

Table S2: Human anti-oxidant genes included in array analyses in this study

Symbol	log ₂ fold change	Adjusted <i>P</i> value	Synonyms	Description
GCLM†	1.034	1.312×10 ⁻⁴	GLCLR	glutamate-cysteine ligase modifier subunit
SRXN1	1.242	1.934×10 ⁻⁴	C20orf139, Npn3, SRX, SRX1	sulfiredoxin 1
TXNRD1*	0.928	2.770×10 ⁻⁴	GRIM-12, TR, TR1, TRXR1, TXNR	thioredoxin reductase 1
HMOX1†	0.693	2.770×10 ⁻⁴	HMOX1D, HO-1, HSP32, bK286B10	heme oxygenase 1
FTL†	0.564	2.467×10 ⁻³	LFTD, NBIA3	ferritin light chain
SLC7A11†	0.649	3.676×10 ⁻³	CCBR1, xCT	solute carrier family 7 member 11
TXNL4B	0.388	6.601×10 ⁻³	DLP, Dim2	thioredoxin like 4B
NQO1†	0.345	0.015	DHQU, DIA4, DTD, NMOR1, NMORI, QR1	NAD(P)H quinone dehydrogenase 1
TXNDC9	0.346	0.020	APACD, PHLP3	thioredoxin domain containing 9
PRDX1*	0.306	0.021	MSP23, NKEF-A, NKEFA, PAG, PAGA, PAGB, PRX1, PRXI, TDPX2	peroxiredoxin 1
MT1F	-0.254	0.039	MT1	metallothionein 1F
MT1G	0.224	0.043	MT1, MT1K	metallothionein 1G
GLRX3	0.256	0.045	GLRX4, GRX3, GRX4, PICOT, TXNL2, TXNL3	glutaredoxin 3
TXN*	0.240	0.050	TRDX, TRX, TRX1	thioredoxin
FTH1†	0.206	0.061	FHC, FTH, FTHL6, HFE5, PIG15, PLIF	ferritin heavy chain 1
GSR*	0.328	0.061	HEL-75, HEL-S-122m	glutathione-disulfide reductase
MSRA	-0.222	0.082	PMSR	methionine sulfoxide reductase A
TXNDC5	0.217	0.085	ENDOPDI, ERP46, HCC-2, HCC2, PDIA15, STRF8, UNQ364	thioredoxin domain containing 5
MT1M	-0.213	0.106	MT-1M, MT-IM, MT1, MT1K	metallothionein 1M
GPX7	0.210	0.110	CL683, GPX6, GPx-7, GSHPx-7, NPGPx	glutathione peroxidase 7
TXNRD2	-0.166	0.164	SELZ, TR, TR-BETA, TR3, TRXR2	thioredoxin reductase 2
ERP44	0.170	0.165	PDIA10, TXNDC4	endoplasmic reticulum protein 44
PRDX4	0.153	0.173	AOE37-2, AOE372, HEL-S-97n, PRX-4	peroxiredoxin 4
SOD2	0.191	0.238	IPO-B, IPOB, MNSOD, MVCD6, Mn-SOD	superoxide dismutase 2, mitochondrial
PDIA6	0.132	0.250	ERP5, P5, TXNDC7	protein disulfide isomerase family A member 6
TXNDC8	-0.176	0.262	SPTRX-3, TRX6, bA427L11.2	thioredoxin domain containing 8
GPX4	-0.125	0.315	GPx-4, GSHPx-4, MCSP, PHGPx, SMDS, snGPx, snPHGPx	glutathione peroxidase 4
SOD1	0.126	0.338	ALS, ALS1, HEL-S-44, IPOA, SOD, hSod1, homodimer	superoxide dismutase 1, soluble

