

Table S1. Genes significantly expressed by nicotine treatment

Gene Symbol	Gene Name	Nicotine	
		p-value	Ratio
ABCD3	ATP-binding cassette, sub-family D (ALD), member 3	0.047	1.17
ACAT2	Acetyl-Coenzyme A acyltransferase 2	0.046	1.22
ACATE3	Acyl-Coenzyme A thioesterase 3	9.09×10^{-3}	0.78
ADCY8	Adenylyl cyclase 8	0.034	0.80
ADRA1B	Adrenergic receptor, alpha 1b	4.88×10^{-3}	1.31
AGT	Angiotensinogen	0.039	1.50
ALG2	Asparagine-linked glycosylation 2 homolog (yeast, alpha-1,3-mannosyltransferase)	2.75×10^{-3}	1.38
APC	Adenomatosis polyposis coli	0.046	0.83
APG4C	APG4 (ATG4) autophagy-related homolog C (<i>S. cerevisiae</i>)	0.045	0.83
APOA1	Apolipoprotein A-I	0.044	1.68
AR	Androgen receptor	0.016	0.76
ARAF1	V-raf murine sarcoma 3611 viral oncogene homolog 1	0.030	1.24
ARPC1A	Suppressor of profilin/p41 of actin-related complex 2/3	0.033	1.58
ARPC1B	Actin related protein 2/3 complex, subunit 1B	0.042	1.26
ASPA	Aspartoacylase	0.041	0.75
ATF2	Activating transcription factor 2	0.016	0.80
ATP5L	ATP synthase, H ⁺ transporting, mitochondrial F0 complex, subunit g; F1F0-ATP	0.048	0.74
ATP6V1A1	ATPase, H ⁺ transporting, V1 subunit A, isoform 1; ATPase, H ⁺ transporting	0.012	1.28
B3GALT3	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 3	0.034	0.70
BCL2	B cell leukemia/lymphoma 2	0.033	1.24
BCL2L11	Bcl-12-like 11 (apoptosis facilitator)	0.023	0.65
BEGAIN	Brain-enriched guanylate kinase-associated protein 1 mRNA, complete cds	0.030	1.26
BRCA1	Breast cancer 1	0.033	0.71
CACNA1G	Calcium channel, voltage-dependent, T type, alpha 1g subunit	0.019	1.38

CALCR	Calcitonin receptor	0.041	1.25
CALCRL	Calcitonin receptor-like receptor	0.026	1.63
CALD1	Caldesmon 1	0.020	1.27
CALM2	Calmodulin 2	0.043	1.39
CALR	Calreticulin	0.039	1.25
CAMK1	CaM-like protein kinase	3.08×10^{-3}	0.84
CATNA1	Catenin alpha 1	0.043	1.25
CATNB	Catenin beta	0.011	1.46
CCNA2	Cyclin A2	0.022	1.22
CCND3	Cyclin D3	8.99×10^{-3}	1.32
CCNE1	Cyclin E1	0.030	1.64
CD3G	CD3 antigen, gamma polypeptide	0.029	1.19
CDC14B	CDC14 cell division cycle 14 homolog B (<i>S. cerevisiae</i>)	0.024	0.56
CDC25A	Cell division cycle 25 homolog A (<i>S. cerevisiae</i>)	6.02×10^{-3}	0.75
CDC2A	Cell division cycle 2 homolog A (<i>S. pombe</i>)	0.031	0.79
CDC42	Cell division cycle 42 homolog	9.85×10^{-3}	0.67
CDIPT	Phosphatidylinositol synthase	0.030	1.50
CDKL2	Cyclin-dependent kinase-like 2 (CDC2-related kinase)	0.046	1.33
CDRT1	CMT1A duplicated region transcript 1	0.012	1.40
CFLAR	CASP8 and FADD-like apoptosis regulator	0.010	1.35
CIAO1	WD40 protein Ciao1	0.015	0.64
CLCN5	Chloride channel 5	0.011	0.64
CLNS1A	Chloride channel, nucleotide-sensitive, 1A	0.023	1.31
CLSTN3	Calsyntenin 3	0.033	1.33
COPS3	COP9 (constitutive photomorphogenic) homolog, subunit 3 (<i>Arabidopsis thaliana</i>)	0.046	1.45
COX6B	Cytochrome c oxidase, subunit VIb	6.98×10^{-3}	1.56
COX7B	Cytochrome c oxidase, subunit VIIb	0.032	1.22
COX7C	Cytochrome c oxidase, subunit VIIc	1.71×10^{-3}	1.31
COX8B	Cytochrome c oxidase, subunit VIIIb	3.37×10^{-3}	1.93
CREG	Cellular repressor of E1A-stimulated genes 1	0.023	1.25
CRSP2	Cofactor required for Sp1 transcriptional activation subunit 2 (150 kDa)	4.19×10^{-3}	0.67

