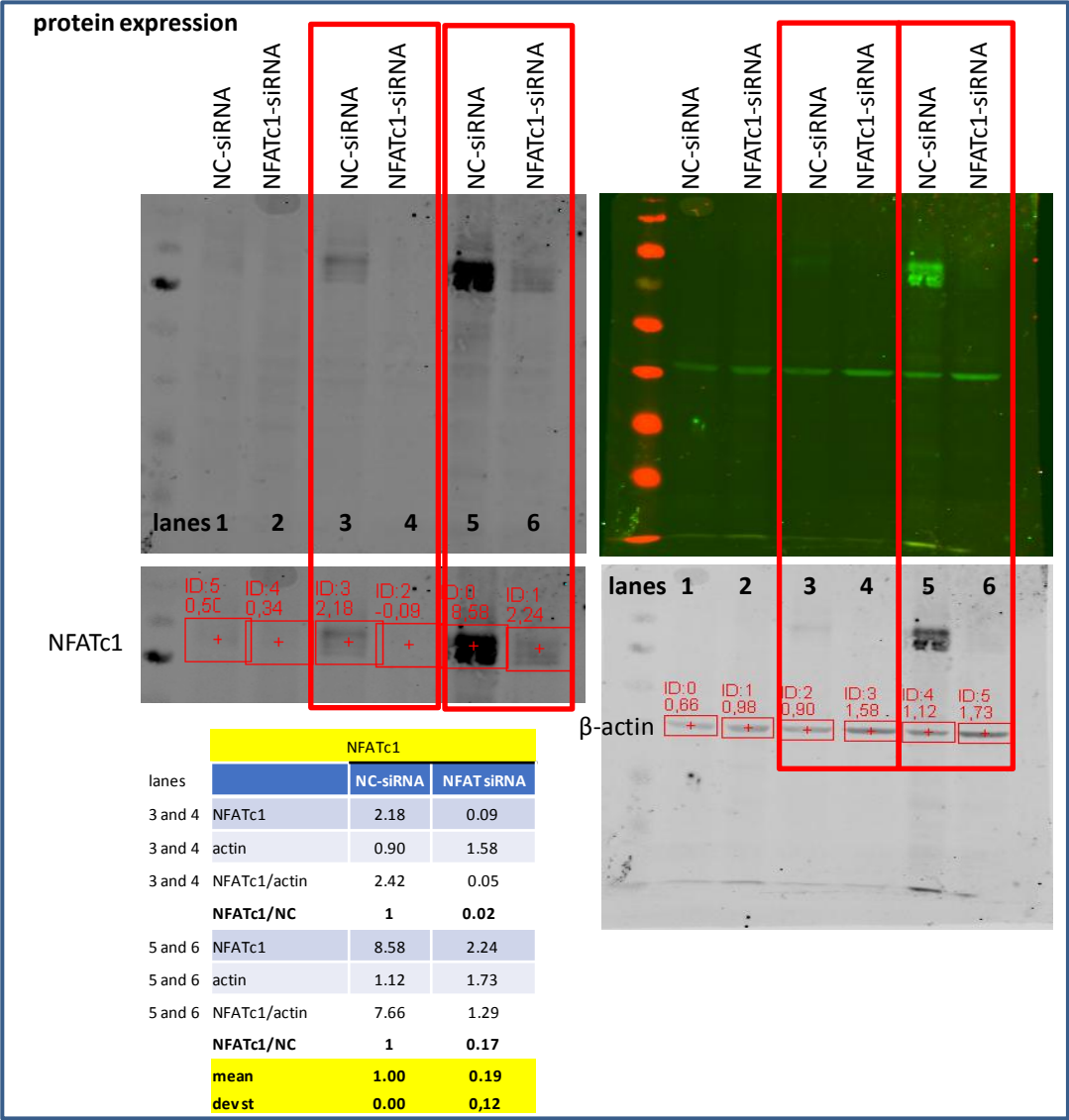
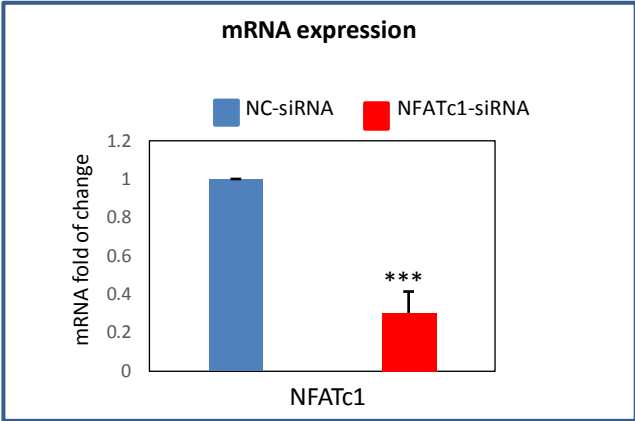


**Table S1.** Sequences of the primers used in experiments.

Primer	Forward	Reverse	use
miR-124-3p	5'CACTCGAGGGCATTACCGCGTGCCTTAG-3'	5'TCGACTAAGGCACGCGGTGAATGCCC TCGAGTGAGCT-3'	cloning in pmirGLO vector
Luc2	5'-GCAAGATCGCCGTGTAATC-3'		colony PCR
LucR		5'-AGCAGCCAACTCAGCTTCCTTT-3'	colony PCR
miR-124-3p mimic	UAAGGCACGCGGUGAAUGCC		transfection

**Figure S1.** NFATc1 mRNA and protein expression in RAW264.7 cells transfected with negative control (NC)- and NFATc1-siRNAs, assessed by qPCR and Western blot respectively.



**Table S2A.** KEGG pathway analysis of group 1 miRNAs (10/10)

KEGG pathway	p-value	#genes	#miRNAs
1. Fatty acid biosynthesis (00061)	5.36140822008e-11	3	3
2. Steroid biosynthesis (00100)	1.35867441382e-05	8	3
3. Viral carcinogenesis (05204)	1.35867441382e-05	60	6
4. Lysine degradation (00310)	7.65597870255e-05	18	7
<b>5. Regulation of actin cytoskeleton (04810)</b>	<b>0.000242140581318</b>	<b>64</b>	<b>7</b>
6. Proteoglycans in cancer (05205)	0.000290127806675	58	9
7. Thyroid hormone signaling pathway (04919)	0.000332301205229	37	6
8. Hepatitis B (005161)	0.000358727205925	40	7
9. Progesterone-mediated oocyte maturation (04914)	0.000595378670869	32	8
10. Bacterial invasion of epithelial cells (05100)	0.000917411337915	26	6
11. N-Glycan biosynthesis (00510)	0.00108179088565	14	6
12. Cell cycle (04510)	0.00108179088565	35	6
13. Axon guidance (04360)	0.00108179088565	38	6
14. Glioma (05214)	0.00108179088565	21	7
15. Prostate cancer (05215)	0.00108179088565	30	7
16. Neurotrophin signaling pathway (04722)	0.00108179088565	40	8
17. Renal cell carcinoma (05211)	0.00108179088565	26	8
18. FoxO signaling pathway (04068)	0.00246198169547	42	8
19. Oocyte meiosis (04114)	0.00434539175804	31	7
20. Long-term potentiation (04720)	0.00434539175804	24	8
21. Endocytosis (04144)	0.00503680676890	54	6
22. Protein processing in endoplasmic reticulum (04141)	0.00503680668229	51	8
23. Adherens junction (04520)	0.00941611189261	23	6
24. Colorectal cancer (05210)	0.00941611189261	20	6
25. mTOR signaling pathway (04150)	0.00941611189261	22	9
26. Estrogen signaling pathway (04915)	0.0101410087705	23	6
27. ErbB signaling pathway (04012)	0.0104964382728	29	7
28. Wnt signaling pathway (04310)	0.0115055779276	38	7
29. Prolactin signaling pathway (04917)	0.0135073367815	22	6
<b>30. MAPK signaling pathway (04010)</b>	<b>0.0135073367815</b>	<b>63</b>	<b>8</b>
31. HIF-1 signaling pathway (04066)	0.0154468946498	33	7
32. Pancreatic cancer (05212)	0.0156921463378	21	7
33. Ras signaling pathway (04014)	0.0173657508244	50	8
34. Natural killer cell mediated cytotoxicity (04650)	0.0173657508244	30	8
35. Apoptosis (04210)	0.0201787525489	24	7
36. Chronic myeloid leukemia (05220)	0.021166277299	22	6
37. Pathways in cancer (05230)	0.0224201899433	91	9
<b>38. Focal adhesion (04510)</b>	<b>0.0226092919853</b>	<b>53</b>	<b>7</b>
39. HTLV-I infection (05166)	0.0226092919853	68	7
<b>40. Osteoclast differentiation (04380)</b>	<b>0.0254709599574</b>	<b>36</b>	<b>6</b>
41. Insulin signaling pathway (04910)	0.0363320441651	38	6
42. Amyotrophic lateral sclerosis (ALS) (05014)	0.0403961787598	17	6
43. Hippo signaling pathway (04390)	0.0403961787598	33	7

