

**Supplemental Table 1.** Nrf2-regulated genes involved in oxidant defense and redox signaling

Function	Gene Product (species) *	Element **	Reference ***
<b>Drug metabolism and disposition</b>			
<b>Oxidation</b>			
Cytochrome P450	CYP2A5	ARE/StRE	(1; 2)
Aldehyde dehydrogenase	ALDH3A1 (m)	ARE	(3)
Alcohol dehydrogenase 7	ADH7 (m)	ARE	(3)
<b>Reduction</b>			
NAD(P)H:quinone oxidoreductase	NQO1 (r, m, h)	ARE/EpRE	(4-6)
Aldo-keto-reductase	AKR1B3 (m), 1B8 (m), 1C2 (h)	ARE	(3; 7; 8)
<b>Conjugation</b>			
UDP-glucuronosyltransferase	UGT1A1 (h), 1A6 (h), 1A9 (h), 2B7 (h)	ARE	(9; 10)
Sulfotransferase	SULT3A1 (m)		(11)
<b>Nucleophilic trapping</b>			
Glutathione S-transferase	GSTA2 (r), A1 (m), A3 (m), P1 (r), MGST1 (h)	ARE/EpRE	(12-16)
Epoxide hydrolase	EPHX1 (mEH) (m)		(17)
Esterase	ES-10 (m)	ARE	(3)
<b>Drug transport</b>			
Multidrug resistance-associated protein	MRP2 (m, h), MRP3 (m)	ARE	(18-21)
<b>Antioxidant defense</b>			
<b>ROS catabolism</b>			
Superoxide dismutase 3	SOD3 (m)	ARE	(3)
Glutathione peroxidase	GPx2 (h), GPx2, 3, 6, 8 (m)	ARE	(3; 22; 23)
Peroxiredoxin	Prx1 (m, h), Prx6 (h)	ARE/EpRE	(3; 23-25)
<b>Regeneration of oxidized factor</b>			
Glutathione reductase	GSR1 (m)	ARE	(26)
Thioredoxin reductase	TrxR1 (m, h)	ARE	(3; 27)
Sulfiredoxin	Srx1 (r, m)	ARE	(28; 29)
<b>Synthesis of reducing factor</b>			
Glutamate-cysteine ligase	GCLC (catalytic) (h,m), GCLM (regulatory) (h, m)	ARE/EpRE	(3; 30; 31)
Glucose-6-phosphate dehydrogenase	G6PDH (m)	ARE	(3)
Phosphogluconate dehydrogenase	6PGD (m)	ARE	(3)
<b>Antioxidant protein and inhibitor</b>			
Thioredoxin	Trx (h)	ARE	(32)
Thioredoxin interacting protein	TXNIP (m)	ARE	(23)
<b>Redox transport</b>			
Cystine/glutamate transporter	SLC7A11 (xCT)(m)	EpRE	(33)
<b>Metal-binding protein</b>			
Metallothionein	MT1 (m, h), MT2 (m)	ARE	(34)
Ferritin	FTL (light chain)(m, h), FTH (heavy chain)(m)	ARE/FER1	(35; 36)
<b>Stress response protein</b>			
Heme oxygenase	HO-1 (m, h)	ARE/StRE	(37; 38)
<b>Oxidant signaling and function</b>			
<b>Autophagy</b>			
p62 protein	p62 (m)	ARE	(39; 40)
<b>Mitochondrial apoptosis</b>			
Parkinson disease 7	PARK7 (DJ-1)(h)	ARE	(41)
<b>Mitochondrial biogenesis</b>			
Nuclear respiratory factor 1	NRF-1	ARE	(42)
<b>Growth factor signaling</b>			
Protein tyrosine phosphatase	PTP1 (m)	ARE	(3)
Protein tyrosine phosphatase receptor	PTPRB	ARE	(3)
<b>Inflammation (COPD)</b>			
$\alpha$ 1-antitrypsin	A1AT (m)	ARE	(3)
Secretory leukoprotease inhibitor	SLPI (m)	ARE	(3; 43)

\*Species: r, rat; m, mouse; h, human. \*\*ARE, antioxidant response element; EpRE, electrophile response element; StRE, stress response element; FER, element for enhancement of ferritin H promoter activity and E1A-mediated repression. \*\*\* ARE-dependence is verified experimentally for many, but not all of the genes, especially for those identified through microarray.

## References

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