CRYZ	Crystallin, zeta	0.035	1.14
CSK	C-src tyrosine kinase	0.044	1.45
CTCF	CCCTC-binding factor	0.029	1.18
CTNF	Ciliary neurotrophic factor receptor	4.85×10^{-3}	0.74
CYP17A1	Cytochrome P450, family 17, subfamily a, polypeptide 1	0.043	1.33
CYP2F1	Cytochrome P450, subfamily IIF, polypeptide 1	0.022	0.68
CYP2R1	Cytochrome P450, family 2, subfamily r, polypeptide 1	0.030	0.84
DAB1	Disabeled homolog 1 (Drosophila)	0.036	0.55
DAXX	Death domain-associated protein 6	9.34×10^{-3}	1.25
DFFA	DNA fragmentation factor, 40 kD, beta polypeptide (caspase-activated DNase)	9.62×10^{-3}	0.88
DIO2	Deiodinase, iodothyronine, type II	0.040	1.27
DNAJA4	DnaJ (Hsp40) homolog, subfamily A, member 4	4.48×10^{-3}	0.66
DNCIC2	Dynein, cytoplasmic, intermediate polypeptide 2	0.024	1.38
DOCK7	Dedicator of cytokinesis 7	3.57×10^{-3}	1.39
DRAP1	Dr1 associated protein 1 (negative cofactor 2 alpha)	6.61×10^{-3}	0.75
DRD4	Dopamine receptor D4	0.013	1.23
DRPLA	Dentatorubral-pallidoluyisian atrophy	5.89×10^{-6}	0.70
DSTN	Destrin	0.012	1.26
DUSP1	Dual specificity phosphatase 1 (or protein-tyrosine phosphatase, nonreceptor-type, 10)	0.016	1.17
EDG4	Similar to endothelial differentiation, lysophosphatidic acid G-protein-coupled receptor 4	2.53×10^{-3}	1.34
EIF2B	Eukaryotic translation initiation factor 2B	8.54×10^{-5}	1.31
EIF2B5	Eukaryotic translation initiation factor 2B, subunit 5 epsilon	7.80×10^{-3}	1.20
EIF4EBP1	Eukaryotic translation initiation factor 4E binding protein 1	0.014	0.65
EPHA1	Eph receptor a1	0.033	0.56
FASN	Fatty acid synthase	0.017	1.21
FGF13	Fibroblast growth factor 13	0.034	1.37
FGG	Fibrinogen, gamma polypeptide	0.014	1.22
FKRP	Fukutin related protein	0.040	0.70
FOS	Fos oncogene	0.031	1.28
FOXO1	Forkhead box 1	8.70×10^{-4}	0.52

