF239;OTTHUMG00000018033	0
rs10515479	rs4976489	0.0084	5	INTRONIC	AC008661.1;OTTHUMG00000162035	0
rs2374094	rs7798970	0.0085	7	WITHIN_NON_C	OTTHUMG00000065036;AC002064.3	0
rs6597301	SEX	0.0088	6	INTERGENIC	OTTHUMG00000014221;EEF1E1	-16095
rs928485	SEX	0.0088	20	INTERGENIC	7SK.169	-31532
rs2140553	SEX	0.0088	10	INTRONIC	OTTHUMG00000018772;MYOF	0
rs2283029	rs2237635	0.009	7	INTRONIC	RELN;OTTHUMG00000157247	0
rs10754238	rs10801633	0.009	1	INTERGENIC	OTTHUMG00000035656;LHX9	14985
rs13276328	SEX	0.0091	8	INTRONIC	PREX2;OTTHUMG00000164402	0
rs1034805	rs10223990	0.0091	7	INTRONIC	HDAC9;OTTHUMG00000152487	0
rs149103	rs27597	0.0093	5	INTRONIC	CTB-157D17.1;OTTHUMG00000163570	0
rs6957735	SEX	0.0094	7	INTRONIC	OTTHUMG00000150507;AC009365.3	0
rs11026030	SEX	0.0095	11	INTRONIC	CTD-2302A16.2;OTTHUMG00000166204	0
rs6005266	SEX	0.0095	22	INTERGENIC	U6.144	-21101
rs12413039	rs2271271	0.0096	10	INTRONIC	SEC24C;OTTHUMG00000018476	0
rs3867465	SEX	0.0097	11	INTRONIC	OTTHUMG00000166819;FDXACB1	0

rs7965350	SEX	0.0098	12	5PRIME_UTR	TAOK3	0
rs17247100	SEX	0.0098	X	INTRONIC	OTTHUMG00000021214;CDKL5	0
rs1229983	SEX	0.0098	4	SYNONYMOUS_C	OTTHUMG000000161413;ADH1B	0
rs2667555	rs10871351	0.0099	16	INTRONIC	WVOX	0
rs1042606	SEX	0.0099	10	REGULATORY_RE	DUSP5;OTTHUMG00000019040	0
rs4958726	SEX	0.01	5	INTRONIC	GALNT10;OTTHUMG000000130145	0
rs16847554	SEX	0.0101	2	INTRONIC	ERBB4;OTTHUMG000000133012	0
rs7011083	SEX	0.0101	8	INTRONIC	CSGALNACT1;OTTHUMG000000130827	0
rs9530685	SEX	0.0102	13	INTRONIC	NBEA;OTTHUMG00000016724	0
rs3092084	rs928485	0.0103	20	INTERGENIC	7SK.169	-26106
rs6631371	SEX	0.0104	X	INTRONIC	DMD;OTTHUMG00000021336	0
rs4310196	rs6472851	0.0104	8	INTRONIC	GDAP1;OTTHUMG000000164509	0
rs17465965	SEX	0.0105	5	INTRONIC	FYB;OTTHUMG000000162071	0
rs2483424	SEX	0.0105	13	INTRONIC	FREM2;OTTHUMG00000016759	0
rs2606747	SEX	0.0105	3	INTRONIC	ATG7;OTTHUMG000000129740	0
rs17181088	SEX	0.0106	11	INTRONIC	TP53I11;OTTHUMG000000165714	0
rs27597	rs4958726	0.0107	5	INTRONIC	CTB-157D17.1;OTTHUMG000000163570	0
rs13287	SEX	0.0107	10	3PRIME_UTR	OTTHUMG00000018956;ACTR1A	0
rs17111116	rs10891112	0.0109	11	UPSTREAM	RP11-347E10.1;OTTHUMG000000166588	-3806
rs17152281	SEX	0.0109	7	NMD_TRANSCRIF	CDHR3;OTTHUMG000000157520	0
rs12765671	rs17204499	0.0109	10	INTRONIC	OTTHUMG00000019011;SORCS3	0
rs4655330	rs8752	0.0112	1	INTRONIC	OTTHUMG000000037066;SMYD2	0
rs7074696	SEX	0.0113	10	INTRONIC	CTNNA3;OTTHUMG00000018334	0
rs4802552	SEX	0.0113	19	INTRONIC	SNRNP70	0
rs7173377	SEX	0.0113	15	INTRONIC	IGF1R;OTTHUMG000000149851	0
rs12466358	rs3791729	0.0114	2	INTRONIC	CHRND;OTTHUMG000000133261	0
rs11811181	SEX	0.0115	1	INTRONIC	RASSF5;OTTHUMG000000036343	0
rs6558951	rs11992884	0.0116	8	INTRONIC	CSMD1;OTTHUMG000000163605	0
rs4439581	SEX	0.0116	12	INTRONIC	PTPRQ;OTTHUMG000000165428	0
rs12252214	SEX	0.0116	10	INTRONIC	OTTHUMG00000019343;NRP1	0
rs17674530	SEX	0.0116	16	3PRIME_UTR	OTTHUMG000000048201;ABAT	0
rs2702636	SEX	0.0117	11	INTRONIC	NAV2;OTTHUMG000000151837	0
rs4611601	SEX	0.0118	2	INTRONIC	OTTHUMG000000153419;MYO7B	0
rs332012	SEX	0.0118	5	UPSTREAM	CDH10;OTTHUMG000000090667	-1739
rs17204499	SEX	0.0118	10	INTRONIC	OTTHUMG00000019011;SORCS3	0
rs17598411	SEX	0.0119	8	WITHIN_NON_CC	OTTHUMG000000164139;RP11-30J20.1	0
rs10517352	rs4859365	0.0121	4	INTERGENIC	U6.413	56964
rs1370371	SEX	0.0121	2	INTRONIC	PTH2R;OTTHUMG000000132960	0
rs12072533	SEX	0.0121	1	INTRONIC	OTTHUMG00000014031;BCL9	0
rs17735590	rs4706345	0.0121	6	INTRONIC	OTTHUMG00000015203;LYRM2	0
rs13001457	SEX	0.0122	2	INTRONIC	OTTHUMG000000102183;SLC8A1	0
rs16851537	SEX	0.0123	2	INTRONIC	OTTHUMG000000133015;SPAG16	0

