

Supplementary material

Supplementary Table 1. Candidate genes and corresponding number of SNPs for Childhood Asthma Management Program (CAMP) subjects used in learning the Bayesian network.

Gene	Number of SNPs
AAA1	1
AACS	1
ACVR1B	1
ADAM33	1
ADCY6	2
ADCY9	4
ADCYAP1	2
ADCYAP1R1	2
ADRB2	3
ALDH7A1	4
ANKRD33	1
ANKRD5	2
AOX1	2
AQP2	2
AQP6	1
ARRB1	2
ATP2A2	1
ATP6V0B	1
BDKRB1	3
BDKRB2	1
BIN2	1
BRD7	1
C11ORF72	1
C5ORF16	1
C6ORF125	1
CALCOCO1	1
CAPS2	1
CCDC97	1
CCL11	1
CCR5	1
CD3E	1
CD4	1
CEBPA	3
CHIT1	2
CHRM2	1
CHRM3	2
CPAMD8	1
CPM	1
CREB1	2
CREB3L1	2
CREB3L2	1
CREB5	9
CREBL2	1
CREM	1

Supplementary Table 1. Candidate genes and corresponding number of SNPs for Childhood Asthma Management Program (CAMP) subjects used in learning the Bayesian network (cont.).

Gene	Number of SNPs
CRH	1
CRHBP	3
CRHR1	2
CRHR2	2
CRP	1
CSK	1
CSRP2	1
CST3	1
CTLA4	1
CTSO	1
CX3CR1	1
CYP2A13	1
CYP2C9	3
CYP2E1	1
CYP3A4	1
CYP4F3	1
DBP	1
DCD	1
DCTN2	1
DDC	2
DERL3	1
DPP10	5
E2F7	2
EGR1	1
ELA1	1
ELF2	1
ELF5	2
F2RL1	2
FAM19A2	1
FCER2	3
FCHSD1	1
FKBP4	1
FKBP5	1
FLJ21125	1
FLJ23436	1
GAL	2
GALNT6	1
GATA3	2
GLS2	1
GLYCAM1	1
GMEB1	1
GNAI1	1
GNAI2	2
GNAS	2
GNAT2	1
GNB1	2
GNB3	1

Supplementary Table 1. Candidate genes and corresponding number of SNPs for Childhood Asthma Management Program (CAMP) subjects used in learning the Bayesian network (cont.).

Gene	Number of SNPs
<i>GNG5</i>	1
<i>GNG7</i>	4
<i>GNS</i>	1
<i>GPR162</i>	2
<i>GRB2</i>	1
<i>GRIP1</i>	1
<i>GRK4</i>	1
<i>GRK5</i>	3
<i>GRK7</i>	1
<i>GSTP1</i>	1
<i>HAT1</i>	2
<i>HAVCR1</i>	1
<i>HDAC2</i>	2
<i>HDAC5</i>	1
<i>HELB</i>	1
<i>HLA-DQA1</i>	1
<i>HLA-G</i>	1
<i>HMGA2</i>	1
<i>HOXC13</i>	1
<i>HSP90AA1</i>	1
<i>HTR2A</i>	4
<i>HUMCYT2A</i>	1
<i>ICAM5</i>	1
<i>IFNG</i>	1
<i>IL12B</i>	1
<i>IL12RB1</i>	2
<i>IL12RB2</i>	2
<i>IL13</i>	1
<i>IL18BP</i>	2
<i>IL26</i>	1
<i>IL27</i>	1
<i>IL4</i>	1
<i>IL4R</i>	2
<i>IL8RA</i>	2
<i>INDO</i>	1
<i>INDOL1</i>	2
<i>IRAK3</i>	2
<i>ITFG2</i>	1
<i>ITGAL</i>	3
<i>ITGB7</i>	1
<i>ITPR1</i>	10
<i>ITPR2</i>	9
<i>ITPR3</i>	1
<i>JAG1</i>	5
<i>K5B</i>	1
<i>KCNC2</i>	2
<i>KCNMB4</i>	1

Supplementary Table 1. Candidate genes and corresponding number of SNPs for Childhood Asthma Management Program (CAMP) subjects used in learning the Bayesian network (cont.).

Gene	Number of SNPs
<i>KDR</i>	2
<i>KRT3</i>	2
<i>KRT6IRS</i>	1
<i>KRT6L</i>	1
<i>KRT8</i>	1
<i>KRTHB5</i>	1
<i>KYNU</i>	1
<i>LEMD3</i>	1
<i>LGR5</i>	1
<i>LOC283400</i>	2
<i>LOC283403</i>	1
<i>LOC284890</i>	2
<i>LOC341315</i>	1
<i>LOC387894</i>	1
<i>LOC390338</i>	1
<i>LOC390342</i>	2
<i>LOC400050</i>	2
<i>LOC440098</i>	1
<i>LOC440935</i>	1
<i>LOC441121</i>	1
<i>LOC643231</i>	1
<i>LOC643625</i>	1
<i>LOC644733</i>	1
<i>LOC645253</i>	1
<i>LOC645507</i>	3
<i>LOC645738</i>	2
<i>LOC646067</i>	1
<i>LOC647071</i>	2
<i>LRIG3</i>	1
<i>MAPK1</i>	1
<i>MAPT</i>	1
<i>MAST3</i>	1
<i>MDM2</i>	1
<i>MED11</i>	1
<i>MFNG</i>	1
<i>MGC4093</i>	1
<i>MGP</i>	1
<i>MMP12</i>	2
<i>MS4A2</i>	1
<i>MYO5C</i>	2
<i>NAP1L1</i>	1
<i>NCOA1</i>	3
<i>NCOR2</i>	4
<i>NFATC4</i>	2
<i>NPSR1</i>	2
<i>NROB2</i>	1
<i>NR1I2</i>	4

Supplementary Table 1. Candidate genes and corresponding number of SNPs for Childhood Asthma Management Program (CAMP) subjects used in learning the Bayesian network (cont.).

