

Supplementary Table 1: Antibodies and Dilutions (Target, company, catalog number, dilution)

Target	Company	Catalog Number	Dilution
PGC-1 α	Millipore	ST1202	1:500
V5	Invitrogen	46-0705	1:1000
TOMM20	Sigma	HPA011562	1:2000
HSP90	Cell Signaling	4874	1:2000
Cleaved Caspase 3 (Asp175)	Cell Signaling	9661	1:500
Cleaved Caspase 7 (Asp 198)	Cell signaling	9491	1:1000
Cleaved PARP (Asp 214)	Cell signaling	9541	1:500
Lamin B1	BioVision	3807	1:200
β -actin	Sigma	A5441	1:5000

Supplementary Table 2: Primers used for conventional PCR (listed in 5' – 3' direction)			
Gene	Forward Primer	Reverse Primer	Band size
Mouse Primers			
<i>PGC-1α1</i>	GACATGTGCAGCCAAGACTC	CTCAAATGGGGAACCCTTGG	816
<i>PGC-1α2</i> and <i>PGC-1α-b</i>	GATTGTCATCCATGGATTC	GTTCGCTCAATAGTCTTGTC	325 / 826
<i>PGC-1α3</i> and <i>PGC-1α-c</i>	CTCAGACCCACTATGCTGCTG	GTTCGCTCAATAGTCTTGTC	302 / 818
<i>PGC-1α4</i>	GATTGTCATCCATGGATTC	CTGGAAGATATGGCACAT	812
<i>NT-PGC-1α-a</i>	GACATGTGCAGCCAAGACTC	CTGGAAGATATGGCACAT	822
<i>NT-PGC-1α-c</i>	CTCAGACCCACTATGCTGCTG	CTGGAAGATATGGCACAT	803
Genotyping primers			
Alb-Cre ^{Tg}	Forward (Albumin promoter) TTAGAGGGGAACAGCTCCAGATGG	Reverse (Cre-recombinase) GTGAAACAGCATTGCTGTCACTT	
LSLPGC-1α4	Forward (<i>Pparg1a</i> exon 6) CCAAACCAACAACCTTTATCTC	Reverse 1 (<i>Pparg1a</i> intron 7) CCTTCTGATAAAGAGTCAACGC	Reverse 2 (<i>WPRE</i>) GGAGAAAATGAAAGCCATACGG
<i>Pparg1a</i> ^{fl/fl}	Forward (<i>Pparg1a</i> intron 2) GGAGAGGTGTCAGGGAGAG	Reverse (<i>Pparg1a</i> intron 2) CACAGCAGAGCACAAAGGA	
AltProm ^{fl/fl}	Forward AGAGTCAGCAGAACAAGCGT	Reverse TGCTTGCAGAGGTGCTCAT	

Supplementary Table 3: Primers used for quantitative real-time PCR (listed in 5' – 3' direction)

