Supplementary data

# Folic acid reduces doxorubicin-induced cardiomyopathy by modulating endothelial nitric oxide synthase

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**Figure S1** Folic acid (FA) effects on doxorubicin (DOXO)-treated HeLa and MDA-MB-231 cells

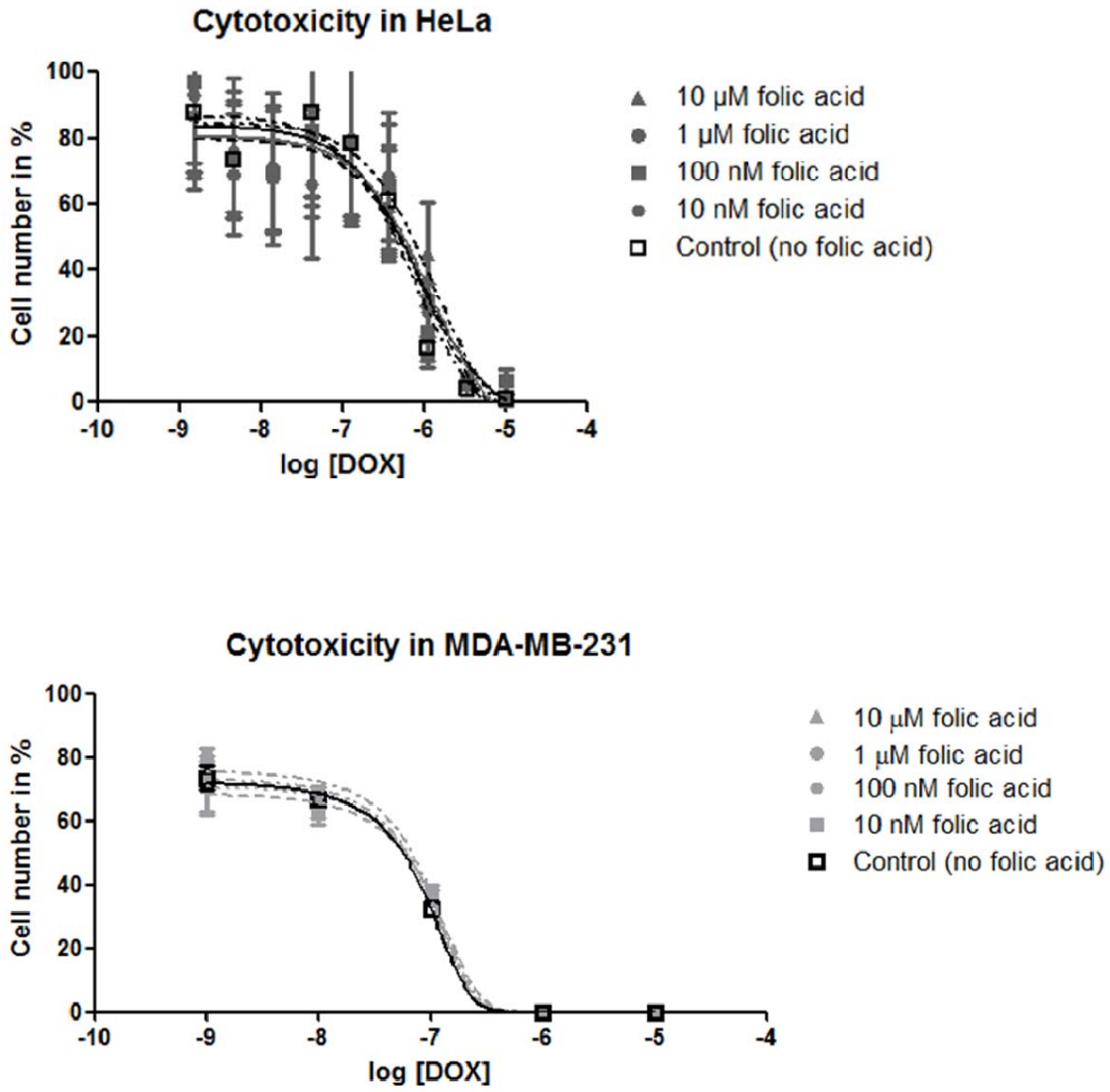

**Figure S2** Neuronal and inducible nitric oxide synthase (nNOS and iNOS, respectively) protein levels normalized to GAPDH and monomer (m):dimer (d)