Gene	Number of SNPs
<i>NR3C1</i>	2
<i>OR10P1</i>	1
<i>OR6C68</i>	1
<i>OS-9</i>	1
<i>OSBPL8</i>	1
<i>PCAF</i>	1
<i>PDGFB</i>	1
<i>PERQ1</i>	1
<i>PHLDA1</i>	1
<i>PLCB1</i>	10
<i>PLCB2</i>	1
<i>PLCB3</i>	2
<i>PLCB4</i>	3
<i>PLN</i>	1
<i>POMC</i>	2
<i>POU6F1</i>	1
<i>PPM1H</i>	3
<i>PRKCA</i>	6
<i>PRR7</i>	1
<i>PTAFR</i>	1
<i>PTGDR</i>	2
<i>PTGES</i>	3
<i>PTGIR</i>	1
<i>PTPRB</i>	2
<i>PTPRR</i>	1
<i>RAB3IP</i>	1
<i>RAC2</i>	2
<i>RACGAP1</i>	1
<i>RARG</i>	1
<i>RASSF3</i>	1
<i>RCBTB1</i>	1
<i>RGS12</i>	1
<i>RGS16</i>	1
<i>RHBDF2</i>	1
<i>SCARB1</i>	4
<i>SDPR</i>	4
<i>SEMA3B</i>	1
<i>SERPINA6</i>	1
<i>SERPINE2</i>	1
<i>SGOL1</i>	2
<i>SLC16A7</i>	2
<i>SLC6A4</i>	1
<i>SMARCA4</i>	2
<i>SMARCE1</i>	1
<i>SRGAP1</i>	3
<i>STAT1</i>	2
<i>STAT2</i>	1

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Gene	Number of SNPs
<i>STAT4</i>	2
<i>STAT6</i>	1
<i>SYCE1</i>	1
<i>TACR1</i>	3
<i>TBK1</i>	1
<i>TBX21</i>	3
<i>TEX12</i>	1
<i>TMEM132B</i>	5
<i>TMEM142A</i>	2
<i>TMEM19</i>	1
<i>TPH1</i>	1
<i>TPH2</i>	2
<i>TRHDE</i>	2
<i>TRIM55</i>	1
<i>UBC</i>	1
<i>UCN3</i>	1
<i>USP5</i>	1
<i>VEGF</i>	4
<i>VMD2L3</i>	1
<i>WARS2</i>	2
<i>XRCC6BP1</i>	1
<i>YEATS4</i>	3

Supplementary Table 2. SNPs selected by forward stepwise logistic regression procedure to modify bronchodilator response.

Variable	p-value
(Intercept)	0.981
rs163688	0.974
rs11172796	0.972
rs10779025	0.976
rs4722804	0.985
rs10879312	0.988
rs739043	0.983
rs2499618	0.980
rs12655779	0.981
rs4791036	0.987
rs9309308	0.972
rs7971621	0.985
rs7311377	0.977
rs2231828	0.981
rs9468	0.981
rs6976396	0.982
rs725902	0.987
rs8074995	0.983
rs6555827	0.978
rs10846745	0.981
rs4512898	0.982
rs449351	0.976
rs1040496	0.976
rs7583029	0.974
rs7620481	0.983
rs7297654	0.978
rs2241712	0.974
rs304011	0.981
rs2070912	0.976
rs7309600	0.980
rs1057911	0.974
rs1227275	0.988
rs2237361	0.976
rs2298455	0.983
rs2296972	0.984
rs2071084	0.982
rs6712954	0.974
rs10189819	0.980
rs1033566	0.984
rs966975	0.977
rs4835913	0.975
rs3804999	0.972
rs11770792	0.985
rs3116656	0.971
rs8069926	0.976
rs7000868	0.974
rs728009	0.984
rs153109	0.984

Supplementary Table 3. *ADRB2* SNP association results.

SNP	CHR	BP	Gene	Minor allele	Observed genotypes		Allelic OR	Allelic p-value	Genotypic p-value
					Cases*	Controls*			
rs1036174	5	148233754	<i>ADRB2</i>	1	22/53/38	23/110/62	1.13	0.48	0.12
rs1042719	5	148187640	<i>ADRB2</i>	2	8/48/57	15/89/91	0.90	0.57	0.82
rs1432627	5	148227771	<i>ADRB2</i>	1	7/33/73	12/70/113	0.83	0.35	0.48

*Shows homozygous minor/heterozygous/homozygous major allele genotype counts.
BP: Base pair; CHR: Chromosome; OR: Odds ratio.