

**Supplementary Table 4:** Classification of the 35 up-regulated genes containing a recognition motif for the transcription factor MTF1 in their promoter sequences.

<b>UGCluster</b>	<b>Symbol</b>	<b>Name</b>	<b>Pathways and possible functions</b>	<b>Tissue</b>
Hs.52931	<b>ADRA1A</b>	Adrenergic, alpha-1A-, receptor	induced in response to stress	Adipose Tissue
Hs.293274	<b>APCDD1</b>	Adenomatosis polyposis coli down-regulated 1	unknown	Adipose Tissue
Hs.291196	<b>ATP1B1</b>	ATPase, Na <sup>+</sup> /K <sup>+</sup> transporting, beta 1 polypeptide	induced in ischemic stress	Skeletal Muscle
Hs.584744	<b>CAPS</b>	Calcyphosine	calcium signaling	Skeletal Muscle
Hs.334347	<b>CKM</b>	Creatine kinase, muscle	reponse to stress/energy metabolism	Skeletal Muscle
Hs.530904	<b>CSR2P2</b>	Cysteine and glycine-rich protein 2	cell differentiation	Adipose Tissue
Hs.435369	<b>FHL1</b>	Four and a half LIM domains 1	muscle development	Skeletal Muscle
Hs.432132	<b>G0S2</b>	G0/G1switch 2	cell cycle regulation	Skeletal Muscle
Hs.484741	<b>GMPr</b>	Guanosine monophosphate reductase	nucleotide metabolism	Skeletal Muscle
Hs.591761	<b>HOMER1</b>	Homer homolog 1 (Drosophila)	early gene family/ plasticity	Skeletal Muscle
Hs.499205	<b>IRX3</b>	Iroquois homeobox protein 3	transcription regulation	Adipose Tissue
Hs.20107	<b>KNS2</b>	Kinesin 2	vesicle trafficking	Skeletal Muscle
Hs.475353	<b>LMCD1</b>	LIM and cysteine-rich domains 1	unknown function	Skeletal Muscle
Hs.431850	<b>MAPK1</b>	Mitogen-activated protein kinase 1	induced in reponse to stress:/regulation of apoptosis	Skeletal Muscle
Hs.645367	<b>MT1B</b>	Metallothionein 1b	protection against heavy metal toxicity and oxidative stress	Skeletal Muscle
Hs.513626	<b>MT1F</b>	Metallothionein 1F (functional)	protection against heavy metal toxicity and oxidative stress	Skeletal Muscle
Hs.438462	<b>MT1H</b>	Metallothionein 1H	protection against heavy metal toxicity and oxidative stress	Skeletal Muscle
Hs.374950	<b>MT1X</b>	Metallothionein 1X	protection against heavy metal toxicity and oxidative stress	Skeletal Muscle
Hs.534330	<b>MT2A</b>	Metallothionein 2A	protection against heavy metal toxicity and oxidative stress	Skeletal Muscle
Hs.485903	<b>MYBPC1</b>	Myosin binding protein C, slow type	cytoskeleton/myosin fiber contraction	Skeletal Muscle
Hs.67201	<b>NT5C</b>	5', 3'-nucleotidase, cytosolic	nucleotide metabolism	Adipose Tissue
Hs.148778	<b>OXR1</b>	Oxidation resistance 1	protection against oxidative stress	Skeletal Muscle
Hs.284491	<b>PDXK</b>	Pyridoxal (pyridoxine, vitamin B6) kinase	protection against oxidative stress-induced apoptosis	Adipose Tissue
Hs.26010	<b>PFKP</b>	Phosphofructokinase, platelet	induced in response to stress/energy metabolism	Adipose Tissue
Hs.558495	<b>PLEKHA8</b>	Pleckstrin homology domain containing, family A member 8	vesicle trafficking	Adipose Tissue
Hs.79081	<b>PPP1CC</b>	Protein phosphatase 1, catalytic subunit, gamma isoform	induced by hypoxic stress	Skeletal Muscle
Hs.590886	<b>RXRa</b>	Retinoid X receptor, alpha	induced in reponse to stress/regulation of apoptosis	Skeletal Muscle
Hs.435510	<b>SLC25A45</b>	solute carrier family 25, member 45	transporter, unknown ligand	Skeletal Muscle
Hs.369592	<b>THADA</b>	Thyroid adenoma associated	unknown function	Adipose Tissue
Hs.478275	<b>TNFSF10</b>	Tumor necrosis factor (ligand) superfamily, member 10	apoptosis/ inflammation	Skeletal Muscle and Adipose Tissue
Hs.507916	<b>TSC22D1</b>	TSC22 domain family, member 1	early gene family/inflammation and apoptosis	Skeletal Muscle
Hs.532277	<b>ZNF250</b>	Zinc finger protein 250	transcription regulation	Adipose Tissue
Hs.121347	<b>C10orf82</b>	Chromosome 10 open reading frame 82	unknown function	Adipose Tissue
Hs.179260	<b>C14orf4</b>	Chromosome 14 open reading frame 4	unknown function	Adipose Tissue
Hs.154652	<b>C8orf72</b>	Chromosome 8 open reading frame 72	unknown function	Adipose Tissue