

Adipose Tissue		Liver		Skeletal Muscle	
Pathway	MRC vs CF	Pathway	MRC vs CF	Pathway	MRC vs CF
<b><i>Upregulated</i></b>	<b><i>p-value</i></b>	<b><i>Upregulated</i></b>	<b><i>p-value</i></b>	<b><i>Upregulated</i></b>	<b><i>p-value</i></b>
Ephrin	0.0030	Mono-di-carboxylate import	0.0029	Respiratory chain	5.37E-10
Glycogen degradation	0.0481	Glut-Gln-Pro metabolism	0.0072	Fatty acid oxidation	4.16E-06
		Translation	0.0088	Translation	0.0005
		Co-translational ER protein import	0.0148	INS	0.0022
		Nuclear export	0.0174	ROS catabolism	0.0134
<b><i>Downregulated</i></b>		Tetraspanin	0.0175	Intermediate filament polymerization	0.0136
Intermediate filament polymerization	3.23E-07	ARF	0.0257	Glycosylation in Golgi	0.0164
Branched amino acid metabolism	0.0002	Chemokines	0.0278	ITGL	0.0221
Triacylglycerol biosynthesis	0.0028	Protein folding	0.0306	DUSP	0.0234
Respiratory chain	0.0078	IGFBP	0.0311	GPCR-GiCR	0.0278
Fatty acid oxidation	0.0097	Protein nucleus import	0.0373	Gap junction assembly	0.0417
FZD	0.0160			SOX	0.0450
IGFBP	0.0190	<b><i>Downregulated</i></b>		CDKN	0.0479
Water transport	0.0231	Cholesterol-isoprenoid metabolism	0.0009		
Aromatic amino acid metabolism	0.0306	Twist-like	0.0297	<b><i>Downregulated</i></b>	
Extracellular matrix polymerization	0.0328	RGS	0.0403	INSR	0.0253
Glucose metabolism	0.0348	GPCR-Gq-iCR	0.0436	Coagulation factor	0.0256
Desmosome assembly	0.0368			Ras	0.0460
GPCR-Other	0.0385				
INS	0.0441				

**Table S4. Biological processes identified from enrichment analysis of genes upregulated or downregulated by 1.5-fold and  $p < 0.05$  using Fisher’s exact test in adipose tissue, liver and skeletal muscle from MRC rats compared to CF rats.**