

**ESM Table 1**

Pathway analysis of the predicted targets of the miRNAs differentially expressed in skeletal muscle from the monozygotic twins discordant for type 2 diabetes.

<b>Family</b>	<b>miRNA</b>	<b>Chr</b>	<b>Pathways</b>
miR-15	hsa-miR-15a	13	hsa04910:Insulin signaling pathway
	<b>hsa-miR-15b</b>	3	hsa04722:Neurotrophin signaling pathway
	<b>hsa-miR-16-1</b>	13	hsa05200:Pathways in cancer
	<b>hsa-miR-16-2</b>	3	hsa04310:Wnt signaling pathway
	hsa-miR-195	17	hsa05215:Prostate cancer
			hsa04110:Cell cycle
			hsa04510:Focal adhesion
			hsa04150:mTOR signaling pathway
			hsa05220:Chronic myeloid leukemia
			hsa05223:Non-small cell lung cancer
			hsa05221:Acute myeloid leukemia
			hsa05218:Melanoma
			hsa04914:Progesterone-mediated oocyte maturation
			hsa05214:Glioma
			hsa04520:Adherens junction
		hsa04340:Hedgehog signaling pathway	
		hsa04115:p53 signaling pathway	
		hsa04810:Regulation of actin cytoskeleton	
		hsa05211:Renal cell carcinoma	
		hsa04114:Oocyte meiosis	
		hsa05212:Pancreatic cancer	
		hsa04350:TGF-beta signaling pathway	
miR-17	<b>hsa-miR-17</b>	13	hsa04144:Endocytosis
	hsa-miR-18a	13	hsa05220:Chronic myeloid leukemia
	hsa-miR-18b	X	hsa04360:Axon guidance
	<b>hsa-miR-20a</b>	13	hsa05219:Bladder cancer
	<b>hsa-miR-20b</b>	X	hsa05200:Pathways in cancer
	<b>hsa-miR-93</b>	7	hsa04350:TGF-beta signaling pathway
	<b>hsa-miR-106a</b>	X	hsa05212:Pancreatic cancer
	<b>hsa-miR-106b</b>	7	hsa05214:Glioma
			hsa04010:MAPK signaling pathway
			hsa04722:Neurotrophin signaling pathway
			hsa05215:Prostate cancer
			hsa05211:Renal cell carcinoma
			hsa05218:Melanoma
		hsa04150:mTOR signaling pathway	
		hsa05223:Non-small cell lung cancer	
		hsa05210:Colorectal cancer	

			hsa05221:Acute myeloid leukemia hsa05222:Small cell lung cancer hsa04012:ErbB signaling pathway hsa04510:Focal adhesion
miR-451	<b>hsa-miR-451</b> 17 hsa-miR-451b 17		none
miR-103	<b>hsa-miR-103a-1</b> 5 <b>hsa-miR-103a-2</b> 20 hsa-miR-103b-1 5 hsa-miR-103b-2 20 <b>hsa-miR-107</b> 10		hsa04340:Hedgehog signaling pathway
miR-425	<b>hsa-miR-425</b> 3		none
miR-10	<b>hsa-miR-10b</b> 2		hsa04310:Wnt signaling pathway
miR-25	<b>hsa-miR-25</b> 7 <b>hsa-miR-92a-1</b> 13 <b>hsa-miR-92a-2</b> X hsa-miR-92b 1		none
miR-363	<b>hsa-miR-363</b> X		none
miR-191	<b>has-miR-191</b> 3		none
no info	<b>hsa-miR-30e*</b> 1		no info on targets
let-7	hsa-let-7a-1 9 hsa-let-7a-2 11 hsa-let-7a-3 22 hsa-let-7b 22 hsa-let-7c 21 hsa-let-7d 9 hsa-let-7e 19 hsa-let-7f-1 9 hsa-let-7f-2 X hsa-let-7g 3 <b>hsa-let-7i</b> 12 hsa-miR-98 X		hsa04010:MAPK signaling pathway hsa05220:Chronic myeloid leukemia hsa05200:Pathways in cancer hsa05218:Melanoma hsa05214:Glioma hsa04115:p53 signaling pathway hsa05210:Colorectal cancer hsa05212:Pancreatic cancer hsa05219:Bladder cancer hsa04722:Neurotrophin signaling pathway
miR-223	<b>hsa-miR-223</b> X		none

Family, miRNA family relationships according to miRBase ver. 17 ([www.miRBase.org](http://www.miRBase.org)); miRNA, the miRNA of each family with miRNAs that are significantly differentially expressed in the diabetic MZ twins compared to their non-diabetic co-twins shown in bold; Chr, chromosomal location; Pathways, the results of a pathway analysis performed on the targets of the given miRNA family predicted with Targetscan version 4.2. All pathways remaining statistically significantly ( $\alpha < 0.1$ ) after correction for multiple comparisons using Benjamini-Hochberg's false discovery rate are shown. Pathway predictions were made with the DAVID Functional Annotation Tool using the KEGG pathway analysis (21;38).