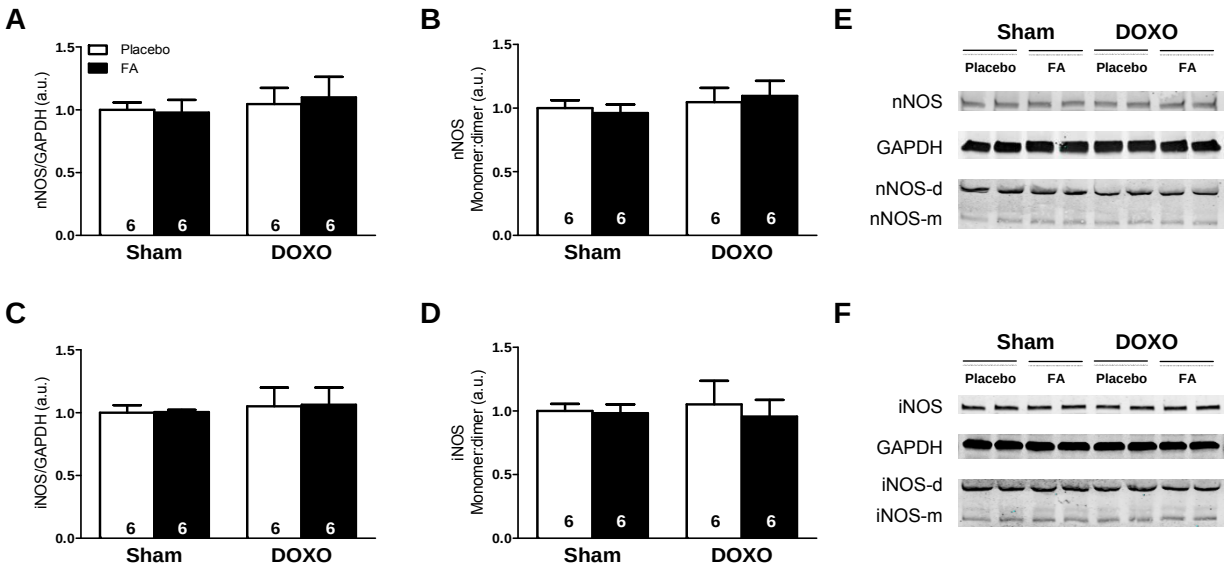

**Table S1** Primer sequences for real-time RT-PCR

| **Gene** | **Primer sense** | **Primer antisense** |
|---|---|---|
| Metallothionin 2 | CTCGTCGATCTTCAACCGCC | CGGAAGCCTCTTTGCAGATG |
| Lipocalin 2 | CCAGCCACCATACCAAGGAG | GACGCCATTGGTGGTGTTAAG |
| Serine (or cysteine) peptidase inhibitor, clade A, member 3N (Serpina3n) | TCTTCTCCACACAGGCTGAC | CAGAGGGTACAGTTTCGCAGA |
| α-skeletal actin | TGACGTGTACATAGATTGACTCGTTT | TGGCTGGCTTTAATGCTTCA |
| Atrial natriuretic peptide | TTCCTCGTCTTGGCCTTTTG | CCTCATCTTCTACCGGCATCTTC |
| Brain natriuretic peptide | GGGAGAACACGGCATCATTG | ACAGCACCTTCAGGAGATCCA |

**Table S2** Anatomical data

| | | Sham | Doxorubicin | |
|---|---|---|---|---|
| Body weight baseline (g) | Placebo | 26.8 ± 0.6 | 26.6 ± 0.3 | |
| | FA | 27.1 ± 0.3 | 27.7 ± 0.4 | |
| Body weight follow up (g) | Placebo | 27.6 ± 0.4 | 22.1 ± 0.5 | * |
| | FA | 27.0 ± 0.5 | 22.5 ± 0.5 | * |
| Tibia length (cm) | Placebo | 1.80 ± 0.01 | 1.78 ± 0.01 | * |
| | FA | 1.79 ± 0.01 | 1.78 ± 0.01 | |
| LV weight (mg) | Placebo | 95.5 ± 1.7 | 65.7 ± 2.0 | * |
| | FA | 91.4 ± 2.3 | 74.5 ± 3.8 | *† |
| RV weight (mg) | Placebo | 25.0 ± 0.7 | 17.9 ± 0.9 | * |
| | FA | 25.6 ± 1.0 | 20.2 ± 1.2 | * |
| LV weight/tibia length (mg/cm) | Placebo | 53.1 ± 1.0 | 37.4 ± 1.1 | * |
| | FA | 51.0 ± 1.3 | 42.5 ± 1.7 | *† |
| LVIDd (mm) | Placebo | 3.35 ± 0.06 | 2.66 ± 0.25 | * |
| | FA | 3.31 ± 0.09 | 3.31 ± 0.15 | † |
| LVIDs (mm) | Placebo | 1.79 ± 0.07 | 1.10 ± 0.17 | * |
| | FA | 1.83 ± 0.09 | 1.71 ± 0.15 | † |
| Stroke volume (µl) | Placebo | 36.1 ± 1.4 | 24.2 ± 4.6 | * |
| | FA | 34.4 ± 2.1 | 36.0 ± 3.2 | † |
| LVPWd (mm) | Placebo | 0.96 ± 0.02 | 1.00 ± 0.17 | |
| | FA | 0.94 ± 0.04 | 0.88 ± 0.02 | |

