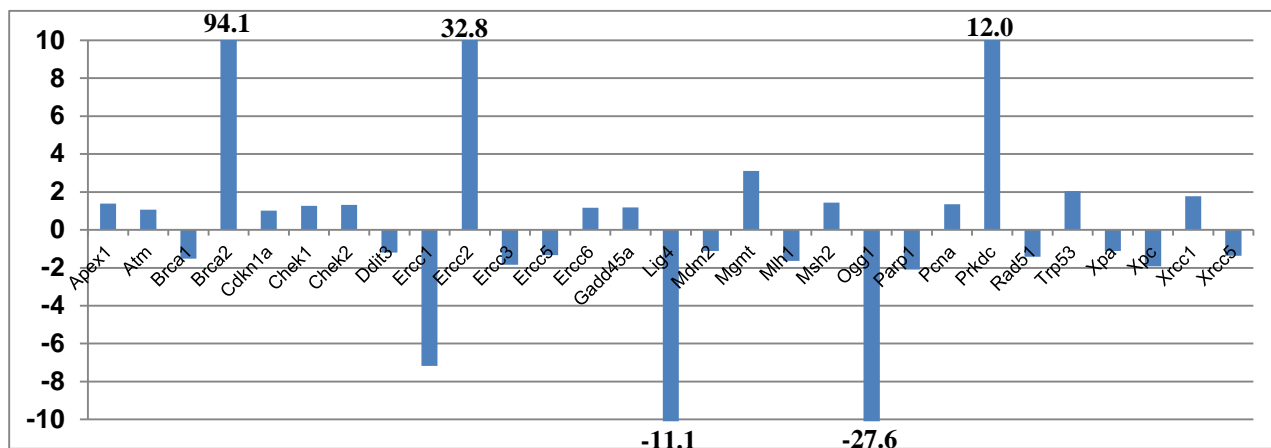


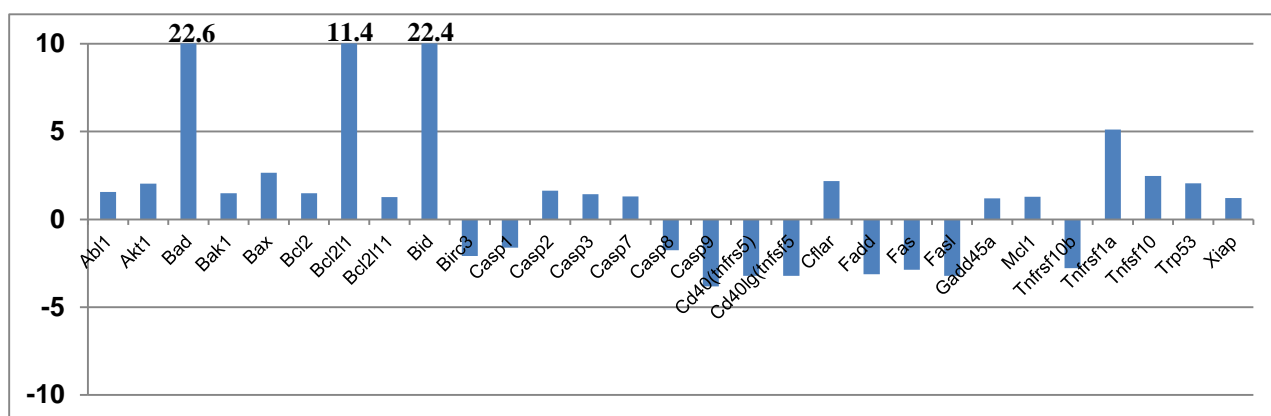
# The potential benefits of nicaraven to protect against radiation-induced injury in hematopoietic stem/progenitor cells with relative low dose exposures

Haytham Ali, Omima Galal, Yoshishige Urata, Shinji Goto, Chang-Yin Guo, Lan Luo, Eman Abdelrahim, Yusuke Ono, Emtethal Mostafa, Tao-Sheng Li