Symbol	log ₂ fold change	Adjusted P value	Synonyms	Description
TMX1	0.140	0.354	PDIA11, TMX, TXNDC, TXNDC1	thioredoxin related transmembrane protein 1
GLRX	-0.110	0.375	GRX, GRX1	glutaredoxin
TXNDC17	0.111	0.404	TRP14, TXNL5	thioredoxin domain containing 17
MT1A	-0.096	0.479	MT1, MT1S, MTC	metallothionein 1A
PRDX3	0.084	0.486	AOP-1, AOP1, HBC189, MER5, PRO1748, SP-22, prx-III	peroxiredoxin 3
GLRX2	0.086	0.500	CGI-133, GRX2	glutaredoxin 2
NME9	0.093	0.506	NM23-H9, TXL-2, TXL2, TXNDC6	NME/NM23 family member 9
TXNDC12	0.114	0.539	AG1, AGR1, ERP16, ERP18, ERP19, PDIA16, TLP19, hAG-1, hTLP19	thioredoxin domain containing 12
MT1X	0.104	0.544	MT-1I, MT1	metallothionein 1X
PRDX6	0.081	0.549	1-Cys, AOP2, HEL-S-128m, NSGPx, PRX, aiPLA2, p29	peroxiredoxin 6
GPX6	-0.087	0.567	GPX5p, GPXP3, GPx-6, GSHPx-6, dJ1186N24, dJ1186N24.1	glutathione peroxidase 6
GPX3	-0.073	0.622	GPx-P, GSHPx-3, GSHPx-P	glutathione peroxidase 3
TMX2	0.063	0.637	CGI-31, PDIA12, PIG26, TXNDC14	thioredoxin related transmembrane protein 2
CAT	0.068	0.642	-	catalase
PRDX5	-0.064	0.662	ACR1, AOEB166, B166, HEL-S-55, PLP, PMP20, PRDX6, PRXV, SBBI10, prx-V	peroxiredoxin 5
MT1E	-0.091	0.687	MT-1E, MT-IE, MT1, MTD	metallothionein 1E
GPX5	0.053	0.694	HEL-S-75p	glutathione peroxidase 5
GPX1	-0.059	0.698	GPXD, GSHPX1	glutathione peroxidase 1
SOD3	-0.048	0.763	EC-SOD	superoxide dismutase 3, extracellular
GLRX5	-0.047	0.777	C14orf87, FLB4739, GRX5, PR01238, PRO1238, PRSA, SIDBA3, SPAHGCG	glutaredoxin 5
SELENOP	0.040	0.794	SELP, SEPP, SEPP1, SeP	selenoprotein P
TXN2	0.052	0.832	COXPD29, MT-TRX, MTRX, TRX2	thioredoxin 2
CCS	-0.031	0.841	-	copper chaperone for superoxide dismutase
MT1H	0.041	0.853	MT-0, MT-1H, MT-IH, MT1	metallothionein 1H
CP	0.023	0.889	CP-2	ceruloplasmin
TXNIP	0.151	0.899	ARRDC6, EST01027, HHCPA78, THIF, VDUP1	thioredoxin interacting protein
TXNDC11	-0.021	0.907	EFP1	thioredoxin domain containing 11
PRDX2	0.016	0.935	HEL-S-2a, NKEF-B, NKEFB, PRP, PRX2, PRXII, PTX1, TDPX1, TPX1, TSA	peroxiredoxin 2
MT2A	-0.014	0.942	MT2	metallothionein 2A
NME8	-0.015	0.943	CILD6, HEL-S-99, NM23-H8, SPTRX2, TXNDC3, sptrx-2	NME/NM23 family member 8
TXNDC2	-0.012	0.953	SPTRX, SPTRX1	thioredoxin domain containing 2

Symbol	log ₂ fold change	Adjusted P value	Synonyms	Description
TMX4	-0.011	0.961	DJ971N18.2, PDIA14, TXNDC13	thioredoxin related transmembrane protein 4
MT1B	-0.009	0.963	MT-1B, MT-IB, MT1, MT1Q, MTP	metallothionein 1B
TXNL1	-0.013	0.968	HEL-S-114, TRP32, TXL-1, TXNL, TxI	thioredoxin like 1
GPX2	-0.008	0.969	GI-GPx, GPRP, GPRP-2, GPx-2, GPx-GI, GSHPX-GI, GSHPx-2	glutathione peroxidase 2
TMX3	-0.007	0.982	PDIA13, TXNDC10	thioredoxin related transmembrane protein 3

†Anti-oxidant genes identified from Enrichr search and Gorrini *et al.* (2013), and included in **Fig. 3a**.

*Anti-oxidant genes identified from Enrichr search, Gorrini *et al.* (2013) and Gelain *et al.* (2009), and included in **Fig. 3a**.