44. cGMP-PKG signaling pathway (04022)	0.0403961787598	44	8
45. Gap junction (04540)	0.0450170270892	20	6
46. Phosphatidylinositol signaling system (04070)	0.0491788387378	19	5

**Table S2B.** KEGG pathway analysis of group 2 miRNAs (28/28)

KEGG pathway	p-value	#genes	#miRNAs
1. Prion diseases (05020)	6.5227867E-10	13	10
2. Proteoglycans in cancer (05205)	6.0461851E-08	96	24
3. Endocytosis (04144)	2.9080974E-07	102	25
4. AMPK signaling pathway (04152)	4.3307460E-06	66	24
<b>5. Regulation of actin cytoskeleton (04810)</b>	<b>8.6120987E-06</b>	<b>93</b>	<b>24</b>
6. Adherens junction (04520)	9.2757187E-06	39	18
7. Renal cell carcinoma (05211)	3.4566814E-05	36	20
8. Phosphatidylinositol signaling system (04070)	0.00014385709	42	17
9. Pathways in cancer (05200)	0.00016003808	153	25
<b>10. MAPK signaling pathway (04010)</b>	<b>0.00017112352</b>	<b>105</b>	<b>26</b>
11. Cell cycle (04110)	0.00019967890	58	19
12. GnRH signaling pathway (04912)	0.00025417697	45	22
13. FoxO signaling pathway (04068)	0.00025417697	62	24
14. Thyroid hormone signaling pathway (04919)	0.00041221316	52	21
15. TGF-beta signaling pathway (004350)	0.00041221316	38	22
16. Axon guidance (04360)	0.00041221316	59	22
<b>17. Focal adhesion (04510)</b>	<b>0.00041221316</b>	<b>89</b>	<b>24</b>
18. Neutrophin signaling pathway (004722)	0.00041221316	57	25
19. Choline metabolism in cancer (005231)	0.00042283937	49	20
20. Inositol phosphate metabolism (00562)	0.00086189822	28	16
21. Oocyte meiosis (004114)	0.00086189822	50	21
22. Protein processing in endoplasmic reticulum (004141)	0.00086189822	73	23
23. Bacterial invasion of epithelial cells (005100)	0.00150621352	34	19
24. Hippo signaling pathway (004390)	0.00150621352	64	23
25. Prostate cancer (005215)	0.00151965652	42	21
26. Gap junction (004540)	0.00151965652	36	23
27. PI3K-Akt signaling pathway (004151)	0.00116789623	133	26
28. Estrogen signaling pathway (004915)	0.00118281127	42	20
29. Erb signaling pathway (04012)	0.00182893843	39	21
30. mTOR signaling pathway (004150)	0.00256569544	31	18
31. Insulin signaling pathway (004910)	0.00431683687	61	23
32. Glioma (005214)	0.00620105012	28	20
33. Adrenergic signaling in cardiomyocytes (004261)	0.00693163316	58	24
34. Hepatitis B (005161)	0.00839540834	55	20
35. Progesterone-mediated oocyte maturation (004914)	0.00839540834	41	21
36. Oxytocin signaling pathway (04921)	0.00883981551	63	21
37. Arrhythmogenic right ventricular cardiomyopathy (05412)	0.00903399468	34	21
38. Ubiquitin mediated proteolysis (004120)	0.01271797451	62	20
39. Rap1 signaling pathway (004015)	0.01446270968	81	24
40. 2-Oxocarboxylic acid metabolism (001210)	0.01472182954	8	8
41. Pancreatic cancer (005212)	0.01510748641	31	20
42. T cell receptor signaling pathway (004660)	0.01510748641	44	21
43. Colorectal cancer (005210)	0.01542217975	29	21

44. Fc gamma R-mediated phagocytosis (004666)	0.01616154248	32	20
45. Prolactin signaling pathway (004917)	0.01616421548	32	20
46. Salmonella infection (005132)	0.01661874263	34	18
47. Ras signaling pathway (004014)	0.01676152728	81	25
48. Central carbon metabolism in cancer (005230)	0.01898506346	27	18
49. Dilated cardiomyopathy (005414)	0.01949299154	38	23
50. Hypertrophic cardiomyopathy (005410)	0.02188546371	36	22
51. Transcriptional misregulation in cancer (05202)	0.02279832206	65	23
52. Citrate cycle (000020)	0.02353014972	15	11
53. HIF-1 alpha pathway signaling (004066)	0.02397002727	47	18
54. Dorso-ventral axis formation (04320)	0.02461794116	14	18
55. Lysine degradation (00310)	0.03080776531	20	13
56. HTLV-1 infection (05166)	0.03243437970	99	24
57. Amphetamine addiction (05031)	0.03270849842	27	17
<b>58. Osteoclast differentiation (04380)</b>	<b>0.03431825384</b>	<b>50</b>	<b>23</b>
59. Acute myeloid leukemia (05221)	0.03565183747	24	18
60. TNF signaling pathway (04668)	0.03565183747	45	22
61. Gastric acid secretion (04971)	0.03593114406	31	16
62. One carbon pool by folate (00670)	0.04061838855	7	6
63. Chagas disease (05142)	0.04061833885	39	20
64. cAMP signaling pathway (004024)	0.04061838855	75	23
65. Steroid biosynthesis (00100)	0.04301718373	7	8
66. Long term depression (04730)	0.04301718373	26	20