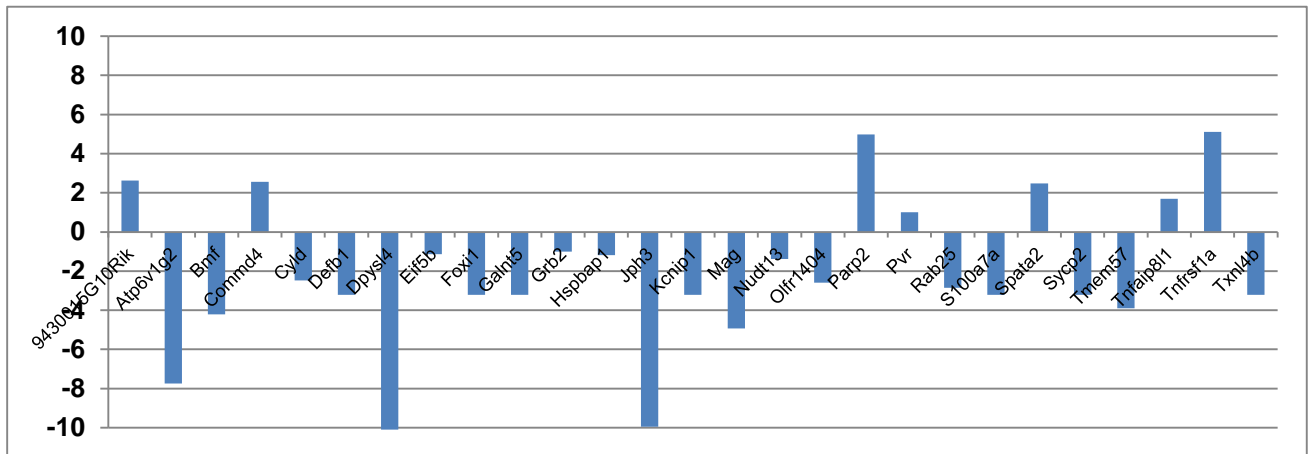
**Supplementary Figure 1.** Expression changes of genes associate with DNA repair.



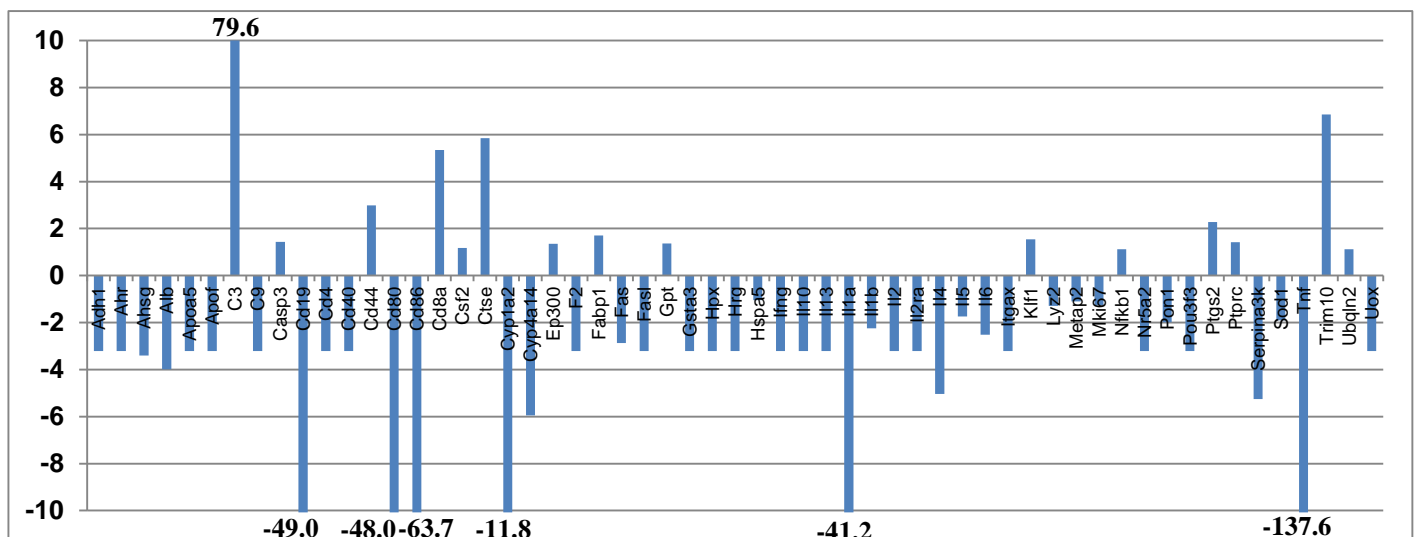
**Supplementary Figure 2.** Expression changes of genes associate with cell apoptosis.