FXC1	Similar to Mitochondrial import inner membrane translocase subunit TIM9 B (Fracture callus protein 1)	0.043	1.23
GABARAP	Gamma-aminobutyric acid receptor associated protein	0.012	0.79
GABRA3	Gamma-aminobutyric acid (GABA_A) receptor, subunit alpha 3	6.52×10^{-4}	0.77
GABRD	GABA(A) receptor delta subunit	0.026	0.63
GAL	Galanin	0.021	1.39
GALNT10	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 10	1.37×10^{-3}	1.33
GEMIN5	Gem (nuclear organelle) associated protein 5	0.015	0.66
GLCC1	Glucocorticoid induced transcript 1	0.014	0.71
GLI1	GLI-Kruppel family member GLI1	0.010	1.33
GLI3	GLI-Kruppel family member Gli 3	0.037	0.87
GLUD1	Glutamate dehydrogenase	0.047	1.28
GNA15	Guanine nucleotide binding protein, alpha 15	0.012	1.41
GPAA1	GPI anchor attachment protein 1	0.018	0.83
GRIK1	Glutamate receptor, ionotropic, kainate 1	0.034	0.67
GRM2	Glutamate receptor, metabotropic 2	5.59×10^{-3}	0.68
GSPT1	G1 to phase transition 1	0.035	0.89
GSTM6	Glutathione S-transferase, mu6	7.76×10^{-3}	1.41
GTF2H2	General transcription factor IIH, polypeptide 2 (44 kDa subunit)	0.011	0.54
GTF3C5	General transcription factor IIIC, polypeptide 5	0.036	1.36
GUK1	Guanylate kinase 1	0.019	0.57
H1F0	H1 histone family, member 0	0.016	1.22
HBA	Hemoglobin X, alpha-like embryonic chain in Hba complex	0.029	0.72
HBB	Hemoglobin beta chain complex	7.12×10^{-4}	0.73
HBG1	Hemoglobin, gamma A	4.84×10^{-3}	1.45
HHL	RAB GTPase activating protein 1-like	0.042	1.27
HIATL2	Hippocampus abundant gene transcript-like 2	0.033	0.69
HIS4	Histone 4 protein	0.045	1.19
HMG1	High mobility group nucleosomal binding domain 1	0.014	1.42
HRMT1L2	Heterogeneous nuclear ribonucleoproteins methyltransferase-	0.019	0.79

	like 2 (<i>S. cerevisiae</i>)		
HTR3A	5-hydroxytryptamine receptor 3a (Htr3a)	1.77×10^{-3}	1.65
IDG3G	Isocitrate dehydrogenase 3 (NAD ⁺), gamma	0.038	1.41
IGF1R	Insulin like growth factor receptor 1	0.035	0.70
IGSF4A	Cell adhesion molecule 1	6.48×10^{-4}	1.21
IKBKG	Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase gamma	0.031	1.27
IL6R	Interleukin 6 receptor	5.48×10^{-3}	1.17
IL6RA	Interleukin 6 receptor, alpha	0.044	0.62
IL6ST	Interleukin 6 signal transducer	9.39×10^{-3}	0.74
IL7R	Interleukin 7 receptor	0.047	1.37
IMPA1	Lithium-sensitive myo-inositol monophosphatase A1	0.015	1.25
ING4	Inhibitor of growth family, member 4	0.024	1.25
IRAK3	Interleukin-1 receptor-associated kinase 3	0.041	0.67
ITGB1	Integrin beta 1	0.043	0.86
ITPKA	Inositol 1,4,5-trisphosphate 3-kinase A	7.66×10^{-3}	1.14
ITPR5	Inositol 1,4,5-triphosphate receptor 5	2.67×10^{-3}	0.81
JAK3	Janus kinase 3	0.024	0.80
KCMF1	Potassium channel modulatory factor 1	0.034	0.76
KCNB2	Potassium voltage gated channel, Shab-related subfamily, member 2	0.039	0.80
KCNC2	Potassium voltage gated channel, Shaw-related subfamily, member 3	0.017	0.86
KCNK1	Putative potassium channel TWIK	0.012	1.20
KCNMA1	Potassium large conductance calcium-activated channel, subfamily M, alpha member 1	1.93×10^{-3}	1.45
KITL	Kit ligand	1.05×10^{-3}	0.77
KPNB1	Karyopherin (importin) beta 1	5.08×10^{-3}	1.20
LAG3	Lymphocyte-activation gene 3	0.012	0.78
LAMB2	Laminin beta	0.043	1.54
LAMC1	Lamnin gamma	5.02×10^{-3}	0.76
LAMR1	Laminin receptor 1	0.044	1.21
LIMK1	Lim kinase LIM motif-containing protein kinase 1	0.040	0.71