Data are presented as mean ± SEM. LV, left ventricle; RV, right ventricle; LVIDd, LV internal dimensions at end-diastole; LVIDs, LVID at end-systole; LVPWd, LV posterior wall at end diastole. *$P$<0.05 vs. Sham; †$P$<0.05 vs. DOXO

**Table S3** Doxorubicin-regulated probe sets

| Affymetrix ID | Gene symbol | Gene name | *P* value | Fold change relative to DOXO |
|---|---|---|---|---|
| 10566258 | | | 0 | 0.06 |
| 10598032 | | | 0 | 0.16 |
| 10593058 | | | 0 | 1.56 |
| 10566254 | Hbb-b1 | hemoglobin, beta adult major chain | 0 | 0.38 |
| 10574023 | Mt2 | metallothionein 2 | 0 | 10.13 |
| 10342598 | | | 0 | 1.57 |
| 10598053 | | | 0 | 0.31 |
| 10342849 | | | 0 | 1.40 |
| 10604877 | Mir465 | microRNA 465 | 0 | 1.37 |
| 10342788 | | | 0.001 | 1.41 |
| 10341762 | | | 0.001 | 1.45 |
| 10338956 | | | 0.001 | 1.55 |
| 10342109 | | | 0.001 | 0.56 |
| 10444298 | H2-Eb1 | histocompatibility 2, class II antigen E beta | 0.001 | 0.62 |
| 10493831 | S100a8 | S100 calcium binding protein A8 (calgranulin A) | 0.001 | 2.11 |
| 10602372 | Alas2 | aminolevulinic acid synthase 2, erythroid | 0.001 | 0.69 |
| 10375058 | Hba-a2 | hemoglobin alpha, adult chain 2 | 0.001 | 0.20 |
| 10444229 | H2-DMa | histocompatibility 2, class II, locus DMa | 0.001 | 0.75 |
| 10384670 | | | 0.001 | 1.25 |
| 10531407 | Cxcl9 | chemokine (C-X-C motif) ligand 9 | 0.001 | 0.56 |
| 10341476 | | | 0.001 | 1.48 |
| 10580850 | | | 0.001 | 1.38 |
| 10375051 | Hba-a1 | hemoglobin alpha, adult chain 1 | 0.001 | 0.17 |
| 10563895 | | | 0.002 | 1.26 |
| 10582080 | | | 0.002 | 1.22 |
| 10435497 | Stfa2l1 | stefin A2 like 1 | 0.002 | 1.97 |
| 10420804 | Prss55 | protease, serine, 55 | 0.002 | 0.69 |
| 10356510 | Iqca | IQ motif containing with AAA domain | 0.002 | 1.42 |
| 10338194 | | | 0.002 | 1.72 |
| 10515416 | Rps8 | ribosomal protein S8 | 0.002 | 1.34 |

| Affymetrix ID | Gene symbol | Gene name | *P* value | Fold change relative to DOXO |
|---|---|---|---|---|
| 10542164 | Clec12a | C-type lectin domain family 12, member a | 0.002 | 0.66 |
| 10416923 | | | 0.003 | 1.75 |
| 10338145 | | | 0.003 | 0.73 |
| 10343850 | | | 0.003 | 0.76 |
| 10444291 | H2-Ab1 | histocompatibility 2, class II antigen A, beta 1 | 0.003 | 0.44 |
| 10589535 | Ngp | neutrophilic granule protein | 0.003 | 2.00 |
| 10563597 | Saa3 | serum amyloid A 3 | 0.003 | 1.83 |
| 10554032 | | | 0.003 | 1.26 |
| 10338338 | | | 0.004 | 1.34 |
| 10338345 | | | 0.004 | 0.70 |
| 10450154 | H2-Aa | histocompatibility 2, class II antigen A, alpha | 0.004 | 0.34 |
| 10576437 | | | 0.004 | 1.24 |
| 10455866 | 1700011I03Rik | RIKEN cDNA 1700011I03 gene | 0.004 | 1.53 |
| 10343366 | | | 0.004 | 1.49 |
| 10343068 | | | 0.004 | 0.71 |
| 10379953 | 4632419I22Rik | RIKEN cDNA 4632419I22 gene | 0.004 | 0.82 |
| 10339075 | | | 0.004 | 0.72 |
| 10481627 | Lcn2 | lipocalin 2 | 0.004 | 4.92 |
| 10513818 | Stmn1 | stathmin 1 | 0.004 | 0.77 |
| 10453057 | Cyp1b1 | cytochrome P450, family 1, subfamily b, polypeptide 1 | 0.005 | 1.40 |
| 10433885 | Cebpd | CCAAT/enhancer binding protein (C/EBP), delta | 0.005 | 1.46 |
| 10343183 | | | 0.005 | 0.79 |
| 10473444 | Aplnr | apelin receptor | 0.005 | 0.58 |
| 10342689 | | | 0.005 | 0.70 |
| 10343682 | | | 0.005 | 1.31 |
| 10343863 | | | 0.005 | 1.42 |
| 10458046 | D0H4S114 | DNA segment, human D4S114 | 0.005 | 0.54 |
| 10523128 | Ppbp | pro-platelet basic protein | 0.005 | 0.72 |
| 10502335 | Bank1 | B-cell scaffold protein with ankyrin repeats 1 | 0.005 | 0.77 |
| 10342020 | | | 0.005 | 1.78 |
| 10341461 | | | 0.006 | 0.71 |
| 10555736 | Olfr558 | olfactory receptor 558 | 0.006 | 0.73 |

