

Supplemental Table I

Murine Nrf2-Modulated Genes Responsive to Different Oxidative Stress Models in the Lung

Mouse gene symbol	Mouse gene	Human homolog symbol	References
Actvs	Actin, α 2, smooth muscle, aorta	ACTA2	(19)
Act-4, Acta3	Smooth muscle γ -actin	ACTG2	(19)
Adams1	A disintegrin-like and metalloprotease	ADAMTS1	(22)
Adh7	Alcohol dehydrogenase 7 (class IV)	ADH7	(19,23)
Fgrp, Fr-1	Aldose reductase-related protein	AKR1B10	(19,23)
Ahd-2	Aldehyde dehydrogenase II	ALDH1A1	(19)
Aldh3a1	Aldehyde dehydrogenase family 3, subfamily A1	ALDH3A1	(23)
Aldh3a2	Similar to U14390 aldehyde dehydrogenase (Ahd3)	ALDH3A2	(19)
Alox12l, 12-Lo	12-Lipoxygenase	ALOX15	(19)
Macr1	α -Methylacyl-CoA racemase	AMACR	(19)
Anx6, Cabm	Lipocortin	ANXA6	(19)
Aox1	Retinol oxidase/Aldehyde oxidase	AOX1	(19,23)
Rir1l, Tr2l	Similar to the C-terminus of rat transcriptional activator FE65	APBB2	(19)
Aqp1	Aquaporin-1	AQP1	(19)
Areg	Amphiregulin	AREG	(22)
Atf3	Activating transcription factor 3	ATF3	(19,22)
Bmx	BMX nonreceptor tyrosine kinase	BMX	(22)
Btg2	B-cell translocation gene 2, antiproliferative	BTG2	(22)
mCask	mCASK-B	CASK	(19)
Cas-1,Cs-1	Catalase 1	CAT	(16,19,26)
Scya11	Eotaxin, C-C chemokine family	CCL11	(19)
Ccr1,Mip-1a-r	MIP1- α /Rantes receptor, G-protein coupled	CCR1	(19)
Cdh15	Cadherin, cell adhesion molecule	CDH15	(19)
Cebpd	CCAAT/enhancer binding protein (C/EBP), delta	CEBPD	(22)
Chrm-4, M4	m4 muscarinic acetylcholine receptor	CHRM4	(19)
Achr-2, Acrb	Acetylcholine receptor β subunit	CHRNA1	(19)
Mcl	Macrophage-restricted C-type lectin	CLEC4D	(19)
Col13a1	Collagen α 1 (XIII)	COL13A1	(19)
Col18a1	Collagen α 1 (XVIII)	COL18A1	(19)
Col1a1	Procollagen α 1 (I)	COL1A1	(19)
Col4a2	Procollagen type IV, α 2	COL4A2	(23)
Col6a-2	Collagen α 2 (VI)	COL6A2	(19)
Cpx-1	Metalloprotease, similar to CPX-2 and AEBP1	CPXM1	(19)
Creg	Cellular repressor of E1A-stimulated gene	CREG1	(19)
Phll1	Photolyase/blue-right receptor homolog	CRY1	(19)
CTSS	Cysteine protease, antigen presentation	CTSS	(19)
Cxcl1	Chemokine (C-X-C motif) ligand 1	CXCL3	(22)
Cyp15a1,D7ucla4	Cytochrome P450, 2a4, testosterone 15- α -hydroxylase	CYP2A13	(19)
Cyp2f	Cytochrome P-450 naphthalene hydroxylase	CYP2F1	(19)

Supplemental Table I (cont., page 2)