LMO1	LIM domain only 3	0.023	0.82
LPL	Lipoprotein lipase	0.020	0.74
LRP1	Low density lipoprotein receptor-related protein 1	8.86×10^{-3}	0.74
LRP4	Low density lipoprotein receptor-related protein 4	2.93×10^{-3}	1.41
LTBP3	Latent transforming growth factor beta binding protein 3	0.030	1.27
MAF	Avian musculoaponeurotic fibrosarcoma (v-maf) AS42 oncogene homolog	0.012	1.34
MAP2K5	Mitogen activated protein kinase kinase 5	2.96×10^{-3}	0.86
MAP3K7IP1	Mitogen-activated protein kinase kinase kinase 7 interacting protein 1	7.63×10^{-3}	1.45
MAP4K4	Mitogen-activated protein kinase kinase kinase kinase 4	3.33×10^{-4}	0.69
MAPK14	Mitogen activated protein kinase 14	8.65×10^{-3}	1.35
MAS1	MAS1 oncogene	0.014	0.79
MATR3	Matrin 3	0.011	0.73
MCM5	Minichromosome maintenance deficient 5, cell division cycle 46 (<i>S. cerevisiae</i>)	0.041	1.10
MEF2D	Myocyte enhancer factor 2d	7.73×10^{-3}	1.35
MKLN1	Muskelin 1, intracellular mediator containing kelch motifs	4.12×10^{-5}	0.68
MLYCD	Malonyl-CoA decarboxylase	8.54×10^{-3}	1.66
MME	Membrane metallo endopeptidase	0.024	1.21
MRE11A	Meiotic recombination 11 homolog A (<i>S. cerevisiae</i>)	0.036	0.70
MRPL39	Mitochondrial ribosomal protein L39	1.22×10^{-3}	0.78
MRPS14	Mitochondrial ribosomal protein S14	5.45×10^{-3}	0.71
MRPS17	Mitochondrial ribosomal protein S17	0.019	0.82
MRPS7	Mitochondrial ribosomal protein S7	7.10×10^{-3}	1.62
MTC	MT-protocadherin (KIAA 1775)	3.55×10^{-4}	1.29
MTEFR	Transcription termination factor, mitochondrial-like	0.025	0.66
MYO7A	Myosin VIIA	7.50×10^{-3}	0.64
NCBP1	Nuclear cap binding protein subunit 1, 80kDa	2.15×10^{-3}	1.36
NDUFA4	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 4	3.41×10^{-3}	1.40
NDUFV1	NADH dehydrogenase (ubiquinone) flavoprotein 1	0.022	1.65
NEU3	Neurotrophic tyrosine kinase, receptor, type 1	0.034	1.25
NEUD4	Neuronal d4 domain family member	0.018	1.70

NFATC3	Nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3	0.010	0.74
NFE2L2	Nuclear factor, erythroid derived 2, like 2	1.38×10^{-4}	1.12
NGFA	Nerve growth factor, alpha	0.029	1.20
NGFR	Nerve growth factor receptor	4.51×10^{-3}	1.46
NINJ1	Ninjurin 1	0.031	0.72
NLK1	Nemo like kinase	3.33×10^{-3}	0.55
NOL5	Nucleolar protein 5	3.10×10^{-3}	0.80
NR2F1	Nuclear receptor subfamily 2, group F, member 1	1.74×10^{-3}	1.33
NRF1	Nuclear respiratory factor 1	0.040	0.83
NRXN1	Neurexin1	7.69×10^{-3}	0.78
NSG1	Neuron specific gene family member 1	0.039	0.84
NUCB	Calcium-binding protein	0.023	1.35
NXPH4	Neurexophilin4	3.87×10^{-3}	1.37
OGDH	Oxoglutarate dehydrogenase	0.031	1.27
OGN	Osteoglycin	1.48×10^{-3}	0.57
PBX4	Pre-B-cell leukemia transcription factor 4	7.99×10^{-4}	1.59
PCP4	Purkinje cell protein 4	0.011	0.75
PDLIM2	PDZ and LIM domain 2	4.91×10^{-3}	1.99
PHYHIP	Phytanoyl-CoA hydroxylase interacting protein	5.61×10^{-3}	0.88
PIGQ	Glycosylphosphatidylinositol 1 homolog	0.013	1.36
PIK3CG	Phosphoinositide-3-kinase, catalytic, gamma polypeptide	0.049	1.30
PIR51	RAD51 associated protein 1	0.050	1.28
PLA2G4A	Phospholipase A2, group IVA (cytosolic, calcium-dependent)	3.26×10^{-3}	1.42
PMP22	Peripheral myelin protein 22	5.96×10^{-3}	1.17
POLE3	Polymerase (DNA directed), epsilon 3 (p17 subunit)	9.98×10^{-3}	1.39
PPIA	Peptidylprolyl isomerase A	0.040	1.38
PPM1L	Protein phosphatase 1 (formerly 2C)-like	0.032	1.35
PPP1CA	Protein phosphatase 1, catalytic subunit, alpha isoform	0.020	1.21
PPT	Palmitoyl-protein thioesterase	0.050	1.56
PRDX6	Peroxiredoxin 6	0.023	1.22
PRRX1	Paired related homeobox 1	0.050	1.16