**Supplementary Figure 3.** Expression changes of genes associate with cell necrosis.



**Supplementary Figure 4.** Expression changes of genes associate with inflammatory response and immunomodulation.



**Supplementary Table 1.****The changes of gene expression in c-kit+ cells with nicaraven treatment (compare to placebo).**

<b>Gene Symbol</b>	<b>Gene Description</b>	<b>Fold Regulation</b>
9430015G10Rik	RIKEN cDNA 9430015G10 gene	2.6317
Aass	Aminoadipate-semialdehyde synthase	-3.2132
Abcb1a	ATP-binding cassette, sub-family B (MDR/TAP), member 1A	-3.2132
Abcb1b	ATP-binding cassette, sub-family B (MDR/TAP), member 1B	-3.2132
Abcb4	ATP-binding cassette, sub-family B (MDR/TAP), member 4	-1.0454
Abcc1	ATP-binding cassette, sub-family C (CFTR/MRP), member 1	2.4385
Abcc2	ATP-binding cassette, sub-family C (CFTR/MRP), member 2	-3.2132
Abcc3	ATP-binding cassette, sub-family C (CFTR/MRP), member 3	-3.2132
Abl1	C-abl oncogene 1, non-receptor tyrosine kinase	1.5648
Acaa1a	Acetyl-Coenzyme A acyltransferase 1A	2.4385
Acaa2	Acetyl-Coenzyme A acyltransferase 2 (mitochondrial 3-oxoacyl-Coenzyme A thiolase)	1.6771
Acaca	Acetyl-Coenzyme A carboxylase alpha	3.2176
Acad11	Acyl-Coenzyme A dehydrogenase family, member 11	-1.4181
Acad9	Acyl-Coenzyme A dehydrogenase family, member 9	-1.0822
Acadl	Acyl-Coenzyme A dehydrogenase, long-chain	-1.1761
Acadm	Acyl-Coenzyme A dehydrogenase, medium chain	-1.7703
Acads	Acyl-Coenzyme A dehydrogenase, short chain	1.6313
Acadsb	Acyl-Coenzyme A dehydrogenase, short/branched chain	1.2363
Acadvl	Acyl-Coenzyme A dehydrogenase, very long chain	1.2277
Acat1	Acetyl-Coenzyme A acetyltransferase 1	-2.2099
Acat2	Acetyl-Coenzyme A acetyltransferase 2	-1.8583
Acly	ATP citrate lyase	-1.9917
Aco1	Aconitase 1	4.6784
Aco2	Aconitase 2, mitochondrial	-1.2959
Acot12	Acyl-CoA thioesterase 12	2.6317
Acot2	Acyl-CoA thioesterase 2	-3.2132
Acot3	Acyl-CoA thioesterase 3	-2.385
Acot6	Acyl-CoA thioesterase 6	-3.2132
Acot7	Acyl-CoA thioesterase 7	-1.0028
Acot8	Acyl-CoA thioesterase 8	-1.1761
Acot9	Acyl-CoA thioesterase 9	-1.3698
Acox1	Acyl-Coenzyme A oxidase 1, palmitoyl	51.8402
Acox2	Acyl-Coenzyme A oxidase 2, branched chain	-3.9834
Acox3	Acyl-Coenzyme A oxidase 3, pristanoyl	-1.4479
Adh1	Alcohol dehydrogenase 1 (class I)	-3.2132
Adk	Adenosine kinase	-1.9507
Ahr	Aryl-hydrocarbon receptor	-3.2132
Ahsg	Alpha-2-HS-glycoprotein	-3.3964
Akt1	Thymoma viral proto-oncogene 1	2.0364
Alb	Albumin	-3.9834
Aldh1a1	Aldehyde dehydrogenase family 1, subfamily A1	2.8799
Aldh2	Aldehyde dehydrogenase 2, mitochondrial	-9.4087
Amfr	Autocrine motility factor receptor	3.6706
Apaf1	Apoptotic peptidase activating factor 1	3.3776
Apex1	Apurinic/aprimidinic endonuclease 1	1.3909