Mouse gene sym- bol	Mouse gene	Human homolog sym- bol	References
Cyr61	Cysteine rich protein 61	CYR61	(22)
Dbt	α -Ketoacid dehydrogenase, mitochondrial	DBT	(19)
Dnajb9	Dnaj (HSP 40) homolog	DNAJB9	(23)
Dusp1	Dual-specificity phosphatase 1	DUSP1	(22)
Dusp16	Dual-specificity phosphatase 16	DUSP16	(22)
Dusp8	Dual-specificity phosphatase 8	DUSP8	(22)
Egr1	Early growth response 1	EGR1	(22)
Egr2	Early growth response 2	EGR2	(19,22)
Eln	Tropoelastin	ELN	(19,23)
Emcn	Endomucin-1	EMCN	(19,23)
Ly-41, Npps, Pca,	Plasma membrane glycoprotein, ecto-nucleotide	ENPP1	(19)
Npp1	phosphatase		
Er-udpase	Nucleoside diphosphatase	ENTPD5	(19)
Epas1	HIF-1 α related factor	EPAS1	(23)
Esd	Esterase 10	ESD	(23)
Evi-1	Ecotropic viral integration site1, transcription regulator	EVI1	(19)
F3	Coagulation factor III	F3	(22)
Cf7, FvII	Coagulation factor VII, coenzyme A	F7	(19)
Fbln1	BM-90/fibulin	FBLN1	(19)
Fbln2	Fibulin-2	FBLN2	(19)
Fbn-1	Fibrillin	FBN1	(19)
Aigf, Fgf-8	Fibroblast growth factor	FGF8	(19)
Fgfbp1	FGF binding protein 1	FGFBP1	(19)
Fos	FBJ osteosarcoma oncogene	FOS	(22)
Fosb	FBJ osteosarcoma oncogene B	FOSB	(22)
Ftl1	Ferritin light chain 1	FTL	(19,23)
G6pdx	Glucose-6-phosphate dehydrogenase	G6PD	(19,23,24)
Gadd45g	GADD45G	GADD45G	(22,23)
Gclm	Glutamate-cysteine ligase, catalytic subunit	GCLC	(16,18,19,23,24, 26)
Gclc	Glutamate-cysteine ligase, modifier subunit	GCLM	(18,19,23,24)
Ggcx	Similar to vitamin-K-dependent γ -carboxylase (human)	GGCX	(19)
Cx31	Connexin 31, gap junction protein	GJB3	(19)
Gp1bb	Platelet glycoprotein 1b β , PDGF ligand	GP1BB	(19)
Gpx2	Glutathione peroxidase 2	GPX2	(17,18,23,25,26)
Gpx3	Glutathione peroxidase 3	GPX3	(23)
Glur-1, GluR-A	Glutamate receptor 1	GRIA1	(19)
Gsr	Glutathione reductase	GSR	(123,24)
Gs-a/Gs-b	Glutathione synthetase type A1	GSS	(19)
Gsta2	Glutathione-S-transferase, α 2	GSTA2	(23)
Gsta3	Glutathione-S-transferase, α 3	GSTA3	(17,19,21,23,24, 26)

Supplemental Table I (cont., page 3)