Gene	Forward Primer	Reverse Primer
Mouse Primers		
<i>Birc2 (Ciap1)</i>	TCTGCTGTGGCCTGATGTTGGATA	ATGGAGACTGCAGACTGGCTGAAA
<i>Birc3 (Ciap2)</i>	AACTCCCTTCGGGAAATTGACCCT	TTCTTTCTCCT GGAGTTTCCGCA
<i>Birc5 (survivin)</i>	TGGACAGACAGAGAGCCAAGAACA	AGCTGCTCAATTGACTGACGGGTA
<i>Ccl5 (Rantes)</i>	GCTGCTTTGCCTACCTCTCC	TCGAGTGACAAACACGACTGC
<i>IkBa (Nfkbia)</i>	AGACATCCTTCCGCAAACCTC	TAGGTCCTTCTGCCATAA
<i>Il-10</i>	GCTCTTACTGACTGGCATGAG	CGCAGCTCTAGGAGCATGTG
<i>Mcp1 (Ccl2)</i>	TCACCTGCTGCTACTCATTACCA	TACAGCTTCTTTGGGACACCTGCT
<i>Naip</i>	AGATGAAGAGCTCACACCTGCTT	AGTTCAGTCAGTCTCATGGCAGCA
<i>Pgc-1α (exon 2 – shared by most)</i>	TGATGTGAATGACTTGGATACAGACA	GCTCATTGTTGTACTGGTTGGATATG
<i>Pgc-1α (exon 1a)</i>	GGACATGTGCAGCCAAGACTCT	CACTTCAATCCACCCAGAAAGCT
<i>Pgc-1α (exon 1b)</i>	CCA GCA GAA TGA GTG ACA TGG A	G TTCAGGAAGATCTGGGCAAA
<i>Pgc-1α (exon 1b')</i>	AAGTGAGTAACCGGAGGCATTC	TTCAGGAAGATCTGGGCAAAGA
<i>Pgc-1β</i>	AGTCAGCGGCCTTGTGTCAA	ACTCTGGGACAGGGCAGCA
<i>Stat1</i>	CTG GAG GAG TTG GAA CAG AAA	CTG AAT GAG CTG CTG GAA GA
<i>Stat3</i>	GCCACGTTGGTGTTTCATAATC	TTCGAAGGTTGTGCTGATAGAG
<i>Irf1</i>	GGA AGC TGT GTG GAG ATG TTA G	TAG CCC TGA GTG GTG TAA CT
<i>Casp2</i>	ACC GTT GAG CTG TGA CTA TG	GTT CCG TAG CAT CTG TGG ATA G
<i>Casp7</i>	TCG AGT CCC AGT CTG ATG AT	CGG CTG AAG TAC AGC TCT TT
<i>Bcl-xl</i>	AAG CGT AGA CAA GGA GAT GCA GGT	TCC AAG GCT CTA GGT GGT CAT TCA
<i>Tnfa</i>	CCCTCACACTCAGATCATCTTCT	GCTACGACGTGGGCTACAG
<i>Tnfaip3 (A20)</i>	AGCCAGAAGAAGCTCAACTGGTGT	TGCATGCATGAGGCAGTTCCATC
<i>Xiap</i>	CCAGCCATGGCAGAATATGA	TCGCCTTACCTAAAGCATAAA
<i>Nfya</i>	CTCTGTGCCTGCTATCCAAA	CCTCTTAAGGATGCGGTGATAC
<i>Cyclin A</i>	CACTGACACCTCTTGACTATCC	CGTTCACTGGCTTGTCTTCTA
<i>Cyclin B1</i>	GGTCGTGAAGTGACTGGAAA	GTCTCCTGAAGCAGCCTAAAT
<i>Cyclin B2</i>	CTCTGCAAGATCGAGGACATAG	TGCCTGAGGTACTGGTAGAT
<i>Cdk1</i>	CAGACTTGAAAGCGAGGAAGA	TCCTGCAGGCTGACTATATTTG
<i>Cdc25c</i>	TGCACAGTCAGAAGGAACTG	GGAGGAGAATTACAGAGGAAC