rs4958469	SEX	0.0123	5	INTRONIC	CAMK2A;OTTHUMG00000134281	0
rs12440118	SEX	0.0123	15	NON_SYNONYM(ZFP106	0
rs13420006	SEX	0.0124	2	INTRONIC	MPP4;OTTHUMG00000154525	0
rs2833253	SEX	0.0124	21	INTRONIC	TIAM1;OTTHUMG00000084869	0
rs574141	SEX	0.0125	3	INTRONIC	RFTN1;OTTHUMG00000156973	0
rs11027387	rs16911639	0.0125	11	INTERGENIC	RP11-713P14.1;OTTHUMG00000158317	69377
rs4825841	SEX	0.0126	X	INTRONIC	OTTHUMG00000022685;GRIA3	0
rs4144479	SEX	0.0126	5	INTRONIC	OTTHUMG00000159785;FBXL17	0
rs1468673	SEX	0.0127	9	INTRONIC	LRG_28;C5;OTTHUMG00000020579	0
rs1336976	SEX	0.0128	10	INTRONIC	SORCS1;OTTHUMG00000019018	0
rs1178014	SEX	0.0128	2	INTRONIC	METTL8;OTTHUMG00000132261	0
rs2240430	rs6903494	0.013	22	INTRONIC	SMTN;OTTHUMG00000151203	0
rs735740	SEX	0.013	9	INTRONIC	SHB;OTTHUMG00000019936	0
rs11249877	rs2409665	0.0134	8	INTERGENIC	OTTHUMG00000163674;CLDN23	-24674
rs890	SEX	0.0135	12	3PRIME_UTR	GRIN2B;OTTHUMG00000137373	0
rs17528550	SEX	0.0137	5	INTRONIC	PDE4D;OTTHUMG00000162218	0
rs9878126	SEX	0.0138	3	INTRONIC	SCHIP1;OTTHUMG00000162426;	0
rs17656349	rs4958469	0.014	5	INTRONIC	CAMK2A;OTTHUMG00000134281	0
rs17717503	SEX	0.0142	5	INTRONIC	OTTHUMG00000130304;EBF1	0
rs17446920	SEX	0.0144	2	INTRONIC	DCDC2C;OTTHUMG00000151490	0
rs3020409	SEX	0.0147	6	INTRONIC	ESR1;OTTHUMG00000016103	0
rs10759	SEX	0.0147	1	3PRIME_UTR	RGS4;OTTHUMG00000034417	0
rs7215056	rs7210231	0.0147	17	INTRONIC	OTTHUMG00000108139;CHRN1	0
rs10801633	rs1909507	0.0147	1	INTRONIC	OTTHUMG00000035656;LHX9	0
rs10513041	SEX	0.0149	5	INTRONIC	ARL15;OTTHUMG00000162287	0
rs11694463	SEX	0.015	2	INTERGENIC	OTTHUMG00000151710;AC096559.2	36350
rs6550166	SEX	0.0153	3	INTRONIC	OTTHUMG00000155778;TRIM71	0
rs885624	rs4144479	0.0153	5	INTRONIC	OTTHUMG00000159785;FBXL17	0
rs482322	rs16930094	0.0153	11	INTRONIC	CAT;OTTHUMG00000044353	0
rs2833964	SEX	0.0153	21	INTRONIC	C21orf62;OTTHUMG00000163477	0
rs10035925	rs1031006	0.0153	5	INTERGENIC	DNAH5;OTTHUMG00000090533	-44678
rs7925271	SEX	0.0154	11	5PRIME_UTR	OR51E1;OTTHUMG00000157024	0
rs424405	SEX	0.0155	6	WITHIN_NON_C	AL355365.1	0
rs2797237	SEX	0.0157	1	INTRONIC	OTTHUMG00000037079;USH2A	0
rs2304297	rs1955185	0.0158	8	3PRIME_UTR	OTTHUMG00000165275;CHRNA6	0
rs7989852	rs1540461	0.0158	13	INTRONIC	OTTHUMG00000017303;FGF14	0
rs6746740	SEX	0.0158	2	INTRONIC	OTTHUMG00000129565;CNRIP1	0
rs10503128	SEX	0.0159	18	INTERGENIC	AC114689.1	286318
rs4905554	SEX	0.0159	14	INTRONIC	VRK1	0
rs2303703	SEX	0.016	5	INTRONIC	OTTHUMG00000161822;MYO10	0
rs12234934	SEX	0.016	8	INTRONIC	OTTHUMG00000164516;TRPA1	0
rs1131384	SEX	0.016	7	3PRIME_UTR	OTTHUMG00000150387;POLR2J	0