Mouse gene symbol	Mouse gene	Human homolog symbol	References
Gsta4	Glutathione-S-transferase, α 4	GSTA4	(19,23,26)
Gst2-2,Gstc-2	Glutathione S-transferase, α 2 (Yc2)	GSTA5	(17-19)
Gstb-1,Gstb1	Glutathione S-transferase, μ 1	GSTM1	(19,26)
Fsc2,mGstm5	Glutathione transferase (EC 2.5.1.18)	GSTM3	(19)
Gstm1	Glutathione-S-transferase m1	GSTM5	(19,23,26)
Gsto1	Glutathione S-transferase omega1	GSTO1	(23)
Gstt1	Glutathione S-transferase, t1 pending	GSTT1	(19)
His, Hsd, Histidase	Histidine ammonia-lyase	HAL	(19)
Hbegf	Heparin-binding EGF-like growth factor	HBEGF	(22)
Hk2	Hexokinase 2	HK2	(22)
Hmox1	Heme oxygenase 1	HMOX1	(16- 18,20,21,23,24)
Hspa1a	Heat shock 70-kDa protein 1A	HSPA1A	(19)
Hspa9	Mitochondrial Stress -70 protein	HSPA9	(23)
Ifrd1	Interferon-related developmental regulator 1	IFRD1	(22)
Il6	Interleukin 6	IL6	(22)
Fnra	Integrin α 5 subunit	ITGA5	(19)
Twik-1	TWIK-1 K ⁺ channel	KCNK1	(19)
Flk-1	FLK endothelial cell growth factor	KDR	(19)
Klf6	Kruppel-like factor 6	KLF6	(22)
Klf7	Kruppel-like factor 7	KLF7	(22)
Dy, Mer, Merosin	Laminin-2 m-chain; merosin α 2 chain; merosin m-chain	LAMA2	(19)
Lamb-1	Laminin B1	LAMB1	(19)
Ldh-2, Ldhb	Lactate dehydrogenase 2, B chain	LDHB	(19)
Lim1	Putative transcription regulator	LHX1	(19)
Ltf	Lactotransferrin precursor, estrogen inducible protein	LTF	(19)
Maff	MafF	MAFF	(22,23)
Ly112	Bacteria binding macrophage receptor, MARCO	MARCO	(19)
Mdh-1,Mod-1	Malate NADP oxidoreductase	ME1	(19,26)
Orf1	Cofactor required for Sp1 transcriptional activation sub-unit 2	MED14	(19)
Mt2	Metallothionein 2	MT1E	(22)
Mt1	Metallothionein 1	MT1F	(22)
Myh11	Myosin heavy chain 11, smooth muscle	MYH11	(19)
Ncf4	Neutrophil cytosolic factor 4	NCF4	(19)
Nrf2	P45 NF-E2-related factor 2	NFE2L2	(19)
Npyr	Neuropeptide hormone receptor NPY-1	NPY1R	(19)
Nqo1	NADPH: quinone reductase 1	NQO1	(16-21,23)
Nr4a1	Nuclear receptor subfamily 4, group A, member 1	NR4A1	(19,22)
Nr4a2	Nuclear receptor subfamily 4, group A, member 2	NR4A2	(22)
Zfp144	ORF for Mel-18	PCGF2	(19)

Supplemental Table I (cont., page 4)

Mouse gene sym- bol	Mouse gene	Human homolog sym- bol	References
Pdk4	Pyruvate dehydrogenase kinase, isoenzyme 4	PDK4	(22)
Pgd	Phosphogluconate dehydrogenase	PGD	(23)
Cpk-m	P170 phosphatidyl inositol 3-kinase	PIK3C2A	(19)
Pla2g7	PAF acetyl hydrolase	PLA2G7	(19)
Plaur	Urokinase plasminogen activator receptor	PLAUR	(22)
Pmm2	Phosphomannomutase, SEC53 homolog	PMM2	(19)
Nr1c3, Ppar- γ	Peroxisome proliferator-activated receptor γ	PPARG	(19)
Ppargc1a	PPAR gamma coactivator 1 alpha	PPARGC1A	(22)
Calnc	Phosphoprotein phosphatase, calmodulin-dependent	PPP3CC	(19)
Prdx1	Peroxiredoxin 1	PRDX1	(23)
Cp-2	1-Cys peroxiredoxin protein 2, CP-2	PRDX6	(19)
Brp-12	1-Cys peroxiredoxin protein, CP-3	PRDX6	(19)
Pkc- α	Protein kinase C α	PRKCA	(19)
Psm11	Proteasome (prosome, macropain) 26S subunit, non ATPase, 1	PSMD11	(23)
Ptgs2	Prostaglandin-endoperoxide synthase 2	PTGS2	(22)
Ptp4a1	Protein tyrosine phosphatase 4a1	PTP4A1	(22)
Ptpn1	Tyrosine phosphatase (PTP1)	PTPN1	(23)
Ptp36	Protein tyrosine phosphatase	PTPN14	(19)
Ptpn2	Protein tyrosine phosphatase, nonreceptor type 2	PTPN2	(22)
Ptprb	Protein tyrosine phosphatase, receptor type B	PTPRB	(23)
Bet, Ptpb2	Receptor-type protein tyrosine phosphatase	PTPRJ	(19)
Ramp2	Receptor activity modifying protein 2	RAMP2	(23)
RegIII γ	Regenerating gene in islet β -cells, mitogenic	REG3A	(19)
Ripk4	Receptor-interacting serine-threonine kinase 4	RIPK4	(22)
C5d	Sterol-C5-desaturase	SC5DL	(19)
Scn71, Nav2.3, Nag	Voltage-gated sodium channel protein	SCN7A	(19)
Msemk1	Msemk1p	SEMA7A	(19)
Serpina3n	α 1-antitrypsin proteinase inhibitor	SERPINA3	(22,23)
Serpine1	Serine (or cysteine) proteinase inhibitor, clade E, mem- ber 1	SERPINE1	(22)
C62	Putative phosphoinositide 5-phosphatase type II	SKIP	(19)
Nramp	Integral membrane protein, candidate for Bcg gene	SLC11A1	(19)
Nkcc1, Mbsc2	Putative basolateral Na-K-2Cl cotransporter	SLC12A2	(19)
Slc1a4	Neutral amino acid transporter mASCT1	SLC1A4	(23)
Slc20a1	Solute carrier family 20 (sodium/hydrogen exchanger), member 1	SLC20A1	(22)
Slc23a2	Solute carrier family 23 (nucleobase transporter), mem- ber 2	SLC23A2	(22)
Pmp34	Peroxisomal integral membrane protein PMP34	SLC25A17	(19)
Slc2a1	Solute carrier family 2	SLC2A1	(22,23)

