

# NGS Reveals Molecular Pathways Affected by Obesity and Weight Loss-Related Changes in miRNA Levels in Adipose Tissue

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**Table S1.** Direction of expression of 10 selected targets in subcutaneous (SAT) and visceral (VAT) adipose tissue of obese individuals before (O) and after (PO) weight loss as well as of normal-weight subjects (N) assessed predicted by and experimentally measured by the *real-time* PCR method (presented as fold changes).

Gene	SAT-O vs SAT-N		SAT-O vs SAT-PO		SAT-N vs SAT-PO		VAT-O vs SAT-O	
	predicted	measured	predicted	measured	predicted	measured	predicted	measured
<i>BMPR2</i>	↓	-1.29	↓	-1.00	↓	-1.28	↓	-1.21
<i>CABP4</i>	↓	-1.00	↓	-1.13	↓	-1.62	↓	-1.00
<i>CFL2</i>	↓	-2.92	↓	-1.33	↓	-2.19	↓	-1.55
<i>DBT</i>	↓	-2.27	↓	-1.76	↓	-1.28	↓	-2.41
<i>DISC1</i>	↓	-2.77	↓	-1.21	↓	-2.29	↓	-1.35
<i>DOK1</i>	↓	-1.66	↓	-1.33	↑	1.55	↓	-1.42
<i>FOXP1</i>	↓	-1.5	↓	-1.18	↓	-1.27	↓	-1.18
<i>IGF1R</i>	↓	-1.6	↓	-1.12	↓	-1.41	↓	-2.01
<i>MTMR12</i>	↓	-2.54	↓	-1.4	↓	-1.75	↓	-2.14
<i>TRIM14</i>	↓	-2.03	↓	-4.375	↑	2.15	↓	-2.91

↓: decreased expression; ↑: increased expression

**Table S2.** Selected clinical and biochemical parameters of study participants.

Males/Females	Obese individuals before weight loss		Obese individuals after weight loss		Normal-weight controls	
	10/48		4/15		9/22	
	Mean±SD	Min-Max	Mean±SD	Min-Max	Mean±SD	Min-Max
Age (years)	41.52 ± 10.31	20-59	41.47 ± 10.27	28-67	43.26 ± 14.93	28-62
Weight (kg)	133.2 ± 17.46	101.7-198	76.11 ± 7.15	68-90	64.62 ± 16.23	56-90
BMI (kg/m <sup>2</sup> )	47.37 ± 4.55	40.26-59.26	27.2± 2.35	24.30-29.50	22.95 ± 1.64	20.07-24.96
Weight loss (kg)	-	-	47.8± 10.4	35.20-65.60	-	-
TSH (mIU/l)	1.728 ± 0.326	0.334-3.650	1.583± 0.278	1.12-2.01	1.22 ± 0.18	1.09-1.35
Glucose (mmol/l)	5.56 ± 1.49	3.22-10.16	4.82±0.55	4.12-5.66	4.97 ± 0.53	4.22-5.50
Total cholesterol (mmol/l)	5.20 ± 1.05	3.13-7.87	4.61 ± 0.88	3.52-5.89	4.87 ± 0.36	4.81-5.33
Co-morbidities	N	%	N	%	N	%
Hypertension	35	60.34	6	31.6	none	none
Type 2 diabetes / IGT	26	44.83	3	15.8	none	none
Hyperlipidemia	36	62.09	6	31.6	none	none

BMI: body mass index calculated as weight (kg) divided by height squared (m<sup>2</sup>), IGT: impaired glucose tolerance, N: number of patients affected.

**Table S3.** Primers used for the analysis of expression the selected targets on mRNA level in adipose tissues.

Gene	Gene Bank		Primers	Annealing (°C)
<i>BMPR2</i>	NM_001204	F	5'TTAGTGACTTTGGACTGTCCATGAG3'	60
		R	5'TCTAGCACTTCTGGTGCCATATATCT3'	
<i>CABP4</i>	NM_001300895	F	5'GAACTGGGCCCCGAGGAG3'	60
		R	5'CTCAGCTTTGGGCCTATCAG3'	
<i>CFL2</i>	NM_001243645	F	5'GCTGGAGTGCAGTGTCAAAA3'	60
		R	5'GGAGGTCAGAGGACAGCTTG3'	
<i>DBT</i>	NM_001918	F	5'CTCTCCGTGGACAGGTTGTT3'	60
		R	5'GCTTCCCCACATAGGCAATA3'	
<i>DISC1</i>	NM_001012957	F	5'GCAGCCATGGATAGTTCTGAGA3'	58
		R	5'TGCAGCTGTTGCTACTCAACTCT3'	
<i>DOK1</i>	NM_001197260	F	5'ATGGACGGAGCAGTGATGGA3'	60
		R	5'CCCAGGTCTTCTCCACCTC3'	
<i>FOXP1</i>	NM_001244808	F	5'CAGATATTGCGCAGAACCAA3'	60
		R	5'GCAAACATTCGTGTGAACCA3'	
<i>IGF1R</i>	NM_000875	F	5'TGCCTTGGTCTCCTTGTC3'	61
		R	5'TTTCCTGCTTTGATGGTC3'	
<i>MTMR12</i>	NM_001040446	F	5'CAGCCGCTAGTGCTGGTG3'	60
		R	5'GACACGAAGGAGGGCTTG3'	
<i>TRIM14</i>	NM_014788	F	5'GCAGCAGCACATTGACAACA3'	58
		R	5'TCCACGAGGCCCTTAAAGAA3'	

F: forward primer, R: reverse primer.