rs8033972	SEX	0.0161	15	INTRONIC	OTTHUMG000000133019;CSNK1G1	0
rs7752256	SEX	0.0163	6	INTERGENIC	AL360215.1	-351536
rs1880260	rs2140553	0.0163	10	INTRONIC	OTTHUMG000000018772;MYOF	0
rs17016316	SEX	0.0164	4	UPSTREAM	OTTHUMG000000130947;MMRN1	-3448
rs4525630	SEX	0.0167	2	INTERGENIC	OTTHUMG000000153708;AC103881.1	-85428
rs17600836	SEX	0.0167	15	INTERGENIC	OTTHUMG000000149844;C15orf32	24096
rs3845412	SEX	0.0168	1	INTRONIC	OTTHUMG000000035183;KIAA1614	0
rs4525160	SEX	0.0168	10	INTRONIC	RBM20;OTTHUMG000000019043	0
rs3116379		0.0169	11	DOWNSTREAM	OTTHUMG000000165738;OR10A5	3064
rs2270073	SEX	0.0172	14	5PRIME_UTR	PTGR2	0
rs7903726	SEX	0.0172	10	INTRONIC	OTTHUMG000000018772;MYOF	0
rs3797026	SEX	0.0172	4	SYNONYMOUS_C	RP11-714G18.1;OTTHUMG000000160464	0
rs2273504	rs2236196	0.0174	20	INTRONIC	OTTHUMG000000033080;CHRNA4	0
rs1043821	SEX	0.0175	11	3PRIME_UTR	OTTHUMG000000165880;TMEM218	0
rs2255663	rs291593	0.0175	15	INTRONIC	OTTHUMG000000059758;PIIP5K1	0
rs4237713	SEX	0.0177	11	INTRONIC	OTTHUMG000000165777;MICALCL	0
rs13280301	rs1530847	0.0178	8	UPSTREAM	OTTHUMG000000165262;CHRN3	-2502
rs2056048	rs291593	0.0178	1	INTRONIC	OTTHUMG000000039683;DPYD	0
rs133482	SEX	0.0179	22	INTRONIC	FAM19A5;OTTHUMG000000150308	0
rs1366812	SEX	0.018	2	INTRONIC	OTTHUMG000000099385;XDH	0
rs17536666	SEX	0.0181	5	INTERGENIC	OTTHUMG000000161599;CTD-2194D22.1	-6749
rs6697844	SEX	0.0181	1	INTRONIC	OTTHUMG000000034913;DNM3	0
rs1329622	rs4142603	0.0182	9	INTERGENIC	RP11-470P4.2;OTTHUMG000000020054	25761
rs6743	SEX	0.0183	19	SYNONYMOUS_C	PGLS	0
rs17097681	SEX	0.0183	1	INTRONIC	MSH4;OTTHUMG000000009788	0
rs1530847	rs5005909	0.0185	8	UPSTREAM	OTTHUMG000000165262;CHRN3	-4280
rs2095606	SEX	0.0186	13	INTERGENIC	OTTHUMG000000017315;RP11-357L1.1	-473831
rs17159676	SEX	0.0186	10	INTRONIC	DIP2C;OTTHUMG000000017532	0
rs16910317	rs12425606	0.0187	12	INTRONIC	C12orf69;OTTHUMG000000167474	0
rs13146211	rs11098193	0.0187	4	INTRONIC	OTTHUMG000000132910;CAMK2D	0
rs12641370	SEX	0.0188	4	WITHIN_NON_C	OTTHUMG000000160278;RP11-380P13.1	0
rs2186609	SEX	0.0189	11	WITHIN_NON_C	OTTHUMG000000167483;TRPC6	0
rs17369029	SEX	0.0193	9	3PRIME_UTR	KANK1;OTTHUMG000000019434	0
rs2071556	SEX	0.0195	6	INTRONIC	HLA-DMB;OTTHUMG000000031176	0
rs4314026	SEX	0.0196	2	INTRONIC	ANTXR1;OTTHUMG000000129575	0
rs8067254	SEX	0.0197	17	3PRIME_UTR	GFAP	0
rs7692208	rs17687429	0.0198	4	INTRONIC	OTTHUMG000000150252;CPE	0
rs6042018	SEX	0.0198	20	INTERGENIC	FKBP1A;OTTHUMG000000031666	-10492
rs4953	rs6474413	0.0198	8	SYNONYMOUS_C	OTTHUMG000000165262;CHRN3	0
rs705308	SEX	0.0202	7	INTERGENIC	OTTHUMG000000154256;LMTK2	-40834
rs971807	SEX	0.0202	8	INTRONIC	CNGB3;OTTHUMG000000163738	0
rs2595468	rs3116379	0.0202	11	INTERGENIC	OR10A2;OTTHUMG000000165739	-11205

rs981662	SEX	0.0202	20	INTRONIC	PCSK2;OTTHUMG00000031941	0
rs7469727	SEX	0.0203	9	INTERGENIC	AL355679.1	6760
rs7793159	SEX	0.0204	7	INTRONIC	OTTHUMG000000151733;SDK1	0
rs704299	SEX	0.0204	3	3PRIME_UTR	OTTHUMG000000158797;EIF4E3	0
rs13085643	SEX	0.0205	3	INTRONIC	TNIK;OTTHUMG000000159036	0
rs10808723	SEX	0.0209	8	INTRONIC	OTTHUMG000000164361;NKAIN3	0
rs3772731	SEX	0.021	3	INTRONIC	OTTHUMG000000125545;KALRN	0
rs1761375	SEX	0.0211	1	INTRONIC	ABCR ;ABCA4;OTTHUMG00000010622	0
rs3732300	SEX	0.0211	2	INTRONIC	OTTHUMG000000129972;HK2	0
rs3787140	SEX	0.0211	20	INTRONIC	OTTHUMG00000033080;CHRNA4	0
rs10276256	SEX	0.0218	7	WITHIN_NON_C	AC007128.1;OTTHUMG000000151948	0
rs2075626	rs6591333	0.0218	11	NMD_TRANSCRIF	NDUFS8;OTTHUMG000000167331	0
rs527123	SEX	0.0219	11	INTERGENIC	OTTHUMG000000165873;NAP1L1P1	10032
rs16868110	SEX	0.0219	7	INTRONIC	OTTHUMG00000023649;CDK14	0
rs742428	rs981662	0.0219	20	DOWNSTREAM	AL031664.1	1750
rs1072003	rs9298628	0.022	8	INTRONIC	OTTHUMG000000165275;CHRNA6	0
rs17415676	SEX	0.0221	8	INTRONIC	CSMD1;OTTHUMG000000163605	0
rs130106	SEX	0.0222	22	INTRONIC	FAM19A5;OTTHUMG000000150308	0
rs11257244	SEX	0.0223	10	INTRONIC	ASB13;OTTHUMG00000017603	0
rs2453244	SEX	0.0225	1	INTRONIC	ZBTB8B;OTTHUMG000000167087	0
rs1063461	SEX	0.0225	10	3PRIME_UTR	OTTHUMG00000018986;INA	0
rs16926407	SEX	0.0226	8	INTRONIC	OTTHUMG000000165332;CHD7	0
rs13573	rs1338543	0.0227	3	3PRIME_UTR	OTTHUMG000000159448;ZNF148	0
rs3848323	rs1070488	0.0227	16	INTRONIC	GRIN2A;OTTHUMG000000129721	0
rs704034	SEX	0.0228	5	INTRONIC	OTTHUMG000000094775;CARD6	0
rs4859365	rs907978	0.0229	4	INTERGENIC	U6.413	24907
rs1942486	rs10501681	0.0229	11	INTERGENIC	AP001482.1	10790
rs745075	SEX	0.023	4	INTRONIC	OTTHUMG000000161582;RP11-766F14.1	0
rs17072581	SEX	0.023	18	WITHIN_NON_C	OTTHUMG000000060637;C18orf20	0
rs2951800	SEX	0.023	3	INTRONIC	ZBTB20;OTTHUMG000000159366	0
rs2273500	rs3787140	0.023	20	ESSENTIAL_SPLIC	OTTHUMG00000033080;CHRNA4	0
rs4664875	SEX	0.0232	2	INTRONIC	OTTHUMG000000153783;AC023469.1	0
rs7208247	SEX	0.0233	17	WITHIN_NON_C	AC027601.1	0
rs17495623	SEX	0.0233	6	INTRONIC	OTTHUMG00000015302;AIM1	0
rs1445112	SEX	0.0234	3	INTRONIC	OTTHUMG000000130571;NEK10	0
rs8752	SEX	0.0237	4	3PRIME_UTR	OTTHUMG000000160772;HPGD	0
rs12022739	SEX	0.0238	1	INTRONIC	OTTHUMG00000036309;KCNH1	0
rs129945	SEX	0.0238	9	INTRONIC	SARDH;OTTHUMG00000020879	0
rs284046	SEX	0.024	1	INTERGENIC	RP11-669M2.1;OTTHUMG00000035627	-51936
rs2688617	SEX	0.024	10	INTERGENIC	OTTHUMG00000018492;CAMK2G	-11804
rs113877	SEX	0.0244	7	INTRONIC	ORC5;OTTHUMG000000157275	0
rs10836409	SEX	0.0244	11	INTRONIC	OTTHUMG000000166328;PAMR1	0