Supplemental Table I (cont., page 5)

Mouse gene sym- bol	Mouse gene	Human homolog sym- bol	References
Slc38a2	Solute carrier family 38 (neutral amino acids transporter), member 2	SLC38A2	(22)
Slc38a4	Solute carrier family 38 (neutral amino acids transporter), member 4	SLC38A4	(22)
Slc6a6	Similar to Na- and Cl-dependent taurine transporter	SLC6A6	(19)
Hmox1	Glycine transporter	SLC6A9	(23)
Cat2	Cationic amino acid transporter-2	SLC7A2	(19)
Slc7a5	Solute carrier family 7 (cationic amino acid transporter), member 5	SLC7A5	(22)
Smad1	MAD homolog 1 (Drosophila)	SMAD1	(22)
Smsmo	Smoothelin L1, large isoform	SMTN	(23)
Socs3	Suppressor of cytokine signaling 3	SOCS3	(22)
Sod1	Superoxide dismutase 1	SOD1	(16)
Sod2	Superoxide dismutase 2, mitochondrial	SOD2	(24)
Sod3	Superoxide dismutase 3	SOD3	(18,23,24)
Sqstm1	Sequestosome 1	SQSTM1	(23)
Srf	Serum response factor	SRF	(22)
Strap	TGF- β receptor-associated protein	STRAP	(19)
Tcf-3	TCF-3 protein	TCF7L1	(19)
Tcn2	Transcobalamine II	TCN2	(23)
Tef-3	Transcription factor	TEAD4	(19)
Cd71	Transferrin receptor	TFRC	(19)
Tgf- β 2	Transforming growth factor- β 2 precursor	TGFB2	(19)
β Ig-h3	P68 Ig-type growth factor, cell adhesion inhibitor	TGFBI	(19)
Thbs1	Thrombospondin 1	THBS1	(22)
Timp3	Tissue inhibitor of metalloproteinase 3	TIMP3	(22)
Tkt, P68	Transketolase	TKT	(19)
Tsg6	TNF-stimulated gene 6, TNF-receptor ligand	TNFAIP6	(19)
Tnfrsf12a	Tumor necrosis factor receptor superfamily, member 12a	TNFRSF12A	(22)
Trib1	Tribbles homolog 1 (Drosophila)	TRIB1	(22)
Txnrd1	Thioredoxin reductase 1	TXNRD1	(18,19,22,23,26)
Ubc	Ubiquitin C	UBC	(23)
Ugdh	UDP-glucose dehydrogenase	UGDH	(23)
Ugt1-06	UDP glucuronosyl transferase	UGT1A6	(16-19)
Vcl	Vinculin	VCL	(19)
Vanin 3	Vanin-3, leukocyte adhesion and homing	VNN2	(19)
Wisp1	Connective tissue growth factor-related protein	WISP1	(19)
Ugt1a1-10	UDP-glucuronosyl transferases	Not transferable to unique human gene	(23)
Gst-Yb	No gene found ¹	No gene found	(18)
Gstp1	Glutathione-S-transferase, π 2	No human homolog	(19)
Aldhpb,Ahd2-like	Aldehyde dehydrogenase Ahd-2-like	No human homolog	(19,18)

