Supplemental Table 2: Genes induced by estradiol in MCF-7 cells that are related to mitochondrial function. This data was compiled by listing the identity of genes that participate in mitochondrial function and which were significantly increased in response to 24 h treatment of MCF-7 human breast cancer cells with 10 nM E_2 (1,2). This list includes nuclear-encoded genes relevant to mitochondrial function that participate in a variety of mitochondrial functions. The increased gene expression after 24 h of E_2 is a time period consistent with secondary gene expression. These microarray data lend support to our theory that E_2 stimulates a global upregulation in mitochondrial activity initiated by an increase in NRF-1.

Gene Function	Gene	Upregulated	Ref
Transcription Factors			
	Nuclear Respiratory Factor -1 (NRF-1)	increased at 8 h and sustained to 24 h	(1,2)
	transcription factor A, mitochondrial	induced at 24h	(1,2)
	transcription factor B2, mitochondrial	induced at 24h	(1,2)
Translocases			
	translocase of outer mitochondrial membrane 20 homolog (yeast)	induced at 24h	(1)
	translocase of inner mitochondrial membrane 50 homolog (yeast)	induced at 24h	(1)
	translocase of inner mitochondrial membrane 8	induced at 24h	(2)
	translocase of outer mitochondrial membrane 40 homolog	induced at 24h	(2)
Electron Transport Chain			
	ATP synthase, subunit c	increased 12 to 24 hr	(1,2)
	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit g	24 h	(1)
Ribosomal Proteins			
	mitochondrial ribosomal protein S12	induced at 24h	(1,2)
	mitochondrial ribosomal protein L2	induced at 24h	(1)
	mitochondrial ribosomal protein L3	induced at 24h	(1,2)
	mitochondrial ribosomal protein L17	induced at 24h	(1,2)
	mitochondrial ribosomal protein L24	induced at 24h	(1)
	mitochondrial ribosomal protein S27	induced at 24h	(1)
	mitochondrial ribosomal protein L4	induced at 24h	(2)
	mitochondrial ribosomal	induced at 24h	(2)

	protein S17		
	mitochondrial ribosomal protein L18	induced at 24h	(2)
	mitochondrial ribosomal protein L39	induced at 24h	(2)
	mitochondrial ribosomal protein L15	induced at 24h	(2)
	mitochondrial ribosomal protein L12	induced at 24h	(2)
	mitochondrial ribosomal protein S15	induced at 24h	(2)
	mitochondrial ribosomal protein L11	induced at 24h	(2)
	mitochondrial ribosomal protein L39	induced at 24h	(2)
Kinases			
	creatine kinase, mitochondrial 1	induced at 24h	(1)
	creatine kinase, mitochondrial 2	induced at 24h	(2)
Transferases			
	serine hydroxyl-methyltransferase 2 (mitochondrial)	induced at 24h	(1,2)
	glutamic-oxaloacetic transaminase 2, mitochondrial (aspartate aminotransferase 2)	induced at 24h	(2)
Solute Carriers			
	solute carrier family 25 (mitochondrial carrier; ornithine transporter)	induced at 24h	(2)
	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 5	induced at 24h	(2)
Miscellaneous			
	malic enzyme 2, NAD(+)-dependent, mitochondrial	induced at 24h	(2)
	lon peptidase 1, mitochondrial LON	induced at 24h	(2)
	glycerol-3-phosphate dehydrogenase 2	induced at 24h	(2)
	aspartyl-tRNA synthetase 2	induced at 24h	(2)
	cytochrome b5 type B (outer mitochondrial membrane)	induced at 24h	(2)

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