rs4952	rs4953	0.0245	8	SYNONYMOUS_C	OTTHUMG00000165262;CHRN83	0
rs9653332	SEX	0.0245	2	INTRONIC	KLF7;OTTHUMG00000132935	0
rs17130852	SEX	0.0246	1	INTRONIC	OTTHUMG00000010305;LRRC8C	0
rs807429	SEX	0.0247	22	INTRONIC	CLTCL1	0
rs16858320	SEX	0.0248	2	INTRONIC	OTTHUMG00000133056;TNS1	0
rs2184948	SEX	0.0252	13	INTERGENIC	OTTHUMG00000017006;RP11-359P14.2	-29042
rs10507994	SEX	0.0252	13	INTRONIC	OTTHUMG00000017200;GPC5	0
rs17325969	SEX	0.0252	X	INTRONIC	KLHL4;OTTHUMG00000021946	0
rs10441748	SEX	0.0254	9	INTRONIC	ZNF618;OTTHUMG00000020532	0
rs1126692	SEX	0.0255	1	SYNONYMOUS_C	OTTHUMG00000035502;FMO1	0
rs4388194	SEX	0.0257	5	INTRONIC	OTTHUMG00000106919;AP3B1	0
rs4655129	rs10049135	0.0261	1	INTRONIC	EPHB2;OTTHUMG00000002881	0
rs291593	rs10794077	0.0263	1	3PRIME_UTR	OTTHUMG00000039683;DPYD	0
rs893073	SEX	0.0263	1	INTRONIC	OTTHUMG00000009030;CACHD1	0
rs6497755	SEX	0.0265	16	INTRONIC	TNRC6A;OTTHUMG00000096999	0
rs16968897	SEX	0.0268	15	INTERGENIC	OTTHUMG00000143729;HMG20A	47349
rs3781236	SEX	0.0269	10	INTRONIC	KIF11;OTTHUMG00000018761	0
rs2346608	rs9302842	0.027	16	INTERGENIC	RP11-545E8.1;OTTHUMG00000158084	-80957
rs17632167	SEX	0.0271	8	WITHIN_NON_C	OTTHUMG00000154893;ADAM24P	0
rs4898698	SEX	0.0272	14	INTRONIC	FRMD6;OTTHUMG00000140294	0
rs1899420	SEX	0.0275	15	INTERGENIC	AC015712.1	-29295
rs845104	SEX	0.0276	10	WITHIN_NON_C	RP11-282I1.1;OTTHUMG00000019202	0
rs1185027	SEX	0.0277	11	DOWNSTREAM	HTR3B	374
rs17310148	rs11847777	0.0281	14	INTERGENIC	7SK.214	-52036
rs6716954	SEX	0.0282	2	INTRONIC	OTTHUMG00000090451;HPCAL1	0
rs7005375	SEX	0.0282	8	INTRONIC	OTTHUMG00000164863;RP11-119N19.1	0
rs2234246	SEX	0.0287	6	3PRIME_UTR	OTTHUMG00000014674;TREM1	0
rs285164	SEX	0.0287	20	INTRONIC	OTTHUMG00000033062;MYBL2	0
rs909431	rs12466358	0.0289	2	INTRONIC	OTTHUMG00000133262;ECEL1	0
rs2494067	SEX	0.0289	1	INTRONIC	OTTHUMG00000010995;VAV3	0
rs16995121	SEX	0.029	20	INTRONIC	PLCB1;OTTHUMG00000031849	0
rs9298629	rs2304297	0.029	8	DOWNSTREAM	OTTHUMG00000165275;CHRNA6	1577
rs1155965	SEX	0.0292	8	INTRONIC	OTTHUMG00000164466;SULF1	0
rs11847777	SEX	0.0293	14	INTERGENIC	7SK.214	-48492
rs17582647	SEX	0.0293	8	INTERGENIC	OTTHUMG00000164599;RP11-157I4.4	-67258
rs5005909	rs6474412	0.0293	8	INTERGENIC	OTTHUMG00000165262;CHRN83	-23852
rs3827907	SEX	0.0295	14	3PRIME_UTR	OTTHUMG00000029583;EDDM3B	0
rs2010033	SEX	0.0296	1	INTRONIC	RYR2;OTTHUMG00000039543	0
rs1792139	rs1785823	0.0297	11	INTRONIC	OTTHUMG00000166783;RP11-673F18.1	0
rs7609123	SEX	0.0299	2	INTERGENIC	AC098823.3;OTTHUMG00000153829	33686
rs8069074	SEX	0.0302	17	INTRONIC	CDK12;OTTHUMG00000133214	0
rs11041966	SEX	0.0303	11	INTRONIC	OTTHUMG00000140275;STK33	0