| Affymetrix ID | Gene symbol | Gene name | *P* value | Fold change relative to DOXO |
|---|---|---|---|---|
| 10453688 | | | 0.006 | 1.73 |
| 10398075 | Serpina3n | serine (or cysteine) peptidase inhibitor, clade A, member 3N | 0.006 | 4.41 |
| 10419934 | Myh7 | myosin, heavy polypeptide 7, cardiac muscle, beta | 0.006 | 4.56 |
| 10342455 | | | 0.006 | 0.74 |
| 10401320 | Adam4 | a disintegrin and metallopeptidase domain 4 | 0.006 | 0.76 |
| 10492798 | Sfrp2 | secreted frizzled-related protein 2 | 0.006 | 0.83 |
| 10404132 | Cmah | cytidine monophospho-N-acetylneuraminic acid hydroxylase | 0.006 | 0.82 |
| 10434689 | Ahsg | alpha-2-HS-glycoprotein | 0.006 | 1.47 |
| 10349832 | Gm7246 | predicted gene 7246 | 0.006 | 1.58 |
| 10549635 | Lilra5 | leukocyte immunoglobulin-like receptor, subfamily A (with TM domain), member 5 | 0.006 | 0.83 |
| 10341250 | | | 0.006 | 0.72 |
| 10375608 | Scgb3a1 | secretoglobin, family 3A, member 1 | 0.006 | 1.54 |
| 10375559 | | | 0.006 | 1.48 |
| 10385507 | Gm12185 | predicted gene 12185 | 0.006 | 0.84 |
| 10352125 | | | 0.006 | 0.80 |
| 10340250 | | | 0.006 | 1.28 |
| 10342135 | | | 0.007 | 1.34 |
| 10338699 | | | 0.007 | 1.57 |
| 10340559 | | | 0.007 | 1.38 |
| 10421970 | | | 0.007 | 0.71 |
| 10359888 | | | 0.007 | 1.27 |
| 10572083 | | | 0.007 | 1.24 |
| 10595145 | Gm8074 | predicted gene 8074 | 0.007 | 1.36 |
| 10466130 | Ms4a8a | membrane-spanning 4-domains, subfamily A, member 8A | 0.007 | 1.33 |
| 10340886 | | | 0.008 | 0.73 |
| 10462912 | Lgi1 | leucine-rich repeat LGI family, member 1 | 0.008 | 0.57 |
| 10439296 | Stfa2 | stefin A2 | 0.008 | 1.58 |
| 10338788 | | | 0.008 | 0.73 |
| 10342778 | | | 0.008 | 1.34 |
| 10593191 | | | 0.008 | 1.33 |
| 10403076 | | | 0.008 | 1.31 |
| 10498350 | P2ry14 | purinergic receptor P2Y, G-protein coupled, 14 | 0.008 | 0.77 |