<i>Atad3a</i>	GACAGGACAGCACAGTAGTAAG	AGCAGACCATCTCGTCAATG
<i>Pim1</i>	TTCAGGCAAACGGTCTCTTC	CCACGGATGGTTCTGGATTT
<i>Csnk2a2</i>	CACATAGACCTAGATCCACACTTC	CAAGGTGCCTGTTCTCACTAT
<i>Btg2</i>	CGCACTGACCGATCATTACAA	GGGTCCATCTTGTGGTTGATAC
<i>Myc</i>	CTC CGT ACA GCC CTA TTT CAT C	TGG GAA GCA GCT CGA ATT T
<i>Cdkn2a (p16)</i>	CAT GTT GTT GAG GCT AGA GAG G	CAC CGT AGT TGA GCA GAA GAG
<i>Tnfrsf17</i>	GCCTGGAGTATACAGTGGAAGA	CGGGAAGAAATGGTCAGAATCC
<i>Nip3</i>	GACGAAGTAGCTCCAAGAGTTC	CCAAAGCTGTGGCTGTCTAT
<i>Nfil3</i>	GGTTTCCGAAGCTGAGAATTTG	AGATCGGTTGTGTGGCTATG
<i>Casp3</i>	AGTGGGACTGATGAGGAGAT	GTAACCAGGTGCTGTAGAGTAAG
<i>Sp4</i>	TTTCTCAGCCAGCTTCTAGTTC	GGGTGGAAGGATTACCTGATTT
<i>Bcl2</i>	GGAGGATTGTGGCCTTCTTT	G TTCAGG TACTCAGTCATCCAC
<i>RelA (p65)</i>	GAGAAGCACAGATACCACCAAG	GAGATT CGAACTGTTCTCTGGTC
<i>Fas</i>	CCAAGTGCAAGTGCAAACCAGACT	AGGATGGTCAACAACCATAGGCGA
<i>Cyto c</i>	GCAAGCATAAGACTGGACCAAA	TGTTGGCATCTGTGTAAGAGAATC
<i>AtpsynF1</i>	CCAGGGTCAACAGACGTGTCAG	TCTCCATGCCTCTAACACTCG
<i>Cox5b</i>	ATGCTACCTCCAAAGGCAGCTTC	TGCAGCCC ACTATTCTCTTGTGTC
<i>Cox4i</i>	AGTTTAACGAGAGCTTCGCCGAGA	AGCGCAGTGAAGCCAATGAAGAAC
<i>Pepck</i>	CAGGATCGAAAGCAAGACAGT	AAGTCCTCTTCCGACATCCAG
<i>G6Pase</i>	CAGGCATTGCTGTGGCTGAACTT	TAGCAGGTAGAATCCAAGCGCGAA
<i>Pdhea</i>	CCT TTC CCT TTA GCA CAA CCT C	GCT GGC ATA AAC CCT ACG GAC
<i>Idh3a</i>	CTG GTG GTG TTC AGA CAG TAA C	CTC CCA CTG AAT AGG TGC TTT G
<i>Cs</i>	CAAGCAGCAACATGGGAAGA	GTC AGG ATC AAG AAC CGA AGT CT
<i>Aco2</i>	GTT GGA CCT CAC CCA AAG AT	GGT CCG TGG TAT TCC ACA ATA G
<i>Scad</i>	ACC AAA GCT TGG ATC ACC AAC TCC	AACCAGGAAGGCACTGATACCCTT
<i>Lcad</i>	CTT GCT TGG CAT CAA CAT CGC AGA	ATT GGA GTA CGC TTG CTC TTC CCA
<i>Vlcad</i>	GGC CAA GCT GGT GAA ACA CAA GAA	ACAGAACCACCACCATGGCATAGA
<i>Mcad</i>	AACACTTACTATGCCTCGATTGCA	CCATAGCCTCCGAAAATCTGAA
<i>Cpt1a</i>	GAACCCCAACATCCCCAAAC	TCCTGGCATTCTCCTGGAAT

Supplementary Table 4: Enriched Transcription Factor Motifs from iRegulon**Genes unique to PGC-1 α 1 (set of 2571 genes)**

Transcription Factor	NES	#Targets	#Motifs/Tracks
Etv6	3.93	1439	64
Mef2c	3.625	295	3
Jun	3.554	299	7

Genes unique to PGC-1 α 4 (set of 1208 genes)

Transcription Factor	NES	#Targets	#Motifs/Tracks
Sp4	5.877	515	10
Nfyc	5.151	206	9
Irf6	4.96	295	13
Nfya	4.333	453	6
Gm7148	4.25	363	3
Pitx2	4.014	330	4
Irf4	3.951	118	2
Hsf4	3.932	336	4
Rela	3.588	93	4
Atf4	3.48	136	3
Srf	3.433	63	1
Tbx5	3.233	88	1
Ebf1	3.217	41	1

Genes shared by PGC-1 α 1 and PGC-1 α 4 (set of 2166 genes)

Transcription Factor	NES	#Targets	#Motifs/Tracks
Irf4	5.143	996	83
Elk4	5.109	990	24
Nr1h2	3.992	412	4
Atf3	3.967	67	2
Zbtb33	3.731	577	3
Zfp143	3.52	239	2
Pitx2	3.275	322	1
Irf1	3.002	52	1

Genes shared by PGC-1 α 1 and PGC-1 α 4, opposing regulation (set of 175 genes)

Transcription Factor	NES	#Targets	#Motifs/Tracks
Spib	5.472	40	4
Nfate2	4.794	30	3
Klf4	4.716	23	7
Srf	4.423	31	7
Yeats4	4.131	15	2
Mef2a	4.115	26	3
Tead1	4.077	18	8
Prkaa2	3.652	25	2
Srebf2	3.331	15	3
Jund	3.293	14	1
Fezf2	3.223	7	1