rs17394154	SEX	0.0303	1	INTRONIC	CAPZB;OTTHUMG00000002556	0
rs1785823	SEX	0.0304	11	INTRONIC	ODZ4;OTTHUMG00000166770	0
rs870309	SEX	0.0306	2	INTRONIC	HS1BP3;OTTHUMG00000122099	0
rs2073560	SEX	0.0306	7	INTRONIC	OTTHUMG00000023299;MET	0
rs797151	SEX	0.0307	6	INTRONIC	FARS2;OTTHUMG00000014178	0
rs4968158	SEX	0.0307	17	INTRONIC	ABR;OTTHUMG000000090313	0
rs4910441	SEX	0.0307	11	WITHIN_NON_C	OTTHUMG00000163880;SCUBE2	0
rs11996156	SEX	0.0308	8	INTERGENIC	MED30;OTTHUMG00000164920	-51517
rs7762788	SEX	0.0309	6	INTRONIC	ARID1B;OTTHUMG00000015890	0
rs12922217	SEX	0.0316	16	INTERGENIC	RP11-545E8.1;OTTHUMG00000158084	-51335
rs270741	SEX	0.0316	1	INTRONIC	OTTHUMG00000007697;RNF220	0
rs10049135	SEX	0.0319	3	WITHIN_NON_C	AC114876.1	0
rs2044453	rs16968897	0.032	15	INTRONIC	AC087465.1	0
rs4944370	SEX	0.0322	11	WITHIN_NON_C	OTTHUMG00000166867;RP11-179A16.1	0
rs884945	SEX	0.0322	20	INTERGENIC	PMEPA1;OTTHUMG00000032831	-96811
rs12533584	SEX	0.0324	7	INTRONIC	OTTHUMG00000155231;CHCHD3	0
rs10891112	rs2724432	0.0324	11	INTRONIC	OTTHUMG00000166589;FDX1	0
rs4837062	SEX	0.0325	9	INTRONIC	ASTN2;OTTHUMG00000021013	0
rs7501488	rs8069074	0.0328	17	INTRONIC	MED1;OTTHUMG00000133216	0
rs6473691	SEX	0.0329	8	INTRONIC	ST18;OTTHUMG00000164233	0
rs3217870	SEX	0.033	12	INTRONIC	CCND2	0
rs7835799	rs7000142	0.0333	8	INTRONIC	DEPDC6;OTTHUMG00000165052	0
rs1487874	SEX	0.0335	11	INTRONIC	SYT9;OTTHUMG00000165499	0
rs42069	SEX	0.0336	7	INTRONIC	DYNC1I1;OTTHUMG00000153983	0
rs1338006	SEX	0.0339	10	INTERGENIC	OTTHUMG00000019054;RP11-309P22.1	-264155
rs2337233	SEX	0.0342	15	INTERGENIC	CHRNA7;OTTHUMG00000129285	-15486
rs12914008	rs578776	0.0346	15	NON_SYNONYM	OTTHUMG00000143860;CHRNA4	0
rs4639876	SEX	0.0348	10	INTRONIC	RP11-443A13.2;OTTHUMG00000018535	0
rs9316045	rs9590779	0.0349	13	INTRONIC	ENOX1;OTTHUMG00000016818	0
rs7952591	SEX	0.0349	11	INTRONIC	OTTHUMG00000166313;LDLRAD3	0
rs4732682	SEX	0.035	8	INTRONIC	ADRA1A;OTTHUMG00000099459	0
rs12902294	rs3813567	0.0356	15	INTERGENIC	OTTHUMG00000143860;CHRNA4	-8752
rs17003621	SEX	0.0356	22	INTRONIC	SCUBE1;OTTHUMG00000150679	0
rs428321	SEX	0.0356	3	3PRIME_UTR	OTTHUMG00000159223;IFT57	0
rs2958153	SEX	0.0358	12	INTRONIC	PTGES3	0
rs12992296	SEX	0.0358	2	INTERGENIC	AC012498.1	21721
rs17461079	SEX	0.0359	13	INTRONIC	ENOX1;OTTHUMG00000016818	0
rs11682765	SEX	0.0361	2	INTRONIC	RFX8;OTTHUMG00000130693	0
rs4853574	rs6706578	0.0361	2	SPLICE_SITE;SYN	OTTHUMG00000132718;MYO1B	0
rs9525805	rs9316045	0.0362	13	INTRONIC	ENOX1;OTTHUMG00000016818	0
rs4471623	SEX	0.0363	15	INTRONIC	UNC13C	0
rs4917093	SEX	0.0365	7	INTRONIC	VWC2;OTTHUMG00000129265	0

rs17856697	rs4627421	0.0368	17	NON_SYNONYM	OTTHUMG00000108139;CHNRB1	0
rs12425606	SEX	0.0371	12	INTRONIC	PLBD1	0
rs10107450	rs2304297	0.0372	8	INTRONIC	OTTHUMG00000165275;CHRNA6	0
rs1004477	SEX	0.0372	14	INTRONIC	RGS6	0
rs7823	SEX	0.0372	5	SYNONYMOUS_C	OTTHUMG00000096995;HSPB3	0
rs2964608	SEX	0.0373	5	INTRONIC	GLRA1;OTTHUMG00000130121	0
rs1909507	SEX	0.0373	1	INTERGENIC	OTTHUMG00000035656;LHX9	15085
rs10501681	SEX	0.0373	11	INTRONIC	GRM5;OTTHUMG00000134306	0
rs1878478	SEX	0.0373	8	INTRONIC	EIF2C2;OTTHUMG00000164232	0
rs17150357	SEX	0.0373	7	INTRONIC	OSBPL3;OTTHUMG00000023277	0
rs4246675	SEX	0.0374	3	INTRONIC	OTTHUMG00000158390;ERC2	0
rs17020402	SEX	0.0375	3	WITHIN_NON_C	AC098973.2;OTTHUMG00000155653	0
rs907978	SEX	0.038	4	UPSTREAM	OTTHUMG00000160374;RP11-89I4.1	-523
rs2237635	SEX	0.0381	7	INTRONIC	RELN;OTTHUMG00000157247	0
rs4921056	SEX	0.0382	5	INTRONIC	OTTHUMG00000162922;COMMD10	0
rs755500	rs7501488	0.0386	17	INTERGENIC	FBXL20	6983
rs4531389	rs11187665	0.0386	10	INTRONIC	LGI1;OTTHUMG00000018777	0
rs6696979	SEX	0.0387	1	INTRONIC	OTTHUMG00000037201;LEMD1	0
rs9344946	SEX	0.0389	6	INTRONIC	OTTHUMG00000015203;LYRM2	0
rs1487875	rs1487874	0.039	11	INTRONIC	SYT9;OTTHUMG00000165499	0
rs3004260	SEX	0.0392	10	INTERGENIC	OTTHUMG00000018022;RP11-124O11.2	-11031
rs1338543	SEX	0.0393	3	INTRONIC	OTTHUMG00000159448;ZNF148	0
GSC3_26	rs684513	0.0395	15	INTRONIC	OTTHUMG00000143863;CHRNA3	0
rs17808417	SEX	0.0397	3	INTRONIC	SUCLG2;OTTHUMG00000158740	0
rs3806823	rs3797026	0.0398	4	INTRONIC	SNX25;OTTHUMG00000160475	0
rs12205364	SEX	0.04	6	INTRONIC	OTTHUMG00000015195;GABRR1	0
rs4706345	rs9344946	0.0402	6	INTRONIC	OTTHUMG00000015203;LYRM2	0
rs875785	SEX	0.0404	6	INTRONIC	PARK2;OTTHUMG00000015970	0
rs3815901	SEX	0.0406	19	INTRONIC	INSR	0
rs13274396	rs4732682	0.0409	8	REGULATORY_RE	ADRA1A;OTTHUMG00000099459	0
rs541969	SEX	0.0409	11	INTERGENIC	KIRREL3;OTTHUMG00000165831	-27154
rs3014899	SEX	0.041	13	INTRONIC	COG3;OTTHUMG00000016855	0
rs1687230	SEX	0.0414	3	INTRONIC	ECE2;OTTHUMG00000150551	0
rs3791729	rs1881492	0.0416	2	INTRONIC	CHRNA1;OTTHUMG00000133261	0
rs4976489	SEX	0.042	5	INTRONIC	AC008661.1;OTTHUMG00000162035	0
rs7225663	SEX	0.0425	17	INTRONIC	RBFOX3;OTTHUMG00000150183	0
rs7013362	SEX	0.0427	8	INTRONIC	ATP6V1C1;OTTHUMG00000164761	0
rs17038027	SEX	0.0428	2	INTRONIC	OTTHUMG00000129259;FSHR	0
rs6584634	SEX	0.0429	10	INTRONIC	OTTHUMG00000019011;SORCS3	0
rs6869382	SEX	0.0429	5	INTRONIC	SH3RF2;OTTHUMG00000129685	0
rs9298628	rs9298629	0.0431	8	DOWNSTREAM	OTTHUMG00000165275;CHRNA6	1772
rs9810380	SEX	0.0433	3	INTRONIC	ATP1B3;OTTHUMG00000159081	0