| Affymetrix ID | Gene symbol | Gene name | *P* value | Fold change relative to DOXO |
|---|---|---|---|---|
| 10523359 | Cxcl13 | chemokine (C-X-C motif) ligand 13 | 0.008 | 1.87 |
| 10338917 | | | 0.008 | 0.76 |
| 10561787 | Zfp27 | zinc finger protein 27 | 0.009 | 0.83 |
| 10407387 | Gm7120 | predicted gene 7120 | 0.009 | 0.76 |
| 10339214 | | | 0.009 | 1.34 |
| 10425283 | Maff | v-maf musculoaponeurotic fibrosarcoma oncogene family, protein F (avian) | 0.009 | 1.34 |
| 10360418 | Rgs7 | regulator of G protein signaling 7 | 0.009 | 0.84 |
| 10342873 | | | 0.009 | 0.66 |
| 10368268 | | | 0.009 | 1.21 |
| 10439009 | Apod | apolipoprotein D | 0.009 | 2.33 |
| 10340050 | | | 0.009 | 1.36 |
| 10343410 | | | 0.009 | 1.42 |
| 10512377 | Ccl21a | chemokine (C-C motif) ligand 21A (serine) | 0.009 | 0.62 |
| 10408926 | | | 0.009 | 1.20 |
| 10338444 | | | 0.01 | 1.59 |
| 10338101 | | | 0.01 | 0.76 |
| 10342313 | | | 0.01 | 0.75 |
| 10595148 | Gsta2 | glutathione S-transferase, alpha 2 (Yc2) | 0.01 | 1.92 |
| 10476321 | Prnd | prion protein dublet | 0.01 | 0.68 |
| 10499189 | Fcrls | Fc receptor-like S, scavenger receptor | 0.01 | 0.77 |
| 10448350 | Paqr4 | progestin and adipoQ receptor family member IV | 0.01 | 0.81 |
| 10412481 | 2410127L17Rik | RIKEN cDNA 2410127L17 gene | 0.01 | 0.78 |
| 10483000 | Itgb6 | integrin beta 6 | 0.01 | 0.61 |
| 10341946 | | | 0.011 | 1.37 |
| 10528909 | | | 0.011 | 1.23 |
| 10342440 | | | 0.011 | 1.47 |
| 10601581 | Trim12c | tripartite motif-containing 12C | 0.011 | 0.80 |
| 10342948 | | | 0.011 | 0.74 |
| 10476569 | 2310003L22Rik | RIKEN cDNA 2310003L22 gene | 0.011 | 0.83 |
| 10423599 | Matn2 | matrilin 2 | 0.011 | 0.85 |
| 10340928 | | | 0.011 | 1.29 |
| 10356880 | St8sia4 | ST8 alpha-N-acetyl-neuraminide alpha-2,8-sialyltransferase 4 | 0.011 | 0.76 |

| Affymetrix ID | Gene symbol | Gene name | *P* value | Fold change relative to DOXO |
|---|---|---|---|---|
| 10414175 | | | 0.012 | 1.31 |
| 10541614 | Clec4d | C-type lectin domain family 4, member d | 0.012 | 1.37 |
| 10340650 | | | 0.012 | 0.62 |
| 10598976 | Timp1 | tissue inhibitor of metalloproteinase 1 | 0.012 | 1.88 |
| 10359908 | Rgs4 | regulator of G-protein signaling 4 | 0.012 | 0.81 |
| 10357472 | Cxcr4 | chemokine (C-X-C motif) receptor 4 | 0.012 | 0.84 |
| 10417561 | Fam107a | family with sequence similarity 107, member A | 0.012 | 1.32 |
| 10494388 | Hist2h2be | histone cluster 2, H2be | 0.012 | 0.86 |
| 10422005 | | | 0.012 | 1.20 |
| 10342597 | | | 0.012 | 0.78 |
| 10342810 | | | 0.012 | 0.73 |
| 10354416 | | | 0.012 | 1.39 |
| 10339536 | | | 0.012 | 0.82 |
| 10458870 | | | 0.012 | 1.18 |
| 10436100 | Retnlg | resistin like gamma | 0.013 | 1.64 |
| 10339668 | | | 0.013 | 0.79 |
| 10339331 | | | 0.013 | 0.77 |
| 10443463 | Cdkn1a | cyclin-dependent kinase inhibitor 1A (P21) | 0.013 | 2.93 |
| 10339921 | | | 0.013 | 0.75 |
| 10399751 | Colec11 | collectin sub-family member 11 | 0.014 | 0.84 |
| 10441794 | Mrgprh | MAS-related GPR, member H | 0.014 | 0.71 |
| 10408329 | | | 0.014 | 0.66 |
| 10417212 | Itgbl1 | integrin, beta-like 1 | 0.014 | 0.84 |
| 10362115 | 1110021L09Rik | RIKEN cDNA 1110021L09 gene | 0.014 | 0.83 |
| 10342360 | | | 0.014 | 0.84 |
| 10342631 | | | 0.014 | 0.77 |