Supplemental Table I (cont., page 6)

Mouse gene sym- bol	Mouse gene	Human homolog sym- bol	References
Ex	Carboxylesterase	No human homolog	(19,18)
P450-2d,Cyp2d	Cytochrome P450-16- α -hydroxylase	No human homolog	(19)
Gstp2	Glutathione S-transferase, π 2	No human homolog	(23)
Gpx2-ps1	Gpx2 pseudogene, selenocysteine	No human homolog	(19,24)
Ngp	Myeloid secondary granule protein	No human homolog	(19)
Es1	Similar to carboxylesterase	No human homolog	(19)
Igk-v28	Single chain antibody ScFv	No human homolog	(19)
C10	Small inducible cytokine A6	No human homolog	(19)

¹ This gene was discontinued Jun 2007 according to NCBI's HomoloGene database

Supplemental Table II. Control Gene List

A. Randomly chosen genes¹

Probe set ID	Gene symbol	Gene title
204472_at	GEM	GTP binding protein overexpressed in skeletal muscle
1552643_at	ZNF626	Zinc finger protein 626
204360_s_at	NAGLU	N-acetylglucosaminidase
213214_x_at	ACTG1	Actin, gamma 1
1565716_at	FUS	Fusion
225309_at	PHF5A	PHD finger protein 5A
219640_at	CLDN15	Claudin 15
231075_x_at	RAPH1	Ras association and pleckstrin homology domains 1
240868_at	CTTNBP2NL	CTTNBP2 N-terminal like
235970_at	LCORL	Ligand dependent nuclear receptor corepressor-like
226628_at	THOC2	THO complex 2
56256_at	SIDT2	SID1 transmembrane family, member 2
238090_at	HGSNAT	Heparan-alpha-glucosaminide N-acetyltransferase

B. Randomly chosen smoking responsive genes²

Probe set ID	Gene symbol	Gene title
204604_at	PFTK1	PFTAIRE protein kinase 1
209199_s_at	MEF2C	Myocyte enhancer factor 2C
210519_s_at	NQO1	NAD(P)H dehydrogenase, quinone 1
230412_at	NPAS3	Neuronal PAS domain protein 3
1552619_a_at	ANLN	Anillin, actin binding protein
201719_s_at	EPB41L2	Erythrocyte membrane protein band 4.1-like 2
40284_at	FOXA2	Forkhead box A2
205771_s_at	AKAP7	A kinase (PRKA) anchor protein 7
1555097_a_at	PTGFR	Prostaglandin F receptor
206460_at	AJAP1	Adherens junction associated protein 1
201170_s_at	BHLHB2	Basic helix-loop-helix domain containing, class B, 2
221675_s_at	CHPT1	Choline phosphotransferase 1
217678_at	SLC7A11	Solute carrier family 7, member 11

¹ 13 genes randomly chosen from the 22,202 probe sets that correspond to unique genes

² 13 genes randomly chosen from a total of 476 smoking responsive genes identified from our dataset (defined as fold change healthy smokers vs nonsmokers >1.5, and significance level of p<0.01 for healthy smokers vs nonsmokers with Benjamini-Hochberg correction).

Supplemental Table III. Oligonucleotides Used for Electrophoretic Mobility Shift Assay

Gene title	Location of ARE ¹	Sequence ²
NAD(P)H dehydrogenase, quinone 1 Pirin	-386	CAGTCACAGT GACTCAGC AGAATCT
	33	CCTCACCGT GACTCAGCG CTTCGCG
	-3209	TTGATATAT GACAAAGCAA ATACAG
	-3408	TTGGAAGT GATCTTGC AGCTTGG
	-5466	AGTAAAGAT GACAATGC AGAGTATA
ATP-binding cassette, sub-family B, member 6	-7575	GGCGGTGGT GATGGCGC AGTTTGAC
UDP glucuronosyltransferase 1 family, polypeptide A4	-3043	AGCCTGAGT GACAGAGCG AGGACCC
	-3159	TCCAGGT GTGATGGTGC ACACCTGT
	-3885	AGACTGGG TGACAGAGCA AGACTCC
	-5523	ATTGAGT GTGACCCAGC AAAAGGCG
von Willebrand factor ³	no ARE	AATAAAGGCTGAGCTCTTATCTTGC

¹ Location of a perfect match to the primary core sequence (RTGAYNNNGCR) of the antioxidant response element (ARE,) in base pairs (bp) upstream (minus) or downstream (plus) of the transcription start site (as determined by searching the promoter region of each gene with Genamics Expression 1.1 Pattern Finder Tool software).