rs317047	rs907978	0.0434	4	INTERGENIC	OTTHUMG000000160374;RP11-89I4.1	-54722
rs4924588	SEX	0.0436	15	INTRONIC	EHD4;OTTHUMG000000130370	0
rs17501974	SEX	0.0436	13	INTRONIC	PCDH9;OTTHUMG000000017040	0
rs12899226	rs8192475	0.0438	15	3PRIME_UTR	OTTHUMG000000143863;CHRNA3	0
rs595227	rs7013362	0.044	8	DOWNSTREAM	OTTHUMG000000164837;KB-1507C5.4	10
rs9585760	rs2296910	0.044	13	INTRONIC	OTTHUMG000000017303;FGF14	0
rs13164327	rs885624	0.0443	5	INTRONIC	OTTHUMG000000159785;FBXL17	0
rs8191664	SEX	0.0448	8	NON_SYNONYM	OTTHUMG000000090753;NEIL2	0
rs2305195	SEX	0.0449	15	INTRONIC	SECISBP2L	0
rs670562	SEX	0.0449	20	WITHIN_NON_C	OTTHUMG000000031867;RP5-839B4.7	0
rs8067243	SEX	0.045	17	INTERGENIC	POLG2	12169
rs6471542	SEX	0.0451	8	WITHIN_NON_C	OTTHUMG000000164661;KB-1047C11.2	0
rs9312858	rs10035925	0.0451	5	INTERGENIC	DNAH5;OTTHUMG000000090533	-46473
rs1111703	SEX	0.0452	6	WITHIN_NON_C	RP1-230L10.1;OTTHUMG000000015979	0
rs212968	SEX	0.0452	1	INTERGENIC	OTTHUMG000000007959;SLC5A9	20350
rs162495	SEX	0.0454	21	INTRONIC	OTTHUMG000000078686;ADAMTS5	0
rs6434848	SEX	0.0459	2	INTRONIC	HECW2;OTTHUMG000000154435	0
rs6930663	SEX	0.046	6	INTRONIC	FARS2;OTTHUMG000000014178	0
rs1533509	SEX	0.0461	2	INTRONIC	OTTHUMG000000132893;NRP2	0
rs8192475	rs12914008	0.0461	15	NON_SYNONYM	OTTHUMG000000143863;CHRNA3	0
rs2229957	SEX	0.0469	2	NON_SYNONYM	OTTHUMG000000132357;CHRNA1	0
rs11178367	SEX	0.047	12	INTRONIC	PTPRR	0
rs2836387	rs2836391	0.0471	21	INTRONIC	ERG;OTTHUMG000000090767	0
rs6706578	SEX	0.0472	2	INTRONIC	OTTHUMG000000132718;MYO1B	0
rs12751161	SEX	0.0474	1	INTRONIC	WDR26;OTTHUMG000000037636	0
rs223203	SEX	0.0474	1	INTRONIC	OTTHUMG000000002432;IGSF21	0
rs596631	rs595227	0.0477	8	DOWNSTREAM	OTTHUMG000000164837;KB-1507C5.4	252
rs17131428	SEX	0.0477	1	INTRONIC	OTTHUMG000000010093;HFM1	0
rs7635496	SEX	0.0481	3	INTERGENIC	OTTHUMG000000156170;RP11-219I21.1	5163
rs6476878	rs7039966	0.0481	9	INTRONIC	OTTHUMG000000019468;SLC1A1	0
SEX	rs2595468					

Supplementary Table 3: 36 Genes selected by at least two SNPs in the pooled model and the predictive accuracy measured by AUROC. At the bottom, the accuracy of the models designed in different scenarios is presented.