Apoa5	Apolipoprotein A-V	-3.2132
Apoe	Apolipoprotein E	2.4385
Apof	Apolipoprotein F	-3.2132
Aqp4	Aquaporin 4	-3.2132
Asah1	N-acylsphingosine amidohydrolase 1	5.1551
Asns	Asparagine synthetase	1.6426
Atf4	Activating transcription factor 4	-2.1495
Atf6	Activating transcription factor 6	5.1551
Atm	Ataxia telangiectasia mutated homolog (human)	1.0614
Atp6v1g2	ATPase, H <sup>+</sup> transporting, lysosomal V1 subunit G2	-7.7489
Atp8b1	ATPase, class I, type 8B, member 1	2.5955
Bad	BCL2-associated agonist of cell death	22.5648
Bak1	BCL2-antagonist/killer 1	1.4907
Bax	Bcl2-associated X protein	2.65
Bcl2	B-cell leukemia/lymphoma 2	1.4804
Bcl2l1	Bcl2-like 1	11.3609
Bcl2l11	BCL2-like 11 (apoptosis facilitator)	1.271
Bid	BH3 interacting domain death agonist	22.4089
Birc3	Baculoviral IAP repeat-containing 3	-2.0763
Bmf	Bcl2 modifying factor	-4.2105
Brcal	Breast cancer 1	-1.5094
Brc2	Breast cancer 2	94.092
C3	Complement component 3	79.672
C9	Complement component 9	-3.2132
Casp1	Caspase 1	-1.6178
Casp2	Caspase 2	1.6313
Casp3	Caspase 3	1.43
Casp7	Caspase 7	1.3068
Casp8	Caspase 8	-1.7581
Casp9	Caspase 9	-3.8211
Cat	Catalase	-1.0028
Cd19	CD19 antigen	-48.9759
Cd36	CD36 antigen	7.3411
Cd4	CD4 antigen	-3.2132
Cd40	CD40 antigen	-3.2132
Cd40lg	CD40 ligand	-3.2132
Cd44	CD44 antigen	2.9814
Cd80	CD80 antigen	-47.968
Cd86	CD86 antigen	-63.7344
Cd8a	CD8 antigen, alpha chain	5.3369
Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)	1.0112
Ces2c	Carboxylesterase 2C	-3.2132
Cflar	CASP8 and FADD-like apoptosis regulator	2.1825
Chek1	Checkpoint kinase 1 homolog (S. pombe)	1.271
Chek2	CHK2 checkpoint homolog (S. pombe)	1.325
Commd4	COMM domain containing 4	2.5597
Comt	Catechol-O-methyltransferase	-1.6518
Cox6b1	Cytochrome c oxidase, subunit VIb polypeptide 1	-1.6066
Cox7a2	Cytochrome c oxidase, subunit VIIa 2	-4.7044
Cox8a	Cytochrome c oxidase, subunit VIIIA	1.7005
Cpt1a	Carnitine palmitoyltransferase 1a, liver	-1.1843
Cpt1b	Carnitine palmitoyltransferase 1b, muscle	1.654