² The antioxidant response element is highlighted in bold.

³ Nonspecific oligonucleotides.

Supplemental Table IV. Murine Nrf2-Modulated Genes Smoking Responsive in the Human Small Airway Epithelium¹

Mouse gene symbol	Mouse gene title	Human homolog symbol	Fold-change (healthy smoker/healthy non-smoker)	p value (healthy smoker/healthy nonsmoker) ²
Fgfp, Fr-1	Aldo-keto reductase family 1, member B10	AKR1B10	23.5	$p < 2 \times 10^{-8}$
Gpx2 ³	Glutathione peroxidase 2	GPX2	6.4	$p < 2 \times 10^{-12}$
Adh7	Alcohol dehydrogenase 7	ADH7	5.7	$p < 4 \times 10^{-16}$
Aldh3a1	Aldehyde dehydrogenase 3 family, member A1	ALDH3A1	4.8	$p < 6 \times 10^{-15}$
Mdh-1, Mod-1 ³	Malic enzyme 1, NADP(+)-dependent, cytosolic	ME1	3.8	$p < 2 \times 10^{-14}$
Nqo1 ³	NAD(P)H dehydrogenase, quinone 1	NQO1	2.4	$p < 2 \times 10^{-14}$
Ugt1-06	UDP glucuronosyltransferase 1 family, polypeptide A6	UGT1A6	2.0	$p < 3 \times 10^{-7}$
Txnrd1	Thioredoxin reductase 1	TXNRD1	1.9	$p < 6 \times 10^{-11}$
G6pdx	Glucose-6-phosphate dehydrogenase	G6PD	1.9	$p < 6 \times 10^{-6}$
Tkt, P68 ³	Transketolase (Wernicke-Korsakoff syndrome)	TKT	1.8	$p < 3 \times 10^{-8}$
Pgd	Phosphogluconate dehydrogenase	PGD	1.6	$p < 8 \times 10^{-6}$
Gsr	Glutathione reductase	GSR	1.6	$p < 1 \times 10^{-6}$
Gclc3	Glutamate-cysteine ligase, catalytic subunit	GCLC	1.6	$p < 2 \times 10^{-4}$
Slc6a6 ³	Similar to Na- and Cl-dependent taurine transporter	SLC6A6	1.4	$p < 1 \times 10^{-7}$
Timpp3	Tissue inhibitor of metalloproteinase 3	TIMP3	1.4	$p < 1 \times 10^{-2}$
Sgstml	Sequestosome 1	SQSTM1	1.4	$p < 1 \times 10^{-3}$
Gsta3	Glutathione-S-transferase, $\alpha 3$	GSTA3	1.4	$p < 8 \times 10^{-4}$
Slc2a1	Solute carrier family 2	SLC2A1	1.4	$p < 3 \times 10^{-7}$
Fbln1	BM-90/fibulin	FBLN1	1.4	$p < 2 \times 10^{-2}$
Thbs1	Thrombospondin 1	THBS1	1.4	$p < 3 \times 10^{-3}$
Gclm ³	Glutamate-cysteine ligase, modifier subunit	GCLM	1.4	$p < 6 \times 10^{-5}$
Prdx13	Peroxiredoxin 1	PRDX1	1.3	$p < 4 \times 10^{-5}$
Fsc2.mGstm5	Glutathione transferase (EC 2.5.1.18)	GSTM3	1.3	$p < 7 \times 10^{-3}$
Gpx3 ³	Glutathione peroxidase 3	GPX3	1.3	$p < 6 \times 10^{-3}$
Gsta4 ³	Glutathione-S-transferase, $\alpha 4$	GSTA4	1.3	$p < 1 \times 10^{-3}$
Ftl1 ³	Ferritin light chain 1	FTL	1.2	$p < 1 \times 10^{-4}$
Ifrd1 ³	Interferon-related developmental regulator 1	IFRD1	1.2	$p < 4 \times 10^{-3}$
Dusp8	Dual-specificity phosphatase 8	DUSP8	1.2	$p < 4 \times 10^{-2}$
Alhd3a2	Similar to U14390 aldehyde dehydrogenase (Ahd3)	ALDH3A2	1.1	$p < 2 \times 10^{-2}$

