Supplementary Table S1 | Results of the union analysis performed with DIANA–miRPath v.3

Pathway Enrichment Analysis results (DIANA-miRPath):		
A) OB/GDM(−) vs NW	**B) OB/GDM(+) vs NW**	**C) OB/GDM(+) vs OB/GDM(−)**
1. Prion diseases	**1. Fatty acid elongation**	**1. Fatty acid biosynthesis**
2. Viral carcinogenesis	**2. Fatty acid degradation**	**2. ECM-receptor interaction**
3. Hippo signalling pathway	**3. Lysine degradation**	3. Prion diseases
4. Fatty acid biosynthesis	**4. Fatty acid metabolism**	4. Viral carcinogenesis
5. ECM-receptor interaction	**5. Signalling pathways regulating pluripotency of stem cells**	5. Hippo signalling pathway
6. Protein processing in endoplasmic reticulum	**6. TGF-beta signalling pathway**	**6. Lysine degradation**
7. Proteoglycans in cancer	**7. FoxO signalling pathway**	7. Proteoglycans in cancer
8. Adherens junction	**8. Valine, leucine and isoleucine degradation**	8. Cell cycle
9. Bacterial invasion of epithelial cells	9. Bacterial invasion of epithelial cells	9. Adherens junction
10. AMPK signalling pathway	**10. HIF-1 signalling pathway**	10. Chronic myeloid leukemia
11. Chronic myeloid leukemia	11. RNA transport	**11. TGF-beta signalling pathway**
12. TGF-beta signalling pathway	12. Ubiquitin mediated proteolysis	12. Hepatitis B
13. Lysine degradation	13. Glioma	13. Glioma
14. Mucin type O-Glycan biosynthesis	14. Proteoglycans in cancer	14. p53 signalling pathway
15. Cell cycle	**15. Valine, leucine and isoleucine biosynthesis**	**15. FoxO signalling pathway**
16. p53 signalling pathway		**16. Thyroid hormone signalling pathway**
17. Oocyte meiosis		17. Protein processing in endoplasmic reticulum
18. Glioma		18. Bacterial invasion of epithelial cells
19. Neurotrophin signalling pathway		**19. Fatty acid metabolism**
20. Thyroid cancer		20. Pathways in cancer
21. Thyroid hormone signalling pathway		21. Endocytosis
22. FoxO signalling pathway		22. Colorectal cancer
23. Colorectal cancer		**23. Oocyte meiosis**
24. Pathways in cancer		24. Thyroid cancer
25. Prostate cancer		25. Transcriptional misregulation in cancer
26. Transcriptional misregulation in cancer		26. Prostate cancer
27. Axon guidance		27. Epstein-Barr virus infection
28. Renal cell carcinoma		28. Small cell lung cancer
29. Shigellosis		29. Mucin type O-Glycan biosynthesis
30. Focal adhesion		**30. AMPK signalling pathway**
31. Hepatitis B		31. MAPK signalling pathway
32. Signalling pathways regulating pluripotency of stem cells		32. Pancreatic cancer
33. Endometrial cancer		33. Neurotrophin signalling pathway
34. Progesterone-mediated oocyte maturation		34. Melanoma
35. Vitamin B6 metabolism		35. Renal cell carcinoma
		36. Endometrial cancer
		37. Steroid biosynthesis
		38. Bladder cancer

All listed pathways resulted significantly associated (force of association: p-value <0.05) with the related miRNAs' cluster, for each comparison **A)** OB/GDM(−) vs NW, **B)** OB/GDM(+) vs NW, **C)** OB/GDM(+) vs OB/GDM(−) (refer to Table 2 for the miRNA clusters). Pathways are ordered by descending statistical significance, p-values not showed. Pathways considered to be the most interesting ones according to the context of maternal obesity, GDM, pregnancy, inflammation have been marked with bold font.