**Table S4** Folic acid (FA) effects on gene expression after doxorubicin injection

| Affymetrix ID | Gene symbol | Gene name | *P* value | Fold change relative to FA |
|---|---|---|---|---|
| 10341347 | | | 0 | 1.51 |
| 10343002 | | | 0.001 | 0.66 |
| 10428534 | Trps1 | trichorhinophalangeal syndrome I (human) | 0.002 | 1.30 |
| 10341431 | | | 0.002 | 1.53 |
| 10341008 | | | 0.003 | 1.62 |
| 10342631 | | | 0.003 | 1.40 |
| 10339912 | | | 0.004 | 1.57 |
| 10423049 | Prlr | prolactin receptor | 0.004 | 1.20 |
| 10341724 | | | 0.004 | 1.24 |
| 10343682 | | | 0.004 | 0.74 |
| 10340000 | | | 0.004 | 1.41 |
| 10342884 | | | 0.004 | 1.36 |
| 10421970 | | | 0.004 | 1.47 |
| 10344580 | | | 0.004 | 1.57 |
| 10341795 | | | 0.005 | 1.35 |
| 10570735 | Defa24 | defensin, alpha, 24 | 0.005 | 1.26 |
| 10409061 | Mirlet7f-1 | microRNA let7f-1 | 0.005 | 1.31 |
| 10342619 | | | 0.005 | 1.39 |
| 10338869 | | | 0.005 | 1.40 |
| 10412481 | 2410127L17Rik | RIKEN cDNA 2410127L17 gene | 0.005 | 1.34 |
| 10343937 | | | 0.006 | 0.73 |
| 10338391 | | | 0.006 | 1.38 |
| 10414460 | Naa30 | N(alpha)-acetyltransferase 30, NatC catalytic subunit | 0.006 | 1.24 |
| 10339464 | | | 0.006 | 1.40 |
| 10339930 | | | 0.006 | 1.51 |
| 10339488 | | | 0.007 | 1.35 |
| 10343850 | | | 0.008 | 1.28 |
| 10371288 | Gm1553 | predicted gene 1553 | 0.008 | 1.36 |
| 10340350 | | | 0.008 | 1.59 |
| 10338894 | | | 0.008 | 1.49 |
| 10339753 | | | 0.008 | 0.67 |

| Affymetrix ID | Gene symbol | Gene name | *P* value | Fold change relative to FA |
|---|---|---|---|---|
| 10503359 | C430048L16Rik | RIKEN cDNA C430048L16 gene | 0.008 | 1.28 |
| 10344548 | | | 0.008 | 1.40 |
| 10338818 | | | 0.009 | 1.45 |
| 10343004 | | | 0.009 | 0.74 |
| 10340865 | | | 0.009 | 1.28 |
| 10484579 | Olfr1051 | olfactory receptor 1051 | 0.009 | 1.44 |
| 10339516 | | | 0.009 | 0.76 |
| 10473494 | Olfr1034 | olfactory receptor 1034 | 0.009 | 1.60 |
| 10343139 | | | 0.009 | 1.41 |
| 10338439 | | | 0.009 | 0.75 |
| 10404063 | Hist1h2ab | histone cluster 1, H2ab | 0.009 | 1.45 |
| 10448131 | Vmn2r94 | vomeronasal 2, receptor 94 | 0.009 | 1.35 |
| 10342057 | | | 0.009 | 1.40 |
| 10341184 | | | 0.009 | 1.38 |
| 10339129 | | | 0.009 | 1.44 |
| 10401320 | Adam4 | a disintegrin and metallopeptidase domain 4 | 0.009 | 1.31 |
| 10344432 | | | 0.01 | 1.44 |
| 10339122 | | | 0.01 | 1.44 |
| 10565385 | Olfr308 | olfactory receptor 308 | 0.01 | 1.48 |
| 10372728 | Cdc5l | cell division cycle 5-like (S. pombe) | 0.011 | 1.38 |
| 10340698 | | | 0.011 | 1.35 |
| 10374842 | Ccdc88a | coiled coil domain containing 88A | 0.011 | 1.14 |
| 10343058 | | | 0.011 | 1.31 |
| 10341149 | | | 0.011 | 1.51 |
| 10604053 | Nkrf | NF-kappaB repressing factor | 0.012 | 1.17 |
| 10338788 | | | 0.012 | 1.38 |
| 10503659 | Epha7 | Eph receptor A7 | 0.012 | 1.23 |
| 10339429 | | | 0.012 | 1.54 |
| 10395612 | G2e3 | G2/M-phase specific E3 ubiquitin ligase | 0.013 | 1.18 |
| 10566686 | Olfr490 | olfactory receptor 490 | 0.013 | 1.35 |
| 10435501 | Stfa1 | stefin A1 | 0.013 | 0.74 |
| 10344191 | | | 0.013 | 1.42 |
| 10343513 | | | 0.013 | 1.40 |

| Affymetrix ID | Gene symbol | Gene name | *P* value | Fold change relative to FA |
|---|---|---|---|---|
| 10341826 | | | 0.014 | 0.77 |
| 10341077 | | | 0.014 | 1.34 |
| 10473596 | | | 0.014 | 1.40 |
| 10342332 | | | 0.014 | 0.73 |