Cpt2	Carnitine palmitoyltransferase 2	-1.6632
Crat	Carnitine acetyltransferase	-3.1037
Crot	Carnitine O-octanoyltransferase	1.0688
Cryaa	Crystallin, alpha A	-3.2132
Cryab	Crystallin, alpha B	-3.2132
Cs	Citrate synthase	-1.7826
Csf2	Colony stimulating factor 2 (granulocyte-macrophage)	1.1777
Ctsb	Cathepsin B	2.86
Ctse	Cathepsin E	5.8401
Cyc1	Cytochrome c-1	-1.1843
Cyld	Cylindromatosis (turban tumor syndrome)	-2.4691
Cyp1a1	Cytochrome P450, family 1, subfamily a, polypeptide 1	-3.2132
Cyp1a2	Cytochrome P450, family 1, subfamily a, polypeptide 2	-11.8269
Cyp2d22	Cytochrome P450, family 2, subfamily d, polypeptide 22	2.1675
Cyp2e1	Cytochrome P450, family 2, subfamily e, polypeptide 1	-3.2132
Cyp3a11	Cytochrome P450, family 3, subfamily a, polypeptide 11	-3.2132
Cyp4a14	Cytochrome P450, family 4, subfamily a, polypeptide 14	-5.9546
Cyp7a1	Cytochrome P450, family 7, subfamily a, polypeptide 1	-3.2132
Cyp7b1	Cytochrome P450, family 7, subfamily b, polypeptide 1	-3.2132
Ddit3	DNA-damage inducible transcript 3	-1.1925
Defb1	Defensin beta 1	-3.2132
Der1l	Der1-like domain family, member 1	-1.7339
Dhcr24	24-dehydrocholesterol reductase	-3.7947
Dlat	Dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase complex)	-1.1282
Dld	Dihydrolipoamide dehydrogenase	1.7124
Dlst	Dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)	1.2799
Dnaja1	DnaJ (Hsp40) homolog, subfamily A, member 1	-1.8327
Dnaja2	DnaJ (Hsp40) homolog, subfamily A, member 2	1.2799
Dnaja3	DnaJ (Hsp40) homolog, subfamily A, member 3	1.9132
Dnajib1	DnaJ (Hsp40) homolog, subfamily B, member 1	1.2449
Dnajib6	DnaJ (Hsp40) homolog, subfamily B, member 6	2.2595
Dnajc3	DnaJ (Hsp40) homolog, subfamily C, member 3	-2.3038
Dnajc5	DnaJ (Hsp40) homolog, subfamily C, member 5	26.4647
Dnajc6	DnaJ (Hsp40) homolog, subfamily C, member 6	12.3462
Dnm1	Dynamin 1	-1.3324
Dpysl4	Dihydropyrimidinase-like 4	-35.1146
Duox1	Dual oxidase 1	-3.2132
Duox2	Dual oxidase 2	-3.2132
Echs1	Enoyl Coenzyme A hydratase, short chain, 1, mitochondrial	-1.7459
Edem1	ER degradation enhancer, mannosidase alpha-like 1	1.6426
Edem3	ER degradation enhancer, mannosidase alpha-like 3	1.5977
Ehhadh	Enoyl-Coenzyme A, hydratase/3-hydroxyacyl Coenzyme A dehydrogenase	1.0837
Eif2ak3	Eukaryotic translation initiation factor 2 alpha kinase 3	2.2284
Eif5b	Eukaryotic translation initiation factor 5B	-1.1439
Eno1	Enolase 1, alpha non-neuron	1.2623
Ep300	E1A binding protein p300	1.3528
Ephx1	Epoxide hydrolase 1, microsomal	12.1763
Epx	Eosinophil peroxidase	-2.6099
Ercc1	Excision repair cross-complementing rodent repair deficiency, complementation group 1	-7.1801
Ercc2	Excision repair cross-complementing rodent repair deficiency,	32.8086

	complementation group 2	
Ercc3	Excision repair cross-complementing rodent repair deficiency, complementation group 3	-1.8455
Ercc5	Excision repair cross-complementing rodent repair deficiency, complementation group 5	-1.3324
Ercc6	Excision repair cross-complementing rodent repair deficiency, complementation group 6	1.1696
Ern2	Endoplasmic reticulum (ER) to nucleus signalling 2	-5.0771
Ero1l	ERO1-like ( <i>S. cerevisiae</i> )	1.8353
Ero1lb	ERO1-like beta ( <i>S. cerevisiae</i> )	2.86
Esd	Esterase D/formylglutathione hydrolase	-1.428
Esr1	Estrogen receptor 1 (alpha)	23.0389
F2	Coagulation factor II	-3.2132
Fabp1	Fatty acid binding protein 1, liver	1.7005
Fadd	Fas (TNFRSF6)-associated via death domain	-3.1253
Fas	Fas (TNF receptor superfamily member 6)	-2.8759
Fasl	Fas ligand (TNF superfamily, member 6)	-3.2132
Fasn	Fatty acid synthase	2.5775
Fbxo6	F-box protein 6	1.2623
Fh1	Fumarate hydratase 1	-1.6178
Fmo2	Flavin containing monooxygenase 2	-3.2132
Fmo3	Flavin containing monooxygenase 3	-11.2668
Fmo4	Flavin containing monooxygenase 4	-6.653
Fmo5	Flavin containing monooxygenase 5	2.7245
Foxi1	Forkhead box I1	-3.2132
Timm10b	Fractured callus expressed transcript 1	-1.7703
Gadd45a	Growth arrest and DNA-damage-inducible 45 alpha	1.1859
Galnt5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 5	-3.2132
Gcdh	Glutaryl-Coenzyme A dehydrogenase	-3.191
Gpd1	Glycerol-3-phosphate dehydrogenase 1 (soluble)	-5.5558
Gpt	Glutamic pyruvic transaminase, soluble	1.3623
Gpx1	Glutathione peroxidase 1	-1.458
Gpx2	Glutathione peroxidase 2	-4.3289
Gpx3	Glutathione peroxidase 3	-3.2132
Gpx4	Glutathione peroxidase 4	-1.105
Gpx5	Glutathione peroxidase 5	-6.4264
Gpx6	Glutathione peroxidase 6	-3.2132
Gpx7	Glutathione peroxidase 7	-3.2132
Grb2	Growth factor receptor bound protein 2	-1.0098
Gsta3	Glutathione S-transferase, alpha 3	-3.2132
Gstm4	Glutathione S-transferase, mu 4	-2.0335
H2-Eb1	Histocompatibility 2, class II antigen E beta	9.8219
Vimp	Histocompatibility 47	1.2025
Hao	3-hydroxyanthranilate 3,4-dioxygenase	1.1942
Hadha	Hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), alpha subunit	1.4006
Hadhb	Hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), beta subunit	1.8869
Herpud1	Homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1	2.1376
Hpn	Hepsin	1.3159
Hpx	Hemopexin	-3.2132
Hrg	Histidine-rich glycoprotein	-3.2132
Hsf1	Heat shock factor 1	-1.105