**Table S2C.** KEGG pathway analysis of group 3 miRNAs (6/6)

KEGG pathway	p-value	#genes	#miRNAs
<b>1. ECM-receptor interaction (04512)</b>	<b>2.38994017785e-25</b>	<b>4</b>	<b>4</b>
2. Fatty acid biosynthesis (00061)	1.52631231255e-16	4	3
3. Lysine degradation (00310)	1.61410951993e-10	16	3
4. Proteoglycans in cancer (05205)	1.75254998173e-09	51	6
5. Fatty acid metabolism (01212)	2.17918089738e-07	10	3
6. Glioma (005214)	7.68794571091e-06	20	6
7. Oocyte meiosis (04114)	1.19151760973e-05,	30	6
8. Renal cell carcinoma (05211)	2.28545930945e-05	22	6
<b>9. Focal adhesion (04510)</b>	<b>2.43074477409e-05</b>	<b>53</b>	<b>6</b>
10. Endocytosis (04144)	3.9260989193e-05	49	6
11. FoxO signaling pathway (04068)	0.000127041152984	35	6
11. Gap junction (04540)	0.000397609828077	20	4
12. ErbB signaling pathway (04012)	0.000451639669319	20	4
13. Transcriptional misregulation in cancer (05202)	0.00060441507812	37	6
14. Progesterone-mediated oocyte maturation (04914)	0.0011148974601	26	6
15. Prostate cancer (05215)	0.00127908177104	24	6
16. mTOR signaling pathway (04150)	0.00135794845682	20	6
17. Pathways in cancer (05200)	0.00137081025218	77	6
18. Neurotrophin signaling pathway (04722)	0.00157519357955	32	5
19. AMPK signaling pathway (04152)	0.0020370687641	29	6
20. PI3K-Akt signaling pathway (04151)	0.00298596894611	69	6
21. Glycosaminoglycan bios.- chond. sulf./ derm. sulf. (00532)	0.00320667175771	4	2
22. Glycosaminoglycan biosynthesis - hep. sulf./ heparin (00534)	0.0037262272458	5	3
23. GnRH signaling pathway (04912)	0.00413394872213	23	4
24. Ras signaling pathway (04014)	0.00460747043151	43	6
25. Steroid biosynthesis (00100)	0.00503370968364	5	1
26. Estrogen signaling pathway (04915)	0.00890741453019	22	5
<b>27. MAPK signaling pathway (04010)</b>	<b>0.0136134307112</b>	<b>50</b>	<b>6</b>
28. Rap1 signaling pathway (04015)	0.0150538560358	41	6
29. Long-term potentiation (04720)	0.0155601847529	18	6
30. Cell cycle (04110)	0.0165132896613	26	4
31. Non-small cell lung cancer (05223)	0.0247040002813	16	5
32. Long-term depression (04730)	0.0373838758498	13	3
33. Insulin signaling pathway (04910)	0.0391747801457	30	5
34. Arrhythmogenic right ventricular cardiomyopathy (05412)	0.0409341523648	11	4
35. Colorectal cancer (05210)	0.0481305403395	14	5

**Table S2D.** KEGG pathway analysis of group 4 miRNAs (4/4).

KEGG pathway	p-value	#genes	#miRNAs
1.Prion diseases (05020)	3.87745724717e-15	8	3
2. Fatty acid metabolism (01212)	2.25175998536e-12	13	3
3. Fatty acid biosynthesis (00061)	6.55652671864e-11	2	2
4. Adherens junction (04520)	2.94982666607e-07	30	3
<b>5. MAPK signaling pathway (04010)</b>	<b>2.61806457963e-05</b>	<b>70</b>	<b>4</b>
6. Vitamin B6 metabolism (00750)	4.49524337343e-05	4	3
7. Axon guidance (04360)	4.49524337343e-05	40	4
8. Thyroid hormone signaling pathway (04919)	5.87952248746e-05	39	4
9. Renal cell carcinoma (05211)	0.000119371873751	24	4
10. Lysine degradation (00310)	0.000124527226046	15	4
11. Glioma (05214)	0.000146269820369	22	4
12. FoxO signaling pathway (04068)	0.000183091510842	45	4
13.Protein processing in endoplasmic reticulum (04141)	0.000318724486747	51	4
14. AMPK signaling pathway (04152)	0.000573944102313	40	4
15. HIF-1 signaling pathway (04066)	0.000844222165995	38	4
16. Endocytosis (04144)	0.000876790528935	61	4
17. Hepatitis B (05161)	0.00149977377214	38	4
18. Proteoglycans in cancer (05205)	0.0019216759989	55	4
<b>19. Regulation of actin cytoskeleton (04810)</b>	<b>0.00417318618615</b>	<b>57</b>	<b>4</b>
20. Bacterial invasion of epithelial cells (05100)	0.00417318618615	25	4
21. HTLV-I infection (05166)	0.00496583962993	66	4
22. Biosynthesis of unsaturated fatty acids (01040)	0.00506036157971	7	3
23. Prostate cancer (05215)	0.00718943592066	29	4
24. ErbB signaling pathway (04012)	0.00758701108779	29	4
25. Insulin signaling pathway (04910)	0.0108287823726	40	4
26. Ras signaling pathway (04014)	0.0116576072014	51	4
27. mTOR signaling pathway (04150)	0.0151345309413	20	4
28. Chronic myeloid leukemia (05220)	0.01888700259923	22	4
29. T cell receptor signaling pathway (04660)	0.02096215405013	30	4
30. Neurotrophin signaling pathway (04722)	0.0218052848915	34	4
31. Pancreatic cancer (05212)	0.0247015424952	22	4
<b>32. Focal adhesion (04510)</b>	<b>0.0265055523393</b>	<b>52</b>	<b>4</b>
33. Synaptic vesicle cycle (04721)	0.0270896343279	17	3
34. Viral carcinogenesis (05203)	0.027200161878	48	4
35. Galactose metabolism (00052)	0.032424353118	7	3
36. Pathways in cancer (05200)	0.0392699197559	86	4

**S1A.** Group 1 miRNAs involved in selected pathways, showing the number of predicted target genes for each of them, as identified by Tarbase v.8 or MicroT-CDS v.5.0 databases.

7/10 miRNAs involved in Regulation of actin cytoskeleton (mmu04810)		Genes	8/10 miRNAs involved in MAPK signaling pathway (mmu04010)		Genes
1.	mmu-miR-30c-5p Tarbase	28	1.	mmu-miR-218-5p Tarbase	23
2.	mmu-miR-218-5p Tarbase	24	2.	mmu-miR-214-3p Tarbase	6
3.	mmu-miR-214-3p Tarbase	9	3.	mmu-miR-467c-5p Tarbase	7
4.	mmu-miR-467c-5p Tarbase	8	4.	mmu-miR-30c-5p Tarbase	33
5.	mmu-miR-29b-3p Tarbase	15	5.	mmu-miR-29b-3p Tarbase	10
6.	mmu-miR-541-5p microT-CDS	2	6.	mmu-miR-488-3p microT-CDS	7
7.	mmu-miR-488-3p microT-CDS	3	7.	mmu-miR-411-5p microT-CDS	3
			8.	mmu-miR-541-5p microT-CDS	1
7/10 miRNAs involved in Focal adhesion (mmu04510)		Genes	6/10 miRNAs involved in Osteoclast differentiation (mmu04380)		Genes
1.	mmu-miR-29b-3p Tarbase	14	1.	mmu-miR-30c-5p Tarbase	20
2.	mmu-miR-30c-5p Tarbase	21	2.	mmu-miR-218-5p Tarbase	11
3.	mmu-miR-218-5p Tarbase	18	3.	mmu-miR-29b-3p Tarbase	6
4.	mmu-miR-488-3p microT-CDS	4	4.	mmu-miR-488-3p microT-CDS	4
5.	mmu-miR-467c-5p Tarbase	6	5.	mmu-miR-214-3p Tarbase	7
6.	mmu-miR-214-3p Tarbase	8	6.	mmu-miR-467c-5p Tarbase	7
7.	mmu-miR-541-5p microT-CDS	1			

**S1B.** Group 2 miRNAs involved in selected pathways, showing the number of predicted target genes for each of them, as identified by Tarbase v.8 or MicroT-CDS v.5.0 databases.