**Table S5** Interaction analysis of sham, doxorubicin (DOXO) and DOXO with folic acid (DOXOFA) on gene expression

| Affymetrix ID | Gene symbol | Gene name | *P* value | Log2 mean expression value | | | Fold change | |
|---|---|---|---|---|---|---|---|---|
| | | | | Sham | DOXO | DOXO FA | DOXO vs Sham | DOXO FA vs. DOXO |
| 10566258 | | | 0 | 10.80 | 6.72 | 6.81 | 0.06 | 1.06 |
| 10342109 | | | 0.001 | 6.34 | 5.51 | 6.09 | 0.56 | 1.49 |
| 10598032 | | | 0.001 | 11.29 | 8.65 | 8.71 | 0.16 | 1.04 |
| 10343682 | | | 0.002 | 5.08 | 5.47 | 5.04 | 1.31 | 0.74 |
| 10343850 | | | 0.002 | 5.22 | 4.82 | 5.19 | 0.76 | 1.29 |
| 10341476 | | | 0.002 | 4.24 | 4.81 | 4.39 | 1.49 | 0.75 |
| 10421970 | | | 0.002 | 6.93 | 6.44 | 7.00 | 0.71 | 1.47 |
| 10342631 | | | 0.003 | 5.75 | 5.37 | 5.87 | 0.77 | 1.41 |
| 10341347 | | | 0.003 | 5.76 | 5.56 | 6.15 | 0.87 | 1.50 |
| 10343002 | | | 0.003 | 3.92 | 4.26 | 3.67 | 1.27 | 0.66 |
| 10412481 | 2410127L17Rik | RIKEN cDNA 2410127L17 gene | 0.003 | 5.80 | 5.44 | 5.87 | 0.78 | 1.34 |
| 10341008 | | | 0.003 | 5.89 | 5.41 | 6.10 | 0.72 | 1.62 |
| 10401320 | Adam4 | a disintegrin and metallopeptidase domain 4 | 0.003 | 6.61 | 6.22 | 6.61 | 0.76 | 1.31 |
| 10574023 | Mt2 | metallothionein 2 | 0.003 | 8.20 | 11.55 | 11.03 | 10.13 | 0.70 |
| 10341431 | | | 0.004 | 6.52 | 6.17 | 6.77 | 0.78 | 1.52 |
| 10338788 | | | 0.004 | 6.45 | 5.99 | 6.45 | 0.73 | 1.38 |
| 10342849 | | | 0.004 | 6.01 | 6.50 | 6.36 | 1.40 | 0.91 |
| 10341795 | | | 0.004 | 6.07 | 5.76 | 6.19 | 0.81 | 1.35 |
| 10342778 | | | 0.004 | 4.21 | 4.63 | 4.23 | 1.34 | 0.75 |
| 10342788 | | | 0.005 | 4.12 | 4.62 | 4.42 | 1.42 | 0.87 |
| 10338145 | | | 0.005 | 6.41 | 5.95 | 6.27 | 0.73 | 1.25 |
| 10339075 | | | 0.005 | 6.73 | 6.25 | 6.63 | 0.72 | 1.30 |
| 10589535 | Ngp | neutrophilic granule protein | 0.005 | 5.68 | 6.68 | 5.99 | 2.00 | 0.62 |
| 10341149 | | | 0.006 | 4.81 | 4.29 | 4.88 | 0.70 | 1.50 |
| 10435501 | Stfa1 | stefin A1 | 0.006 | 6.55 | 6.94 | 6.52 | 1.31 | 0.74 |
| 10563597 | Saa3 | serum amyloid A 3 | 0.006 | 6.25 | 7.13 | 6.54 | 1.83 | 0.66 |
| 10379953 | 4632419I22Rik | RIKEN cDNA 4632419I22 gene | 0.006 | 6.50 | 6.21 | 6.42 | 0.82 | 1.16 |
| 10503359 | C430048L16Rik | RIKEN cDNA C430048L16 gene | 0.006 | 6.90 | 6.62 | 6.98 | 0.82 | 1.29 |
| 10342597 | | | 0.006 | 6.11 | 5.76 | 6.11 | 0.79 | 1.28 |
| 10435497 | Stfa2l1 | stefin A2 like 1 | 0.006 | 5.55 | 6.53 | 5.99 | 1.97 | 0.69 |
| 10341184 | | | 0.007 | 6.40 | 6.03 | 6.49 | 0.78 | 1.38 |