Genes	Position	SNPs			CV AUC	Test AUC
ADAM12	10q26.2	rs4447083	rs10794077		0.545	0.558
ADRA1A	8p21.2	rs4732682	rs13274396		0.513	0.441
AGPHD1	15q25.1	rs8031948	rs8034191	rs7164594	0.543	0.518
		rs931794	rs9788721	rs4461039		
		rs10519203	rs2036534			
AL132821.1	20p11.2	rs6136853	rs11908323		0.511	0.486
CACHD1	10q22.2	rs1548038	rs12097652	rs893073	0.527	0.482
CAMK2D	4q26	rs11098193	rs17636651	rs10488895	0.561	0.644
		rs13146211				
CHRNA3	15q25.1	rs1051730	rs578776	rs3743078	0.542	0.554
		rs1317286	rs11637630	rs8042374		
		rs12914385	rs938682	rs8040868		
		rs12910984	rs7177514	rs8042059		
		rs6495308	rs4887069	GSC3_26		
CHRNA4	20q13.33	rs2236196	rs2273500	rs3787140	0.548	0.535
		rs3787138				
CHRNA5	15q25.1	rs16969968	rs17486278	rs951266	0.545	0.518
		rs503464	rs569207	rs684513		
		rs637137	rs667282			
CHRNA1	17p13.1	rs2302761	rs7210231	rs7215056	0.56	0.56
CHRNA3	8p11.21	rs13277254	rs13277524	rs13280301	0.512	0.536
		rs1530847	rs1955185	rs1955186		
		rs4950	rs4952	rs4953		
		rs6474412	rs6474413	rs6987323		
		rs7838246				
CHRNA4	15q25.1	rs11636605	rs12440014	rs12441998	0.571	0.495
		rs12914008	rs1316971	rs17487223		
		rs28534575	rs3813567	rs55952530		
		rs6495309	rs9920506			
CNTNAP2	7q35	rs1358079	rs17170125		0.51	0.49
CPE	4q32.2	rs7692208	rs17687429		0.515	0.457
CSMD1	8p23.2	rs6558951	rs17319624	rs11992884	0.539	0.449
		rs17415676				
CTNNA3	10q21.3	rs9332406	rs7074696		0.49	0.466
ENOX1	13q14.11	rs9590768	rs7331003	rs17461079	0.531	0.611
FTO	16q12.2	rs13331869	rs16952906		0.522	0.573
GDAP1	8q21.11	rs6472851	rs4310196		0.512	0.489
GIRA3	Xq25	rs12559898	rs5911548		0.542	0.497
HABP2	10q25.3	rs911700	rs2302374		0.504	0.563
HDAC9	7p21.1	rs10223990	rs1034805		0.503	0.543

Genes	Position	SNPs			CV AUC	Test AUC
IREB2	15q25.1	rs1504549	rs17405217	rs17483548	0.523	0.561
		rs17483686	rs17483721	rs17483929		
		rs17484235	rs2656052	rs4362358		
		rs7181486				
KB-1507C5.4	8q22.3	rs595227	rs596631		0.493	0.484
LGI1	10q23.33	rs11187665	rs4531389		0.516	0.532
LRP1B	2q22.2	rs10207124	rs1441456		0.546	0.495
MAP3K4	6q26	rs4709491	rs1488		0.532	0.502
MYOF(FER1L)	10q23.33	rs2140553	rs7903726	rs1880260	0.541	0.577
NAV2	11p15.1	rs2632040	rs1994406		0.523	0.504
PSMA4	15q25.1	rs3813570	rs905739		0.523	0.494
RP11-380P13	4p15.2	rs1491377	rs16873950	rs10938953	0.521	0.569
		rs12641370				
RP11-93L9.1	4q28	rs17753750	rs9991444		0.522	0.532
SORCS3	10q25.1	rs17204499	rs12264321		0.487	0.492
TESK2	1p34.1	rs2055145	rs781058		0.53	0.495
VAV3	1p13.3	rs12725346	rs2494067		0.527	0.519
WWOX	16q23.1	rs2738710	rs10871351		0.515	0.5
all the above 36 GENES		137 SNPs + ethnicity and gender			0.659	0.628
GENES in 15q25.1		54 SNPs + ethnicity and gender			0.586	0.585
Upstream SNPs		25 SNPs + ethnicity and gender			0.622	0.593
Downstream SNPs		12 SNPs + ethnicity and gender			0.627	0.62
3' UTR SNPs		15 SNPs + ethnicity and gender			0.622	0.593
5' UTR SNPs		3 SNPs + ethnicity and gender			0.603	0.567
Stop Gained SNPs		1 SNP + ethnicity and gender			0.604	0.612
NMD Transcript SNPs		1 SNP + ethnicity and gender			0.506	0.602
Intronic SNPs		252 SNPs + ethnicity and gender			0.753	0.728
Noncoding regions within or close to gene		309 SNPs + ethnicity and gender			0.764	0.751
Within non-coding gene		24 SNPs + ethnicity and gender			0.631	0.576
Non-coding regions		333 SNPs + ethnicity and gender			0.769	0.757
Non-synonymous SNPs		4 SNPs + ethnicity and gender			0.612	0.597
Synonymous SNPs		8 SNPs + ethnicity and gender			0.619	0.65
Coding regions		12 SNPs + ethnicity and gender			0.625	0.644
Non-intergenic SNPs		345 SNPs + ethnicity and gender			0.768	0.763
Intergenic SNPs		81 SNPs + ethnicity and gender			0.703	0.682
Full model (pooled model)		426 SNPs + ethnicity and gender			0.785	0.774

Supplementary Table 4: 66 Genes selected by at least two SNPs in the EA model and the predictive accuracy measured by AUROC. At the bottom, the accuracy of the models designed in different scenarios is presented.

Genes	Position	SNPs			CV AUC	Test AUC
AC002064.3	7q21	rs2374094	rs7798970		0.526	0.52
AC008661.1	5q31	rs10515479	rs4976489		0.516	0.548
AC084193.1	2p12	rs2862312	rs6547333		0.523	0.56
ADAM12	10q26.2	rs4447083	rs10794077	rs728104	0.53	0.545
ADRA1A	8p21.2	rs4732682	rs13274396		0.515	0.518
AGPHD1	15q25.1	rs8031948	rs8034191	rs7164594	0.551	0.533
		rs931794	rs9788721	rs4461039		
		rs10519203	rs2036534			
AL132821.1	20p11.2	rs6136853	rs11908323		0.532	0.555
CAMK2A	10q22.2	rs17656349	rs4958469		0.52	0.536
CAMK2D	4q26	rs11098193	rs17636651	rs13146211	0.536	0.64
CHRNA3	15q25.1	rs1051730	rs578776	rs3743078	0.554	0.531
		rs1317286	rs11637630	rs8042374		
		rs12914385	rs938682	rs8040868		
		rs12910984	rs7177514	rs8042059		
		rs6495308	rs4887069	rs12899226		
		rs8192475	GSC3_26			
CHRNA4	20q13.33	rs2236196	rs2273500	rs3787140	0.527	0.529
		rs3787138	rs2273504	rs2229959		
CHRNA5	15q25.1	rs16969968	rs17486278	rs951266	0.554	0.529
		rs503464	rs569207	rs684513		
		rs637137	rs667282			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
		rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
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CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
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CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11.21	rs10107450	rs1072003	rs2304297	0.503	0.545
CHRNA6	8p11.21	rs9298628	rs9298629			
CHRNA6	8p11					