Hsf2	Heat shock factor 2	-48.9759
Hsp90aa1	Heat shock protein 90, alpha (cytosolic), class A member 1	-1.1925
Hsp90ab1	Heat shock protein 90 alpha (cytosolic), class B member 1	-1.1282
Hspa1a	Heat shock protein 1A	-5.0771
Hspa11	Heat shock protein 1-like	-35.8525
Hspa2	Heat shock protein 2	-3.2355
Hspa4	Heat shock protein 4	-1.0673
Hspa5	Heat shock protein 5	-1.0526
Hspa8	Heat shock protein 8	-1.9779
Hspa9	Heat shock protein 9	1.7484
Hspb1	Heat shock protein 1	-3.2132
Hspb2	Heat shock protein 2	-3.2132
Hspb6	Heat shock protein, alpha-crystallin-related, B6	-29.7331
Hspb7	Heat shock protein family, member 7 (cardiovascular)	-3.2132
Hspb8	Heat shock protein 8	-2.574
Hspbap1	Hspb associated protein 1	-1.1925
Hspd1	Heat shock protein 1 (chaperonin)	1.1142
Hspe1	Heat shock protein 1 (chaperonin 10)	-2.5036
Hsph1	Heat shock 105kDa/110kDa protein 1	1.1535
Htra2	HtrA serine peptidase 2	-1.136
Htra4	HtrA serine peptidase 4	-3.2132
Icam1	Intercellular adhesion molecule 1	13.2324
Idh1	Isocitrate dehydrogenase 1 (NADP+), soluble	1.2799
Idh2	Isocitrate dehydrogenase 2 (NADP+), mitochondrial	1.3068
Idh3a	Isocitrate dehydrogenase 3 (NAD+) alpha	-1.3698
Idh3b	Isocitrate dehydrogenase 3 (NAD+) beta	2.0505
Idh3g	Isocitrate dehydrogenase 3 (NAD+), gamma	-1.4682
Ifng	Interferon gamma	-3.2132
Il10	Interleukin 10	-3.2132
Il13	Interleukin 13	-3.2132
Il1a	Interleukin 1 alpha	-41.1837
Il1b	Interleukin 1 beta	-2.2408
Il2	Interleukin 2	-3.2132
Il2ra	Interleukin 2 receptor, alpha chain	-3.2132
Il4	Interleukin 4	-5.042
Il5	Interleukin 5	-1.7459
Il6	Interleukin 6	-2.521
Inhbe	Inhibin beta E	-1.9106
Irf6	Interferon regulatory factor 6	-3.2132
Itgax	Integrin alpha X	-3.2132
Jag1	Jagged 1	-4.3893
Jph3	Junctophilin 3	-9.9452
Kcnipl	Kv channel-interacting protein 1	-3.2132
Khk	Ketohexokinase	-1.1761
Klf1	Kruppel-like factor 1 (erythroid)	1.5433
Lig4	Ligase IV, DNA, ATP-dependent	-11.1116
Lmna	Lamin A	-1.3698
Lpl	Lipoprotein lipase	-4.6076
Lss	Lanosterol synthase	-3.8477
Ly6d	Lymphocyte antigen 6 complex, locus D	-3.8211
Lyz2	Lysozyme 2	-1.2959
Mag	Myelin-associated glycoprotein	-4.9383