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|---|---|---|---|---|---|---|---|---|
| 10338338 | | | 0.007 | 4.68 | 5.11 | 4.83 | 1.34 | 0.82 |
| 10338869 | | | 0.007 | 6.81 | 6.51 | 7.00 | 0.81 | 1.41 |
| 10433885 | Cebpd | CCAAT/enhancer binding protein (C/EBP), delta | 0.008 | 6.35 | 6.90 | 6.53 | 1.47 | 0.77 |
| 10555736 | Olfr558 | olfactory receptor 558 | 0.008 | 7.19 | 6.73 | 7.06 | 0.73 | 1.25 |
| 10466130 | Ms4a8a | membrane-spanning 4-domains, subfamily A, member 8A | 0.008 | 6.43 | 6.85 | 6.53 | 1.33 | 0.80 |
| 10566254 | Hbb-b1 | hemoglobin, beta adult major chain | 0.009 | 6.74 | 5.36 | 5.37 | 0.38 | 1.01 |
| 10338444 | | | 0.009 | 4.29 | 4.96 | 4.39 | 1.59 | 0.68 |
| 10338345 | | | 0.009 | 6.51 | 5.99 | 6.30 | 0.70 | 1.24 |
| 10502335 | Bank1 | B-cell scaffold protein with ankyrin repeats 1 | 0.009 | 6.44 | 6.07 | 6.32 | 0.78 | 1.19 |
| 10339122 | | | 0.01 | 5.01 | 4.64 | 5.18 | 0.77 | 1.45 |
| 10341168 | | | 0.01 | 6.72 | 6.45 | 6.77 | 0.83 | 1.25 |
| 10343068 | | | 0.01 | 6.56 | 6.07 | 6.37 | 0.71 | 1.23 |
| 10338629 | | | 0.01 | 6.71 | 7.03 | 6.72 | 1.24 | 0.81 |
| 10399973 | Hdac9 | histone deacetylase 9 | 0.01 | 7.71 | 7.48 | 7.74 | 0.85 | 1.20 |
| 10344143 | | | 0.01 | 6.19 | 5.81 | 6.23 | 0.77 | 1.34 |
| 10399632 | F630048H11Rik | RIKEN cDNA F630048H11 gene | 0.01 | 5.81 | 5.52 | 5.80 | 0.82 | 1.22 |
| 10340350 | | | 0.01 | 5.47 | 5.05 | 5.72 | 0.75 | 1.59 |
| 10428534 | Trps1 | trichorhinophalangeal syndrome I (human) | 0.011 | 6.54 | 6.41 | 6.79 | 0.91 | 1.30 |
| 10513420 | Mup7 | major urinary protein 7 | 0.011 | 4.19 | 4.64 | 4.21 | 1.36 | 0.74 |
| 10340561 | | | 0.011 | 5.01 | 4.51 | 4.97 | 0.71 | 1.37 |
| 10338752 | | | 0.011 | 4.98 | 4.58 | 5.05 | 0.76 | 1.39 |
| 10339168 | | | 0.011 | 6.50 | 6.18 | 6.52 | 0.80 | 1.26 |
| 10417561 | Fam107a | family with sequence similarity 107, member A | 0.012 | 6.50 | 6.90 | 6.57 | 1.32 | 0.80 |
| 10604877 | Mir465 | microRNA 465 | 0.012 | 4.29 | 4.75 | 4.69 | 1.37 | 0.96 |
| 10341250 | | | 0.012 | 7.38 | 6.91 | 7.21 | 0.72 | 1.23 |
| 10339921 | | | 0.012 | 6.73 | 6.32 | 6.67 | 0.75 | 1.27 |
| 10375608 | Scgb3a1 | secretoglobin, family 3A, member 1 | 0.013 | 6.63 | 7.25 | 6.86 | 1.53 | 0.77 |
| 10343937 | | | 0.013 | 5.56 | 5.79 | 5.33 | 1.17 | 0.73 |
| 10605820 | Zc4h2 | zinc finger, C4H2 domain containing | 0.013 | 6.50 | 6.32 | 6.52 | 0.88 | 1.15 |
| 10339488 | | | 0.013 | 5.76 | 5.53 | 5.96 | 0.85 | 1.35 |
| 10439296 | Stfa2 | stefin A2 | 0.013 | 5.35 | 6.01 | 5.57 | 1.58 | 0.74 |
| 10542164 | Clec12a | C-type lectin domain family 12, member a | 0.013 | 7.03 | 6.43 | 6.68 | 0.66 | 1.18 |
| 10341724 | | | 0.013 | 6.76 | 6.63 | 6.94 | 0.92 | 1.24 |
| 10342313 | | | 0.013 | 6.65 | 6.24 | 6.53 | 0.75 | 1.23 |
| 10344341 | | | 0.014 | 6.51 | 6.18 | 6.58 | 0.80 | 1.31 |
| 10366737 | | | 0.014 | 7.08 | 7.33 | 7.09 | 1.19 | 0.85 |
| 10375811 | | | 0.014 | 6.61 | 6.40 | 6.67 | 0.86 | 1.21 |

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|---|---|---|---|---|---|---|---|---|
| 10338721 | | | 0.014 | 4.61 | 4.21 | 4.66 | 0.76 | 1.36 |
| 10372728 | Cdc5l | cell division cycle 5-like (S. pombe) | 0.014 | 8.51 | 8.22 | 8.69 | 0.82 | 1.38 |
| 10530465 | | | 0.014 | 4.35 | 4.70 | 4.34 | 1.28 | 0.78 |