¹ Criteria: (1) Affymetrix Detection Call of Present ("P call") in > 20 % of samples; (2) magnitude of fold-change in average expression value for healthy smokers vs nonsmokers $p < 0.05$.

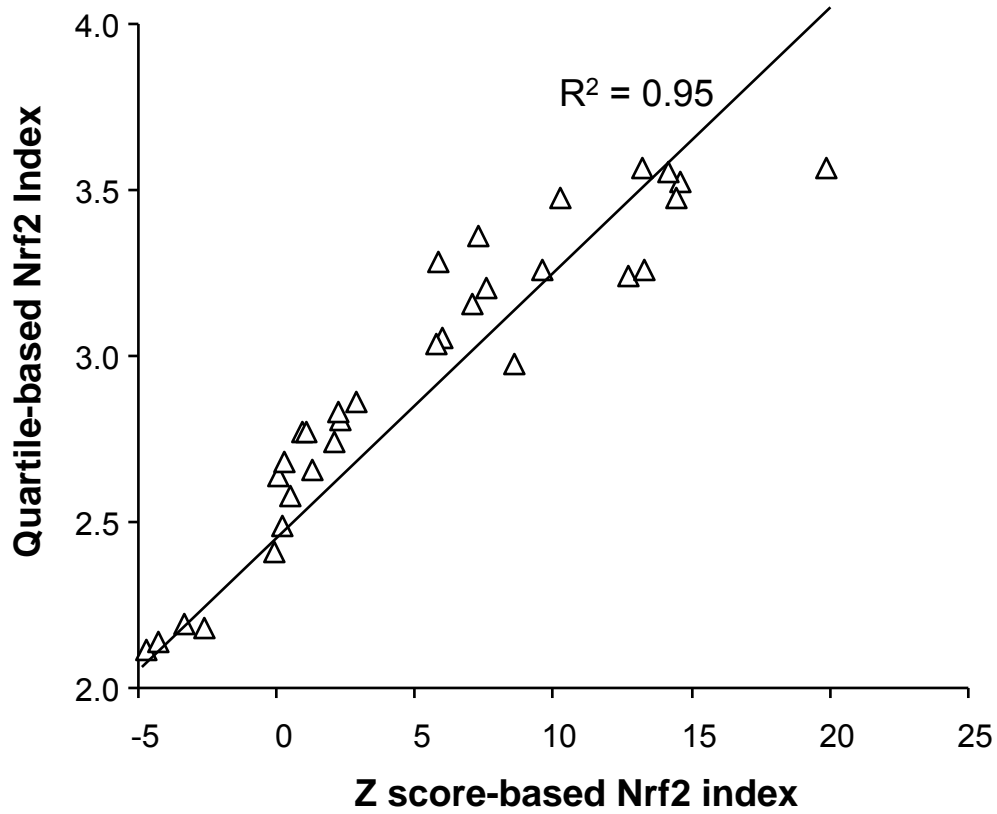
² Group comparison with T-test unequal variance