PSCDBP	Pleckstrin homology, Sec7 and coiled-coil domains, binding protein	9.26×10^{-3}	0.89
PSMB4	Proteasome (prosome, macropain) subunit, beta type, 4	2.14×10^{-3}	1.23
PSMD10	Proteasome (prosome, macropain) 26S subunit, non-ATPase, 10	0.025	1.17
PSMD14	Proteasome (prosome, macropain) 26S subunit, non-ATPase, 14	0.029	0.70
PSMD2	26S proteasome, non-ATPase, 2	2.37×10^{-3}	1.54
PTH	Parathyroid hormone	0.040	1.19
PTP4A2	Protein tyrosine phosphatase type 4a, member 2	0.027	1.24
PTPRZ1	Protein tyrosine phosphatase, receptor type, Z1	0.041	0.90
RAB1	Ras-related protein	0.036	1.23
RAB7	Ras 7 member of RAS oncogene family	0.042	0.80
RAB9	Ras 9 member of RAS oncogene family	0.036	1.32
RAD1	RAD1 homolog (S. pombe)	6.01×10^{-4}	0.69
RAD51	RAD51 homolog (S. cerevisiae)	0.013	1.45
RALA	V-ral simian leukemia viral oncogene homolog A (ras related)	8.17×10^{-3}	1.74
RAPGEF3	Rap guanine nucleotide exchange factor (GEF) 3	0.032	0.84
RASA2	RAS p21 protein activator 2	0.034	0.73
RBL1	Retinoblastoma-like 1 (p107)	0.046	0.73
RIS2	Retroviral integration site 2	0.024	0.74
RISP	Ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1	0.048	0.76
RNF20	Ring finger protein 20	0.017	0.69
RPL18	Ribosomal protein L18	0.031	0.75
RPL29	Ribosomal protein L29	1.43×10^{-3}	1.50
RPL36	Ribosomal protein L36	0.031	0.85
RPS26	Ribosomal protein S26	0.032	1.57
RPS27L	Ribosomal protein S27	0.032	1.44
RPS6KA2	Ribosomal protein S6 kinase, 90kD, polypeptide 2	5.70×10^{-4}	0.82
RPS6KB1	Ribosomal protein S6 kinase, 70kD, polypeptide 1	0.037	1.28
SCN11A	Sodium channel, voltage-gated, type 11, alpha polypeptide	0.024	1.45
SCO1	Similar to SCO cytochrome oxidase deficient homolog 1	0.033	0.84