26/28 miRNA involved in MAPK signaling (mmu04010)		Genes	24/28 miRNA involved in Focal adhesion (mmu04510)		Genes
1.	mmu-miR-19b-3p Tarbase	32	1.	mmu-miR-182-5p microT-CDS	10
2.	mmu-miR-96-5p microT-CDS	19	2.	mmu-miR-295-3p microT-CDS	7
3.	mmu-miR-15b-5p microT-CDS	7	3.	mmu-miR-19b-3p Tarbase	32
4.	mmu-miR-144-3p microT-CDS	12	4.	mmu-miR-10a-5p microT-CDS	2
5.	mmu-miR-182-5p microT-CDS	13	5.	mmu-miR-96-5p microT-CDS	12
6.	mmu-miR-32-5p microT-CDS	10	6.	mmu-miR-15b-5p microT-CDS	10
7.	mmu-miR-9-5p microT-CDS	24	7.	mmu-miR-126a-3p TargetScan	1
8.	mmu-miR-21a-5p microT-CDS	8	8.	mmu-miR-32-5p microT-CDS	16
9.	mmu-miR-29a-3p Tarbase	10	9.	mmu-miR-29a-3p Tarbase	14
10.	mmu-miR-23b-3p Tarbase	21	10.	mmu-miR-23b-3p Tarbase	13
11.	mmu-miR-10a-5p microT-CDS	3	11.	mmu-miR-880-3p microT-CDS	2
12.	mmu-miR-295-3p microT-CDS	14	12.	mmu-miR-9-5p microT-CDS	15
13.	mmu-miR-22-5p microT-CDS	7	13.	mmu-miR-425-5p microT-CDS	3
14.	mmu-miR-196b-5p microT-CDS	5	14.	mmu-miR-22-5p microT-CDS	5
15.	mmu-miR-196a-5p microT-CDS	5	15.	mmu-miR-21a-5p microT-CDS	4
16.	mmu-miR-183-5p TargetScan	2	16.	mmu-miR-142a-3p microT-CDS	6
17.	mmu-miR-142a-3p microT-CDS	5	17.	mmu-miR-146a-5p Tarbase	6
18.	mmu-miR-146a-5p Tarbase	6	18.	mmu-miR-144-3p microT-CDS	8
19.	mmu-miR-425-5p microT-CDS	1	19.	mmu-miR-196b-5p microT-CDS	6
20.	mmu-miR-31-5p TargetScan	2	20.	mmu-miR-196a-5p microT-CDS	7
21.	mmu-miR-140-5p Tarbase	3	21.	mmu-miR-28c microT-CDS	2
22.	mmu-miR-335-5p TargetScan	2	22.	mmu-miR-140-5p Tarbase	1
23.	mmu-miR-880-3p microT-CDS	2	23.	mmu-miR-31-5p TargetScan	1
24.	mmu-miR-10b-5p TargetScan	1	24.	mmu-miR-467e-5p microT-CDS	1
25.	mmu-miR-28c microT-CDS	3			
26.	mmu-miR-467e-5p microT-CDS	1			
23/28 miRNA involved in Osteoclasts differentiation (mmu04380)		Genes	24/28 miRNA involved in Regulation of actin cytoskeleton (mmu04810)		Genes
1.	mmu-miR-19b-3p Tarbase	22	1.	mmu-miR-23b-3p Tarbase	22
2.	mmu-miR-10a-5p microT-CDS	4	2.	mmu-miR-19b-3p Tarbase	30
3.	mmu-miR-144-3p microT-CDS	5	3.	mmu-miR-425-5p microT-CDS	1
4.	mmu-miR-15b-5p microT-CDS	7	4.	mmu-miR-21a-5p microT-CDS	6
5.	mmu-miR-146a-5p Tarbase	1	5.	mmu-miR-29a-3p Tarbase	15
6.	mmu-miR-28c microT-CDS	2	6.	mmu-miR-15b-5p microT-CDS	7
7.	mmu-miR-23b-3p Tarbase	12	7.	mmu-miR-295-3p microT-CDS	8
8.	mmu-miR-96-5p microT-CDS	8	8.	mmu-miR-183-5p TargetScan	1
9.	mmu-miR-182-5p microT-CDS	7	9.	mmu-miR-142a-3p microT-CDS	10
10.	mmu-miR-295-3p microT-CDS	4	10.	mmu-miR-140-5p Tarbase	2
11.	mmu-miR-9-5p microT-CDS	6	11.	mmu-miR-144-3p microT-CDS	3
12.	mmu-miR-142a-3p microT-CDS	3	12.	mmu-miR-182-5p microT-CDS	15
13.	mmu-miR-140-5p Tarbase	4	13.	mmu-miR-10a-5p microT-CDS	2
14.	mmu-miR-32-5p microT-CDS	4	14.	mmu-miR-10b-5p TargetScan	1
15.	mmu-miR-425-5p microT-CDS	2	15.	mmu-miR-467e-5p microT-CDS	1
16.	mmu-miR-22-5p microT-CDS	3	16.	mmu-miR-126a-3p TargetScan	1
17.	mmu-miR-10b-5p TargetScan	1	17.	mmu-miR-22-5p microT-CDS	2
18.	mmu-miR-29a-3p Tarbase	6	18.	mmu-miR-146a-5p Tarbase	9
19.	mmu-miR-467e-5p microT-CDS	1	19.	mmu-miR-196b-5p microT-CDS	7
20.	mmu-miR-335-5p TargetScan	1	20.	mmu-miR-196a-5p microT-CDS	6
21.	mmu-miR-21a-5p microT-CDS	1	21.	mmu-miR-96-5p microT-CDS	22
22.	mmu-miR-196b-5p microT-CDS	1	22.	mmu-miR-32-5p microT-CDS	10
23.	mmu-miR-196a-5p microT-CDS	1	23.	mmu-miR-9-5p microT-CDS	17
			24.	mmu-miR-880-3p microT-CDS	2

**S1C.** Group 3 miRNAs involved in selected pathways, showing the number of predicted target genes for each of them, as identified by Tarbase v.8 or MicroT-CDS v.5.0 databases.

4/6 miRNA involved in ECM-receptor interaction (mmu04512)		Genes	6/6 miRNA involved in Focal adhesion (mmu04510)		Genes
1.	mmu-miR-29b-3p Tarbase	19	1.	mmu-miR-29b-3p Tarbase	44
2.	mmu-miR-302d-3p microT-CDS	3	2.	mmu-miR-302d-3p microT-CDS	5
3.	mmu-miR-295-3p microT-CDS	2	3.	mmu-miR-295-3p microT-CDS	7
4.	mmu-miR-880-3p microT-CDS	1	4.	mmu-miR-488-3p microT-CDS	4
			5.	mmu-miR-141-3p Tarbase	2
			6.	mmu-miR-880-3p microT-CDS	2
6/6 miRNA involved in MAPK signaling pathway (mmu04010)		Genes			
1.	mmu-miR-488-3p microT-CDS	7			
2.	mmu-miR-29b-3p Tarbase	30			
3.	mmu-miR-302d-3p microT-CDS	11			
4.	mmu-miR-295-3p microT-CDS	5			
5.	mmu-miR-141-3p microT-CDS	6			
6.	mmu-miR-880-3p microT-CDS	2			

**S1D.** Group 4 miRNAs involved in selected pathways, showing the number of predicted target genes for each of them, as identified by Tarbase v.8 or MicroT-CDS v.5.0 databases.