Manba	Mannosidase, beta A, lysosomal	-1.2092
Maoa	Monoamine oxidase A	4.3651
Maob	Monoamine oxidase B	-3.2132
Mapk8	Mitogen-activated protein kinase 8	1.5433
Mbtps1	Membrane-bound transcription factor peptidase, site 1	-1.6178
Mbtps2	Membrane-bound transcription factor peptidase, site 2	3.62
Mcl1	Myeloid cell leukemia sequence 1	1.2799
Mdh1	Malate dehydrogenase 1, NAD (soluble)	-1.4379
Mdh1b	Malate dehydrogenase 1B, NAD (soluble)	-3.2132
Mdh2	Malate dehydrogenase 2, NAD (mitochondrial)	-2.3038
Mdm2	Transformed mouse 3T3 cell double minute 2	-1.1127
Metap2	Methionine aminopeptidase 2	-1.105
Mgmt	O-6-methylguanine-DNA methyltransferase	3.108
Mki67	Antigen identified by monoclonal antibody Ki 67	-1.2693
Mlh1	MutL homolog 1 (E. coli)	-1.6403
Mlx	MAX-like protein X	47.3732
Mpo	Myeloperoxidase	1.0112
Mrps18b	Mitochondrial ribosomal protein S18B	-2.3038
Msh2	MutS homolog 2 (E. coli)	1.4399
Mttp	Microsomal triglyceride transfer protein	11.5996
Nfkb1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, p105	1.1142
Nploc4	Nuclear protein localization 4 homolog (S. cerevisiae)	18.8436
Nqo1	NAD(P)H dehydrogenase, quinone 1	1.62
Nr0b2	Nuclear receptor subfamily 0, group B, member 2	-4.9383
Nr1h4	Nuclear receptor subfamily 1, group H, member 4	-3.2132
Nr5a2	Nuclear receptor subfamily 5, group A, member 2	-3.2132
Nucb1	Nucleobindin 1	1.325
Nudt1	Nudix (nucleoside diphosphate linked moiety X)-type motif 1	1.5011
Nudt13	Nudix (nucleoside diphosphate linked moiety X)-type motif 13	-1.389
Nudt15	Nudix (nucleoside diphosphate linked moiety X)-type motif 15	-4.8366
Nup210	Nucleoporin 210	1.62
Ogdhl	Oxoglutarate dehydrogenase-like	-3.2132
Ogg1	8-oxoguanine DNA-glycosylase 1	-27.5504
Olf1404	Olfactory receptor 1404	-2.5919
Os9	Amplified in osteosarcoma	1.271
Slc51a	Organic solute transporter alpha	-3.2132
Slc51b	Organic solute transporter beta	-1.2959
Parp1	Poly (ADP-ribose) polymerase family, member 1	-2.0907
Parp2	Poly (ADP-ribose) polymerase family, member 2	4.9795
Pcca	Propionyl-Coenzyme A carboxylase, alpha polypeptide	1.2623
Pcna	Proliferating cell nuclear antigen	1.3528
Pdyn	Prodynorphin	-3.7685
Pfdn5	Prefoldin 5	-1.1204
Pnpla3	Patatin-like phospholipase domain containing 3	-3.2132
Pon1	Paraoxonase 1	-1.9917
Por	P450 (cytochrome) oxidoreductase	-1.2008
Pou3f3	POU domain, class 3, transcription factor 3	-3.2132
Ppara	Peroxisome proliferator activated receptor alpha	-3.2132
Pparg	Peroxisome proliferator activated receptor gamma	-1.5305
Ppia	Peptidylprolyl isomerase A	-1.4181
Ppp1r15b	Protein phosphatase 1, regulatory (inhibitor) subunit 15b	1.3342
Prdx1	Peroxiredoxin 1	1.271