	(yeast)		
SCUBE2	Signal peptide, CUB domain, EGF-like 2	2.96×10^{-3}	0.67
SCYA20	Small inducible cytokine subfamily A20	4.02×10^{-3}	0.75
SDHB	Succinate dehydrogenase complex, subunit A, flavoprotein	6.23×10^{-3}	1.32
SDHC	Succinate dehydrogenase complex, subunit C	0.017	1.18
SECISBP2	Selenocysteine insertion sequence-binding protein 2	8.27×10^{-3}	0.76
SERPINC1	Serine (or cysteine) peptidase inhibitor, clade C (antithrombin), member 1	0.040	1.35
SFN	Stratifin	0.022	1.14
SKIL	Ski like	8.52×10^{-3}	1.31
SLC18A2	Solute carrier family 18 member 2	0.023	1.46
SLC29A1	Solute carrier family 29 (nucleoside transporters), member 1	0.021	0.73
SLC2A14	Solute carrier family 2 (facilitated glucose transporter), member 14	4.37×10^{-3}	0.68
SLC2A4	Solute carrier family 2 (facilitated glucose transporter), member 4	0.030	1.58
SLC35D2	Solute carrier family 35, member D2	0.024	1.39
SLC35F5	Solute carrier family 35, member F5	0.018	0.73
SLC5A3	Solute carrier family 5 (inositol transporters), member 3	4.51×10^{-4}	0.63
SLC6A4	Solute carrier family 6, member 4 (serotonin transporter)	3.78×10^{-6}	0.62
SLC8A2	Solute carrier family 8 (sodium/calcium exchanger), member 2	0.032	1.30
SMAD2	MAD homolog 2 (Drosophila)	0.035	0.83
SNCA	Synuclein, alpha	5.13×10^{-3}	0.71
SOX6	SoxLZ/Sox6 leucine zipper binding protein in testis	0.027	1.17
SPEN	SMART/HDAC1 associated repressor protein	0.024	0.79
STAT5A	Signal transducer and activator of transcription 5a	0.021	1.25
SWAP70	Switch-associated protein 70	0.032	0.61
SYN2	Synapsin 2	0.014	1.25
SYT2	Synaptotagmin 2	1.36×10^{-3}	1.24
SYT7	Synaptotagmin 7	5.30×10^{-3}	1.69
TAC2	Tachykinin 2	3.45×10^{-3}	0.72
TBC1D17	TBC1 domain family, member 17	0.046	1.43

TBP1	Tat-binding protein-1	0.041	0.77
TCFEB	Transcription factor EB	6.61×10^{-5}	0.76
TDG	Thymine DNA glycosylase	0.032	0.57
TF	Transferrin	0.028	0.73
TFR	Transferrin receptor	5.66×10^{-3}	1.32
TGFB2	Transforming growth factor, beta 2	5.58×10^{-5}	0.74
TGFBR2	Transforming growth factor, beta receptor 2	6.22×10^{-3}	0.57
TNFRSF10B	Tumor necrosis factor receptor superfamily, member 10b	0.042	1.43
TRAF6	Tnf receptor-associated factor 6	0.035	0.75
TRG	Thyroid regulating gene	0.019	0.69
TRNT1	TRNA nucleotidyl transferase, CCA-adding1	0.022	0.76
TRP53	Transformation related protein 53	6.94×10^{-3}	1.32
TSGA13	Testis specific gene A13	2.29×10^{-3}	1.07
TUBB5	Beta-tubulin, 5	0.017	1.19
UAP1	Similar to UDP-N-acteylglucosamine pyrophosphorylase 1 homolog	0.021	1.24
UBE1X	Ubiquitin-activating enzyme e1, chr X	0.019	1.14
UBE2A	Ubiquitin-conjugating enzyme E2A	0.018	1.54
UBE2G1	Ubiquitin-conjugating enzyme E2G 1 (UBC7 homolog, C. elegans)	0.023	0.88
UBQLN1	Ubiquilin 1	0.030	1.18
UBQLN3	Ubiquilin 3	0.016	0.58
UQCRFS1	Ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1	3.11×10^{-3}	1.53
USP28	Ubiquitin specific protease 28	8.60×10^{-3}	1.29
VAMP3	Vesicle-associated membrane protein 3	0.036	1.21
VCL	Vinculin	2.10×10^{-3}	1.39
VEGFA	Vascular endothelial growth factor A	0.038	0.84
VGLL2	Vestigial like 2 homolog (Drosophila)	0.014	1.21
VIL1	Villin1	0.016	0.65
WNT1	Wingless-related MMTV integration site 1	0.042	1.17
XCL2	Chemokine (C motif) ligand 2	0.023	1.38
XTP2	HBxAg transactivated protein 2	0.031	0.88

YWHAH	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta polypeptide	0.037	1.21
ZAP70	Zeta-chain (TCR) associated protein kinase	2.07×10^{-4}	1.36
ZFP98	Zinc finger protein 98	8.22×10^{-4}	1.21
ZNF189	Zinc finger protein 189	0.035	0.79
ZNF286	Zinc finger protein 286	0.012	1.18