³ For genes with more than 1 probes et, a representative probe set was chosen

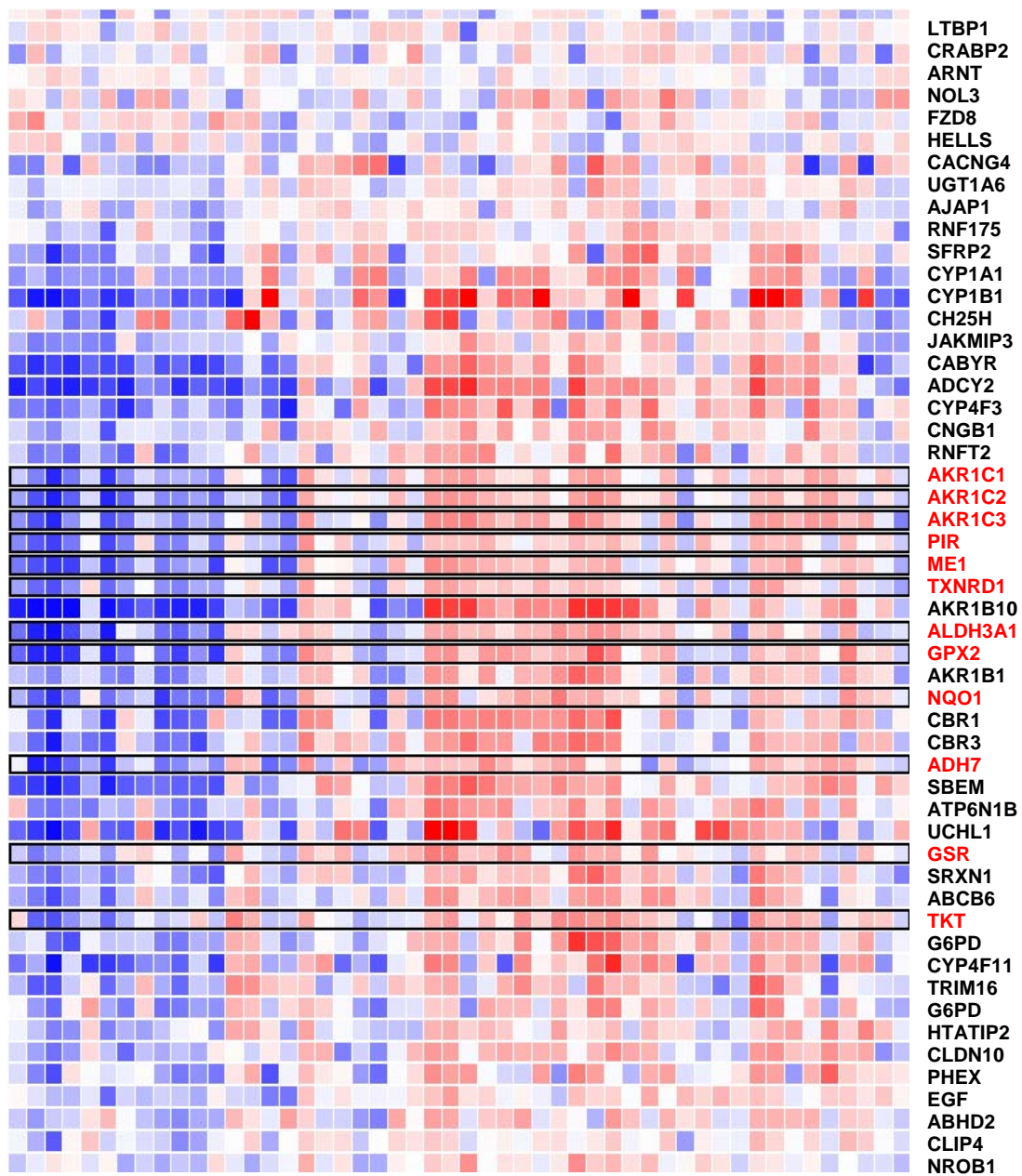
Supplementary Figure Legends

Supplementary Figure S1. Comparison of Nrf2 index calculated by different methods. The Nrf2 index was calculated by two methods. In the first the quartile method was used as described in the Methods section of this article. In the second method, a Z score based index was calculated by summation of the thirteen Z scores per subject for the 13 initial gene list (Table II). The values for each of the 43 smokers determined by the different methods were plotted against each other.

Supplementary Figure 2. Unsupervised cluster of small airway gene expression pattern for 50 healthy smokers. The cluster used 364 smoking dependent probestes ($p < 0.01$ after Benjamini Hochberg correction, fold change > 1.5) based on comparison of the small airway expression levels in 50 healthy smoker and 42 non-smokers. The cluster is based on Spearman non-parametric correlation and arranges all probestes and subjects by similarity.



Supplementary Figure 1



Supplementary Figure 2