4/4 miRNA involved in MAPK pathway (mmu04010)		Genes	4/4 miRNA involved in Adherens junction (mmu04520)		Genes
1.	mmu-let-7i-5p Tarbase	45	1.	mmu-miR-138-5p Tarbase	6
2.	mmu-miR-23a-3p Tarbase	21	2.	mmu-let-7i-5p Tarbase	19
3.	mmu-miR-291a-3p microT-CDS	14	3.	mmu-miR-23a-3p Tarbase	7
4.	mmu-miR-138-5p Tarbase	8	4.	mmu-miR-291a-3p microT-CDS	1
4/4 miRNA involved in Regulation of actin cytoskeleton (mmu04810)		Genes	4/4 miRNA involved in Focal Adhesion (mmu04510)		Genes
1.	mmu-miR-291a-3p microT-CDS	9	1.	mmu-let-7i-5p Tarbase	34
2.	mmu-miR-23a-3p Tarbase	22	2.	mmu-miR-138-5p Tarbase	14
3.	mmu-miR-138-5p Tarbase	10	3.	mmu-miR-23a-3p Tarbase	13
4.	mmu-let-7i-5p Tarbase	30	4.	mmu-miR-291a-3p microT-CDS	6

S2A. Lists of genes involved in MAPK pathway (mmu04010) as predicted targets of the Group 1 miRNAs

Gene Name		Gene Ensembl id	Gene Name		Gene Ensembl id
1.	<b>Fgfr3</b>	<a href="#">ENSMUSG00000054252</a>	33.	<b>Mapk9</b>	<a href="#">ENSMUSG00000020366</a>
2.	<b>Mapk14</b>	<a href="#">ENSMUSG00000053436</a>	34.	<b>Tgfb2</b>	<a href="#">ENSMUSG00000032440</a>
3.	<b>Rasgrp1</b>	<a href="#">ENSMUSG00000027347</a>	35.	<b>Nras</b>	<a href="#">ENSMUSG00000027852</a>
4.	<b>Rasa2</b>	<a href="#">ENSMUSG00000032413</a>	36.	<b>Rac1</b>	<a href="#">ENSMUSG00000001847</a>
5.	<b>Mef2c</b>	<a href="#">ENSMUSG00000005583</a>	37.	<b>Sos1</b>	<a href="#">ENSMUSG00000024241</a>
6.	<b>Pdgfrb</b>	<a href="#">ENSMUSG00000024620</a>	38.	<b>Rap1b</b>	<a href="#">ENSMUSG00000052681</a>
7.	<b>Tnfrsf1a</b>	<a href="#">ENSMUSG00000030341</a>	39.	<b>Prkaca</b>	<a href="#">ENSMUSG00000005469</a>
8.	<b>Rps6ka6</b>	<a href="#">ENSMUSG00000025665</a>	40.	<b>Rras2</b>	<a href="#">ENSMUSG00000055723</a>
9.	<b>Rap1a</b>	<a href="#">ENSMUSG000000068798</a>	41.	<b>Rasa1</b>	<a href="#">ENSMUSG00000021549</a>
10.	<b>Rps6ka5</b>	<a href="#">ENSMUSG000000021180</a>	42.	<b>Cdc25b</b>	<a href="#">ENSMUSG00000027330</a>
11.	<b>Map4k4</b>	<a href="#">ENSMUSG00000026074</a>	43.	<b>Crk</b>	<a href="#">ENSMUSG00000017776</a>
12.	<b>Fgf4</b>	<a href="#">ENSMUSG000000050917</a>	44.	<b>Prkca</b>	<a href="#">ENSMUSG000000050965</a>
13.	<b>Ppm1a</b>	<a href="#">ENSMUSG000000021096</a>	45.	<b>Dusp10</b>	<a href="#">ENSMUSG00000039384</a>
14.	<b>Map2k6</b>	<a href="#">ENSMUSG00000020623</a>	46.	<b>Tnf</b>	<a href="#">ENSMUSG00000024401</a>
15.	<b>Map3k1</b>	<a href="#">ENSMUSG000000021754</a>	47.	<b>Elk4</b>	<a href="#">ENSMUSG00000026436</a>
16.	<b>Dusp2</b>	<a href="#">ENSMUSG00000027368</a>	48.	<b>Map3k5</b>	<a href="#">ENSMUSG00000071369</a>
17.	<b>Il1r1</b>	<a href="#">ENSMUSG00000026072</a>	49.	<b>Stk4</b>	<a href="#">ENSMUSG000000018209</a>
18.	<b>Rps6ka3</b>	<a href="#">ENSMUSG000000031309</a>	50.	<b>Mapk8ip3</b>	<a href="#">ENSMUSG00000024163</a>
19.	<b>Nfatc3</b>	<a href="#">ENSMUSG000000031902</a>	51.	<b>Ppp3r1</b>	<a href="#">ENSMUSG000000033953</a>
20.	<b>Pak1</b>	<a href="#">ENSMUSG000000030774</a>	52.	<b>Ppp3ca</b>	<a href="#">ENSMUSG00000028161</a>
21.	<b>Fasl</b>	<a href="#">ENSMUSG00000000817</a>	53.	<b>Pak2</b>	<a href="#">ENSMUSG00000022781</a>
22.	<b>Casp3</b>	<a href="#">ENSMUSG000000031628</a>	54.	<b>Atf2</b>	<a href="#">ENSMUSG00000027104</a>
23.	<b>Rapgef2</b>	<a href="#">ENSMUSG000000062232</a>	55.	<b>Dusp5</b>	<a href="#">ENSMUSG00000034765</a>
24.	<b>Ntrk2</b>	<a href="#">ENSMUSG000000055254</a>	56.	<b>Fgf2</b>	<a href="#">ENSMUSG000000037225</a>
25.	<b>Nf1</b>	<a href="#">ENSMUSG000000020716</a>	57.	<b>Cdc42</b>	<a href="#">ENSMUSG00000006699</a>
26.	<b>Atf4</b>	<a href="#">ENSMUSG000000042406</a>	58.	<b>Map3k2</b>	<a href="#">ENSMUSG00000024383</a>
27.	<b>Ppp3cb</b>	<a href="#">ENSMUSG000000021816</a>	59.	<b>Tab2</b>	<a href="#">ENSMUSG000000015755</a>
28.	<b>Prkx</b>	<a href="#">ENSMUSG000000035725</a>	60.	<b>Myc</b>	<a href="#">ENSMUSG00000022346</a>
29.	<b>Crkl</b>	<a href="#">ENSMUSG000000006134</a>	61.	<b>Mapk8</b>	<a href="#">ENSMUSG00000021936</a>
30.	<b>Egfr</b>	<a href="#">ENSMUSG000000020122</a>	62.	<b>Ppp5c</b>	<a href="#">ENSMUSG00000003099</a>
31.	<b>Kras</b>	<a href="#">ENSMUSG000000030265</a>	63.	<b>Srf</b>	<a href="#">ENSMUSG000000015605</a>
32.	<b>Braf</b>	<a href="#">ENSMUSG000000002413</a>			