Prdx2	Peroxiredoxin 2	-1.136
Prdx6	Peroxiredoxin 6	-1.351
Prkdc	Protein kinase, DNA activated, catalytic polypeptide	12.0086
Ptgs2	Prostaglandin-endoperoxide synthase 2	2.2752
Ptpnc	Protein tyrosine phosphatase, receptor type, C	1.4201
Pvr	Poliovirus receptor	1.0042
Rab25	RAB25, member RAS oncogene family	-2.856
Rad51	RAD51 homolog ( <i>S. cerevisiae</i> )	-1.4181
Rdx	Radixin	1.0253
Retn	Resistin	-8.3629
S100a7a	S100 calcium binding protein A7A	-3.2132
S100a8	S100 calcium binding protein A8 (calgranulin A)	-3.2807
Sc4mol	Sterol-C4-methyl oxidase-like	2.0648
Scd1	Stearoyl-Coenzyme A desaturase 1	-1.105
Sdha	Succinate dehydrogenase complex, subunit A, flavoprotein (Fp)	1.554
Sdhb	Succinate dehydrogenase complex, subunit B, iron sulfur (Ip)	-1.428
Sdhc	Succinate dehydrogenase complex, subunit C, integral membrane protein	-1.0098
Sdhd	Succinate dehydrogenase complex, subunit D, integral membrane protein	1.654
Sec62	SEC62 homolog ( <i>S. cerevisiae</i> )	-1.8455
Sel1l	Sel-1 suppressor of lin-12-like ( <i>C. elegans</i> )	-7.6423
Serp1	Stress-associated endoplasmic reticulum protein 1	-1.0822
Serpina3k	Serine (or cysteine) peptidase inhibitor, clade A, member 3K	-5.2561
Serpina3n	Serine (or cysteine) peptidase inhibitor, clade A, member 3N	-3.2132
Slc10a1	Solute carrier family 10 (sodium/bile acid cotransporter family), member 1	6.7085
Slc2a3	Solute carrier family 2 (facilitated glucose transporter), member 3	2.0083
Slco1a4	Solute carrier organic anion transporter family, member 1a4	-3.2132
Smpd1	Sphingomyelin phosphodiesterase 1, acid lysosomal	16.749
Sod1	Superoxide dismutase 1, soluble	-1.9106
Spata2	Spermatogenesis associated 2	2.4726
Srebf1	Sterol regulatory element binding transcription factor 1	-1.2781
Stbd1	Starch binding domain 1	-3.2132
Sucla2	Succinate-Coenzyme A ligase, ADP-forming, beta subunit	-1.1843
Suclg1	Succinate-CoA ligase, GDP-forming, alpha subunit	1.3717
Suclg2	Succinate-Coenzyme A ligase, GDP-forming, beta subunit	1.0989
Sycp2	Synaptonemal complex protein 2	-3.2132
Syt1	Synaptotagmin I	-3.2132
Synv1	Synovial apoptosis inhibitor 1, synoviolin	-1.4083
Tagln	Transgelin	1.2535
Tcp1	T-complex protein 1	-1.458
Tff3	Trefoil factor 3, intestinal	-29.7331
Tgfb1	Transforming growth factor, beta 1	1.6888
Tmem57	Transmembrane protein 57	-3.9014
Tnf	Tumor necrosis factor	-137.5679
Tnfaip8l1	Tumor necrosis factor, alpha-induced protein 8-like 1	1.7005
Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b	-2.7779
Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a	5.1195
Tnfrsf10	Tumor necrosis factor (ligand) superfamily, member 10	2.4726
Tpo	Thyroid peroxidase	-3.2132
Trim10	Tripartite motif-containing 10	6.8495
Trp53	Transformation related protein 53	2.0505
Txnip	Thioredoxin interacting protein	2.8999
Txn14b	Thioredoxin-like 4B	-3.2132

Txnrd2	Thioredoxin reductase 2	-2.0619
Ube2g2	Ubiquitin-conjugating enzyme E2G 2	84.8004
Ube2j2	Ubiquitin-conjugating enzyme E2, J2 homolog (yeast)	-1.0454
Ubqln2	Ubiquilin 2	1.1142
Ubxn4	UBX domain protein 4	1.6313
Ucp1	Uncoupling protein 1 (mitochondrial, proton carrier)	-3.2132
Ucp2	Uncoupling protein 2 (mitochondrial, proton carrier)	1.3813
Ucp3	Uncoupling protein 3 (mitochondrial, proton carrier)	-3.2132
Ugt1a1	UDP glucuronosyltransferase 1 family, polypeptide A1	-3.2132
Ugt2a1	UDP glucuronosyltransferase 2 family, polypeptide A1	-3.2132
Ugt2b1	UDP glucuronosyltransferase 2 family, polypeptide B1	-3.2132
Uox	Urate oxidase	-3.2132
Vcp	Valosin containing protein	-1.0673
Wipi1	WD repeat domain, phosphoinositide interacting 1	1.522
Xbp1	X-box binding protein 1	1.6656
Xiap	X-linked inhibitor of apoptosis	1.2193
Xpa	Xeroderma pigmentosum, complementation group A	-1.105
Xpc	Xeroderma pigmentosum, complementation group C	-1.9239
Xrcc1	X-ray repair complementing defective repair in Chinese hamster cells 1	1.7728
Xrcc5	X-ray repair complementing defective repair in Chinese hamster cells 5	-1.3698