CNTNAP2	7q35	rs1358079	rs17170125		0.525	0.542
CPE	4q32.2	rs7692208	rs17687429		0.5	0.549
CSMD1	8p23.2	rs6558951 rs17415676	rs17319624	rs11992884	0.545	0.562
CTB-157D17.1	5q33	rs149103	rs27597		0.509	0.569
CTNNA3	10q21.3	rs9332406	rs7074696		0.53	0.532
DEPDC6	8q24.1	rs2326427	rs7835799		0.508	0.463
DPYD	1p21.3	rs2056048	rs291593		0.496	0.562
ENOX1	13q14.11	rs9590768 rs9316045	rs7331003 rs9525805	rs17461079 rs9590779	0.518	0.508
ERBB4	2q34	rs16847554	rs6759039		0.531	0.475
ERG	21q22.2	rs2836387	rs2836391		0.516	0.502
FAM19A5	22q13.32	rs130106	rs133482		0.517	0.527
FARS2	6p25.1	rs6930663	rs797151		0.508	0.511
FBXL17	5q21.3	rs13164327	rs4144479	rs885624	0.509	0.58
FGF14	13q33.1	rs7989852	rs9585760		0.522	0.538
FTO	16q12.2	rs13331869	rs16952906		0.517	0.531
GDAP1	8q21.11	rs6472851	rs4310196		0.519	0.521
GIRA3	Xq25	rs12559898	rs5911548	rs4825841	0.524	0.544
GRIN2A	16p13.2	rs1070488	rs3848323		0.526	0.486
HABP2	10q25.3	rs911700	rs2302374		0.513	0.5
HDAC9	7p21.1	rs10223990	rs1034805		0.523	0.53
IREB2	15q25.1	rs1504549 rs17483686 rs17484235 rs7181486 rs2568488 rs2958719	rs17405217 rs17483721 rs2656052 rs2568483 rs2656069 rs924840	rs17483548 rs17483929 rs4362358 rs2568485 rs2656071	0.541	0.517
ITGBL1	13q33.1	rs1540461	rs2296910		0.526	0.562
KB-1507C5.4	8q22.3	rs595227	rs596631		0.507	0.538
LGI1	10q23.33	rs11187665	rs4531389		0.505	0.594
LRP1B	2q22.2	rs10207124	rs1441456		0.517	0.464
LYRM2	6q15	rs17735590	rs4706345	rs9344946	0.5	0.518
MAP3K4	6q26	rs4709491	rs1488		0.524	0.574
MYO1B	2q32.3	rs4853574	rs6706578		0.504	0.531
MYOF(FER1L3)	10q23.33	rs2140553	rs7903726	rs1880260	0.53	0.559
NAV2	11p15.1	rs2632040	rs1994406	rs2702636	0.52	0.514
POLR2A	17p13.1	rs11078682	rs4627421		0.52	0.485
PREX2	8q13.2	rs12676935	rs13276328		0.533	0.549
PSMA4	15q25.1	rs3813570	rs905739		0.532	0.477
RELN	7q22.1	rs2237635	rs2283029		0.506	0.517
RNF6	13q12.13	rs4770950	rs7338440		0.518	0.476

RP11-30J20.1	8q24.2	rs17598411	rs17658005		0.512	0.5
RP11-380P13.1	4p15.2	rs1491377	rs16873950	rs10938953	0.528	0.498
		rs12641370				
RP11-93L9.1	4q28	rs17753750	rs9991444	rs17007477	0.515	0.495
SH3RF2	5q32	rs11167923	rs6869382		0.515	0.499
SORCS1	10q25.1	rs11193101	rs1336976		0.528	0.508
SORCS3	10q25.1	rs17204499	rs12264321	rs6584634	0.52	0.488
SYT9	11p15.4	rs1487874	rs1487875	rs16924076	0.529	0.525
TESK2	1p34.1	rs2055145	rs781058		0.521	0.538
UST	6q25.1	rs13211840	rs7753810		0.518	0.471
VAV3	1p13.3	rs12725346	rs2494067		0.536	0.556
WWOX	16q23.1	rs2738710	rs10871351	rs12933259	0.525	0.516
		rs2667555	rs2941954			
XDH	2p23.1	rs1366812	rs17011356		0.509	0.492
ZNF148	3q21.2	rs1338543	rs13573		0.507	0.515
all the above 66 GENES		223 SNPs + gender			0.719	0.689
GENES in 15q25.1		62 SNPs + gender			0.581	0.603
Upstream SNPs		25 SNPs + gender			0.64	0.69
Downstream SNPs		15 SNPs + gender			0.62	0.62
3' UTR SNPs		27 SNPs + gender			0.655	0.605
5' UTR SNPs		7 SNPs + gender			0.608	0.597
Stop Gained SNPs		1 SNP + gender			0.581	0.642
NMD Transcript SNPs		3 SNPs + gender			0.588	0.612
Intronic SNPs		393 SNPs + gender			0.839	0.788
Noncoding regions within or close to gene		471 SNPs + gender			0.854	0.803
Within non-coding gene		37 SNPs + gender			0.652	0.6
Non-coding regions		508 SNPs + gender			0.862	0.803
Non-synonymous SNPs		8 SNPs + gender			0.602	0.619
Synonymous SNPs		13 SNPs + gender			0.625	0.663
Coding regions		21 SNPs + gender			0.628	0.655
Non-intergenic SNPs		529 SNPs + gender			0.864	0.797
Intergenic SNPs		126 SNPs + gender			0.746	0.76
Full model (EU model)		655 SNPs + gender			0.885	0.823

Supplementary Table 5. List of identified miRNAs, the p-value for predictive power of the miRNA-related set of SNPs, and the number of miRNA-related set of SNPs in the network of Figure 1. The miRNA-related set of SNPs is defined as the set of SNPs corresponding to the host genes for each miRNA.

miRNA	p-value	#SNPs
ATGAAGG,MIR-205	0.025	2
CTACCTC,LET-7A,LET-7B,LET-7C,LET-7D, LET-7E,LET-7F,MIR-98,LET-7G,LET-7I	0.027	5
ACTGCAG,MIR-17-3P	0.031	5
AGGTGCA,MIR-500	0.031	4
ATTACAT,MIR-380-3P	0.032	2
AACTGGA,MIR-145	0.035	7
GTGACTT,MIR-224	0.042	3
CCTGCTG,MIR-214	0.048	4
AAGCACA,MIR-218	0.049	8