**S2B.** Lists of genes involved in MAPK pathway (mmu04010) as predicted targets of the Group 2 miRNAs

Gene Name		Gene Ensembl id	Gene Name		Gene Ensembl id
1.	Tgfb2	<a href="#">ENSMUSG00000039239</a>	54.	Cacna1e	<a href="#">ENSMUSG00000004110</a>
2.	Mapk14	<a href="#">ENSMUSG00000053436</a>	55.	Egfr	<a href="#">ENSMUSG00000020122</a>
3.	Rasgrp1	<a href="#">ENSMUSG00000027347</a>	56.	Ntf5	<a href="#">ENSMUSG00000074121</a>
4.	Sos2	<a href="#">ENSMUSG00000034801</a>	57.	Map2k4	<a href="#">ENSMUSG00000033352</a>
5.	Fgf10	<a href="#">ENSMUSG00000021732</a>	58.	Fgf13	<a href="#">ENSMUSG00000031137</a>
6.	Stk3	<a href="#">ENSMUSG00000022329</a>	59.	Kras	<a href="#">ENSMUSG00000030265</a>
7.	Rasa2	<a href="#">ENSMUSG00000032413</a>	60.	Braf	<a href="#">ENSMUSG00000002413</a>
8.	Stmn1	<a href="#">ENSMUSG00000028832</a>	61.	Mapk9	<a href="#">ENSMUSG00000020366</a>
9.	Mef2c	<a href="#">ENSMUSG00000005583</a>	62.	Tgfb2	<a href="#">ENSMUSG00000032440</a>
10.	Jun	<a href="#">ENSMUSG00000052684</a>	63.	Mecom	<a href="#">ENSMUSG00000027684</a>
11.	Map3k3	<a href="#">ENSMUSG00000020700</a>	64.	Nras	<a href="#">ENSMUSG00000027852</a>
12.	Pdgfrb	<a href="#">ENSMUSG00000024620</a>	65.	Rac1	<a href="#">ENSMUSG00000001847</a>
13.	Dusp6	<a href="#">ENSMUSG00000019960</a>	66.	Sos1	<a href="#">ENSMUSG00000024241</a>
14.	Map4k3	<a href="#">ENSMUSG00000024242</a>	67.	Cacng2	<a href="#">ENSMUSG00000019146</a>
15.	Max	<a href="#">ENSMUSG00000059436</a>	68.	Rap1b	<a href="#">ENSMUSG00000052681</a>
16.	Rps6ka6	<a href="#">ENSMUSG00000025665</a>	69.	Mras	<a href="#">ENSMUSG00000032470</a>
17.	Rap1a	<a href="#">ENSMUSG000000068798</a>	70.	Map2k7	<a href="#">ENSMUSG00000002948</a>
18.	Rps6ka5	<a href="#">ENSMUSG000000021180</a>	71.	Ras2	<a href="#">ENSMUSG00000055723</a>
19.	Map4k4	<a href="#">ENSMUSG00000026074</a>	72.	Rasa1	<a href="#">ENSMUSG00000021549</a>
20.	Map2k1	<a href="#">ENSMUSG00000004936</a>	73.	Tgfb3	<a href="#">ENSMUSG00000021253</a>
21.	Fgf7	<a href="#">ENSMUSG00000027208</a>	74.	Cdc25b	<a href="#">ENSMUSG00000027330</a>
22.	Ppm1a	<a href="#">ENSMUSG00000021096</a>	75.	Fgf18	<a href="#">ENSMUSG00000057967</a>
23.	Fos	<a href="#">ENSMUSG00000021250</a>	76.	Crk	<a href="#">ENSMUSG00000017776</a>
24.	Map2k6	<a href="#">ENSMUSG00000020623</a>	77.	Prkca	<a href="#">ENSMUSG00000050965</a>
25.	Map3k1	<a href="#">ENSMUSG00000021754</a>	78.	Dusp10	<a href="#">ENSMUSG00000039384</a>
26.	Rps6ka4	<a href="#">ENSMUSG00000024952</a>	79.	Tnf	<a href="#">ENSMUSG00000024401</a>
27.	Rps6ka1	<a href="#">ENSMUSG00000003644</a>	80.	Nfkb1	<a href="#">ENSMUSG00000028163</a>
28.	Fgf12	<a href="#">ENSMUSG00000022523</a>	81.	Mapkapk2	<a href="#">ENSMUSG00000016528</a>
29.	Map2k3	<a href="#">ENSMUSG00000018932</a>	82.	Elk1	<a href="#">ENSMUSG00000009406</a>
30.	Mknk2	<a href="#">ENSMUSG00000020190</a>	83.	Cacna2d2	<a href="#">ENSMUSG00000010066</a>
31.	Cacnb2	<a href="#">ENSMUSG00000057914</a>	84.	Stk4	<a href="#">ENSMUSG00000018209</a>
32.	Dusp2	<a href="#">ENSMUSG00000027368</a>	85.	Fgf9	<a href="#">ENSMUSG00000021974</a>
33.	Cacna2d1	<a href="#">ENSMUSG00000040118</a>	86.	Ppp3r1	<a href="#">ENSMUSG00000033953</a>
34.	Rps6ka3	<a href="#">ENSMUSG00000031309</a>	87.	Traf6	<a href="#">ENSMUSG00000027164</a>
35.	Grb2	<a href="#">ENSMUSG00000059923</a>	88.	Fgfr2	<a href="#">ENSMUSG00000030849</a>
36.	Nfatc3	<a href="#">ENSMUSG00000031902</a>	89.	Prkacb	<a href="#">ENSMUSG00000005034</a>
37.	Map3k4	<a href="#">ENSMUSG00000014426</a>	90.	Arrb1	<a href="#">ENSMUSG00000018909</a>
38.	Pak1	<a href="#">ENSMUSG00000030774</a>	91.	Pla2g4a	<a href="#">ENSMUSG00000056220</a>
39.	Fasl	<a href="#">ENSMUSG00000000817</a>	92.	Flnc	<a href="#">ENSMUSG00000068699</a>
40.	Cacnb1	<a href="#">ENSMUSG00000020882</a>	93.	Mapk11	<a href="#">ENSMUSG00000053137</a>
41.	Cacnb4	<a href="#">ENSMUSG00000017412</a>	94.	Pak2	<a href="#">ENSMUSG00000022781</a>
42.	Casp3	<a href="#">ENSMUSG00000031628</a>	95.	Atf2	<a href="#">ENSMUSG00000027104</a>
43.	Rapgef2	<a href="#">ENSMUSG00000062232</a>	96.	Map3k7	<a href="#">ENSMUSG00000028284</a>
44.	Dusp7	<a href="#">ENSMUSG00000053716</a>	97.	Dusp5	<a href="#">ENSMUSG00000034765</a>
45.	Nlk	<a href="#">ENSMUSG00000017376</a>	98.	Cdc42	<a href="#">ENSMUSG00000006699</a>
46.	Cacna1i	<a href="#">ENSMUSG00000022416</a>	99.	Map3k2	<a href="#">ENSMUSG00000024383</a>
47.	Tgfb1	<a href="#">ENSMUSG00000007613</a>	100.	Map3k11	<a href="#">ENSMUSG00000004054</a>
48.	Rasgrf1	<a href="#">ENSMUSG00000032356</a>	101.	Tab2	<a href="#">ENSMUSG00000015755</a>
49.	Nf1	<a href="#">ENSMUSG00000020716</a>	102.	Mapk8	<a href="#">ENSMUSG00000021936</a>
50.	Atf4	<a href="#">ENSMUSG00000042406</a>	103.	Zak	<a href="#">ENSMUSG00000004085</a>
51.	Ppm1b	<a href="#">ENSMUSG000000061130</a>	104.	Srf	<a href="#">ENSMUSG00000015605</a>
52.	Dusp16	<a href="#">ENSMUSG00000030203</a>	105.	Dusp8	<a href="#">ENSMUSG00000037887</a>
53.	Cacna1d	<a href="#">ENSMUSG00000015968</a>			

S2C. Lists of genes involved in MAPK pathway (mmu04010) as predicted targets of the Group 3 miRNAs

Gene Name      Gene Ensembl id			Gene Name      Gene Ensembl id		
1.	<b>Fgfr3</b>	<a href="#">ENSMUSG00000054252</a>	26.	<b>Map2k4</b>	<a href="#">ENSMUSG00000033352</a>
2.	<b>Mapk14</b>	<a href="#">ENSMUSG00000053436</a>	27.	<b>Braf</b>	<a href="#">ENSMUSG00000002413</a>
3.	<b>Rasgrp</b>	<a href="#">ENSMUSG00000027347</a>	28.	<b>Tgfbr2</b>	<a href="#">ENSMUSG00000032440</a>
4.	<b>Sos2</b>	<a href="#">ENSMUSG00000034801</a>	29.	<b>Nras</b>	<a href="#">ENSMUSG00000027852</a>
5.	<b>Fgf10</b>	<a href="#">ENSMUSG00000021732</a>	30.	<b>Sos1</b>	<a href="#">ENSMUSG00000024241</a>
6.	<b>Stk3</b>	<a href="#">ENSMUSG00000022329</a>	31.	<b>Rap1b</b>	<a href="#">ENSMUSG00000052681</a>
7.	<b>Mef2c</b>	<a href="#">ENSMUSG00000005583</a>	32.	<b>Rras2</b>	<a href="#">ENSMUSG00000055723</a>
8.	<b>Pdgfrb</b>	<a href="#">ENSMUSG00000024620</a>	33.	<b>Tgfb3</b>	<a href="#">ENSMUSG00000021253</a>
9.	<b>Rps6ka6</b>	<a href="#">ENSMUSG00000025665</a>	34.	<b>Tgfb1</b>	<a href="#">ENSMUSG00000002603</a>
10.	<b>Rap1a</b>	<a href="#">ENSMUSG00000068798</a>	35.	<b>Cdc25b</b>	<a href="#">ENSMUSG00000027330</a>
11.	<b>Rps6ka5</b>	<a href="#">ENSMUSG00000021180</a>	36.	<b>Pdgfb</b>	<a href="#">ENSMUSG00000000489</a>
12.	<b>Flnb</b>	<a href="#">ENSMUSG00000025278</a>	37.	<b>Crk</b>	<a href="#">ENSMUSG00000017776</a>
13.	<b>Tab1</b>	<a href="#">ENSMUSG00000022414</a>	38.	<b>Prkca</b>	<a href="#">ENSMUSG00000050965</a>
14.	<b>Map2k6</b>	<a href="#">ENSMUSG00000020623</a>	39.	<b>Dusp10</b>	<a href="#">ENSMUSG00000039384</a>
15.	<b>Map3k1</b>	<a href="#">ENSMUSG00000021754</a>	40.	<b>Elk1</b>	<a href="#">ENSMUSG00000009406</a>
16.	<b>Rps6ka1</b>	<a href="#">ENSMUSG00000003644</a>	41.	<b>Stk4</b>	<a href="#">ENSMUSG00000018209</a>
17.	<b>Mknk2</b>	<a href="#">ENSMUSG00000020190</a>	42.	<b>Fgf9</b>	<a href="#">ENSMUSG00000021974</a>
18.	<b>Dusp2</b>	<a href="#">ENSMUSG00000027368</a>	43.	<b>Ppp3r1</b>	<a href="#">ENSMUSG00000033953</a>
19.	<b>Il1r1</b>	<a href="#">ENSMUSG00000026072</a>	44.	<b>Fgfr2</b>	<a href="#">ENSMUSG00000030849</a>
20.	<b>Rps6ka3</b>	<a href="#">ENSMUSG00000031309</a>	45.	<b>Cdc42</b>	<a href="#">ENSMUSG00000006699</a>
21.	<b>Nfatc3</b>	<a href="#">ENSMUSG00000031902</a>	46.	<b>Map3k2</b>	<a href="#">ENSMUSG00000024383</a>
22.	<b>Fasl</b>	<a href="#">ENSMUSG00000000817</a>	47.	<b>Map3k11</b>	<a href="#">ENSMUSG00000004054</a>
23.	<b>Casp3</b>	<a href="#">ENSMUSG00000031628</a>	48.	<b>Tab2</b>	<a href="#">ENSMUSG00000015755</a>
24.	<b>Ppp3cb</b>	<a href="#">ENSMUSG00000021816</a>	49.	<b>Mapk8</b>	<a href="#">ENSMUSG00000021936</a>
25.	<b>Egfr</b>	<a href="#">ENSMUSG00000020122</a>	50.	<b>Srf</b>	<a href="#">ENSMUSG00000015605</a>

S2D. Lists of genes involved in MAPK pathway (mmu04010) as predicted targets of the Group 4 miRNAs

Gene Name		Gene Ensembl id	Gene Name		Gene Ensembl id
1.	Rasgrp1	<a href="#">ENSMUSG00000027347</a>	36.	Kras	<a href="#">ENSMUSG00000030265</a>
2.	Fgf10	<a href="#">ENSMUSG00000021732</a>	37.	Mapk9	<a href="#">ENSMUSG00000020366</a>
3.	Mapt	<a href="#">ENSMUSG00000018411</a>	38.	Tgfb2	<a href="#">ENSMUSG00000032440</a>
4.	Rasa2	<a href="#">ENSMUSG00000032413</a>	39.	Nras	<a href="#">ENSMUSG00000027852</a>
5.	Mef2c	<a href="#">ENSMUSG00000005583</a>	40.	Map3k14	<a href="#">ENSMUSG00000020941</a>
6.	Map3k3	<a href="#">ENSMUSG00000020700</a>	41.	Sos1	<a href="#">ENSMUSG00000024241</a>
7.	Pdgfrb	<a href="#">ENSMUSG00000024620</a>	42.	Rras2	<a href="#">ENSMUSG00000055723</a>
8.	Tnfrsf1a	<a href="#">ENSMUSG00000030341</a>	43.	Dusp3	<a href="#">ENSMUSG0000003518</a>
9.	Cacng4	<a href="#">ENSMUSG00000020723</a>	44.	Dusp4	<a href="#">ENSMUSG00000031530</a>
10.	Dusp6	<a href="#">ENSMUSG00000019960</a>	45.	Tgfb1	<a href="#">ENSMUSG0000002603</a>
11.	Map4k3	<a href="#">ENSMUSG00000024242</a>	46.	Chuk	<a href="#">ENSMUSG00000025199</a>
12.	Max	<a href="#">ENSMUSG00000059436</a>	47.	Crk	<a href="#">ENSMUSG00000017776</a>
13.	Rps6ka5	<a href="#">ENSMUSG00000021180</a>	48.	Prkca	<a href="#">ENSMUSG00000050965</a>
14.	Map4k4	<a href="#">ENSMUSG00000026074</a>	49.	Elk4	<a href="#">ENSMUSG00000026436</a>
15.	Cacna2d3	<a href="#">ENSMUSG00000021991</a>	50.	Nfkb1	<a href="#">ENSMUSG00000028163</a>
16.	Map3k1	<a href="#">ENSMUSG00000021754</a>	51.	Stk4	<a href="#">ENSMUSG00000018209</a>
17.	Rps6ka1	<a href="#">ENSMUSG00000003644</a>	52.	Fgf9	<a href="#">ENSMUSG00000021974</a>
18.	Mknk2	<a href="#">ENSMUSG00000020190</a>	53.	Mapk8ip3	<a href="#">ENSMUSG00000024163</a>
19.	Dusp2	<a href="#">ENSMUSG00000027368</a>	54.	Ppp3r1	<a href="#">ENSMUSG00000033953</a>
20.	Rps6ka3	<a href="#">ENSMUSG00000031309</a>	55.	Rac2	<a href="#">ENSMUSG00000033220</a>
21.	Nfatc3	<a href="#">ENSMUSG00000031902</a>	56.	Ppp3ca	<a href="#">ENSMUSG00000028161</a>
22.	Map3k4	<a href="#">ENSMUSG00000014426</a>	57.	Prkacb	<a href="#">ENSMUSG00000005034</a>
23.	Pak1	<a href="#">ENSMUSG00000030774</a>	58.	Mapk11	<a href="#">ENSMUSG00000053137</a>
24.	Casp3	<a href="#">ENSMUSG00000031628</a>	59.	Pak2	<a href="#">ENSMUSG00000022781</a>
25.	Dusp7	<a href="#">ENSMUSG00000053716</a>	60.	Atf2	<a href="#">ENSMUSG00000027104</a>
26.	Nlk	<a href="#">ENSMUSG00000017376</a>	61.	Dusp5	<a href="#">ENSMUSG00000034765</a>
27.	Ntrk2	<a href="#">ENSMUSG00000055254</a>	62.	Fgf2	<a href="#">ENSMUSG00000037225</a>
28.	Tgfb1	<a href="#">ENSMUSG00000007613</a>	63.	Cdc42	<a href="#">ENSMUSG00000006699</a>
29.	Rasgrf1	<a href="#">ENSMUSG00000032356</a>	64.	Map3k2	<a href="#">ENSMUSG00000024383</a>
30.	Nf1	<a href="#">ENSMUSG00000020716</a>	65.	Map3k11	<a href="#">ENSMUSG00000004054</a>
31.	Atf4	<a href="#">ENSMUSG00000042406</a>	66.	Tab2	<a href="#">ENSMUSG00000015755</a>
32.	Il1a	<a href="#">ENSMUSG00000027399</a>	67.	Dusp1	<a href="#">ENSMUSG00000024190</a>
33.	Crkl	<a href="#">ENSMUSG00000006134</a>	68.	Rras	<a href="#">ENSMUSG00000038387</a>
34.	Egfr	<a href="#">ENSMUSG00000020122</a>	69.	Srf	<a href="#">ENSMUSG00000015605</a>
35.	Map2k4	<a href="#">ENSMUSG00000033352</a>	70.	Dusp8	<a href="#">ENSMUSG00000037887</a>

**Table S3.** List of the main genes involved in pathways regulated by the differentially expressed miRNAs highlighted in PCR arrays.

GENE NAME	miRNA	miRNA	miRNA	miRNA	miRNA	miRNA	miRNA	miRNA
CREB1	29a-3p	23b-3p	10a-5p	15b-5p	19a-3p	23a-3p	138-5p	124-3p
CREBbp	29b-3p	19a-3p	19b-3p	9-5p	7i-5p	124-3p		
MAP2K3 (MKK3)	29a-3p							
MAP2K6 (p38 k.)	29a-3p	29b-3p						
MAPK14 (p38- $\alpha$ )	31-5p	140-5p	29a-3p	29b-3p	141-3p	124-3p		
MAPK11 (p38- $\beta$ )	335-5p	29a-3p	29b-3p	7i-5p				
MAPK12 (p38- $\gamma$ )	29a-3p	29b-3p						
MAPK13 (p38- $\delta$ )	29a-3p	29b-3p						
MAPK8 (JNK1)	335-5p	196a-5p	19a-3p	19b-3p	31-5p	29a-3p	29b-3p	
MAPK9 (JNK2)	31-5p	7i-5p						
MAPK10 (JNK3)	9-5p							
MAP3K1 (MEKK1)	31-5p	23a-3p	291a-3p					
MAP3K2 (MEKK2)	295-3p	295-3p	141-3p	23a-3p	291a-3p	124-3p		
MAP2K1 (MEK1)	22-3p							
MAPK3 (ERK1)	15b-5p							
MAPK1 (ERK2)	141-3p							
DUSP1	411-5p	144-3p	31-5p	7i-5p				
DUSP2	295-3p	880-3p	880-3p	295-3p	291a-3p			
DUSP3	7i-5p	124-3p						
DUSP5	7i-5p	23a-3p						
DUSP6	7i-5p							
DUSP7	31-5p	7i-5p						
DUSP8	880-3p	880-3p	138-5p	7i-5p				
DUSP15	124-3p							
Rps6ka3	411-5p	291a-3p						
Mef2c	31-5p	291a-3p						
Tnfrsf1a (TNFR1)	467e-5p	142a-3p						
TNF	30c-5p	19a-3p	19b-3p					
JunB	30c-5p	19a-3p	19b-3p	15b-5p				
Jun	19b-3p	19a-3p	15b-5p					
Fos	21a-5p							
RelA	9-5p	124-3p						
NFkb1	23b-3p	31-5p	15b-5p	23a-3p				
MAP3K7 (TGF-k)	10a-5p	23b-3p	7i-5p	124-3p				
Tgfb1 (TGF- $\beta$ -R1)	140-5p	880-3p	880-3p	124-3p				
Tgfb2 (TGF- $\beta$ -R2)	23b-3p							
TGF-beta	31-5p	141-3p						
ROCK1	31-5p	15b-3p	335-5p	29b-3p	141-3p			
ROCK2	142a-3p	23b-3p	19a-3p	19b-3p	9-5p	141-3p	23a-3p	124-3p
RhoA	138-5p	124-3p						
Col1a1	7i-5p	138-5p						
Col1a2	7i-5p							

Col4a1	7i-5p	138-5p						
Col4a2	7i-5p	138-5p						
Col5a1	31-5p							
Col5a2	7i-5p							
Fn1	144-3p							
Itgbb3 (integrina)	29a-3p	23b-3p	29b-3p	23a-5p				
Itgb8	214-3p	291a-3p						
VEGF	29a-3p	15b-5p	23b-3p	29b-3p	23a-5p	7i-5p		
HIF-1 $\alpha$	144-3p	29a-3p	21-5p					
Egrf	10b-5p	142a-3p	29b-3p	138-5p	23a-5p	7i-5p		
Ifngr (IFN- $\gamma$ )	29a-3p	23b-3p						
SOCS1	19b-3p	7i-5p						
SOCS3	29a-3p	140-5p	19b-3p					
Sqstm1	144-3p	23b-3p	23a-5p					
IL1r1	335-5p	29b-3p						
IL-6	142-3p	7i-5p						
IL-6r	23b-3p	31-5p	23a-5p					
STAT1	23b-3p	19b-3p	15b-5p	19a-3p	15b-5p			
STAT2	9-5p	19b-3p	15b-5p	19a-3p	15b-5p			
STAT3	21-5p	31-5p	7i-5p					
IRF9	23b-3p							
PiK3ca	21a-5p							
PiK3r1 reg. sub. $\alpha$	15b-3p	335-5p	29a-3p	31-5p	138-5p			
PiK3r3 reg. sub. $\gamma$	19a-3p	335-5p						
CAMK4	29a-3p	29b-3p	138-5p					
Ppp1cb	141-3p	29b-3p						
Ppp3ca	31-5p	7i-5p						
Ppp3cb	140-5p	15b-5p	29b-3p					
Ppp3r1-2	29a-3p	335-5p	31-5p	29b-3p	141-3p			
CALMG	411-5p							
CALM2	880-3p	880-3p						
GSK3 $\beta$	199-5p	144-3p	880-3p	880-3p	124-3p			
DYRK1 -2	295-3p	880-3p	295-3p	880-3p				
OSCAR	124-3p							
MITF	19b-3p	19a-3p	144-3p	124-3p				
TRAF6	19b-3p	19a-3p	146-3p	15b-5p	880-3p	880-3p	124-3p	
NFATc2	214-3p	19a-3p	19b-3p	22-3p	124-3p			
NFATc1	124-3p							
ATP6Voa1	214-3p							
Ncf1 (NAPDH oxidase factor)	425-5p							
SMAD2	31-5p	880-3p	295-3p	880-3p	295-3p			
SMAD3	880-3p	880-3p	23a-3p					
SMAD4	214-3p	31-5p						
COLOR LEGEND	Group 1	Group 2	Group 3	Group 4	Inside the threshold			

**S3A.** Lists of genes involved in Regulation of actin cytoskeleton (04810) as predicted targets of the Group 1 miRNAs

Gene Name		Gene Ensembl id	Gene Name		Gene Ensembl id
1.	Fgfr3	<a href="#">ENSMUSG00000054252</a>	33.	Pik3cb	<a href="#">ENSMUSG00000032462</a>
2.	Pxn	<a href="#">ENSMUSG00000029528</a>	34.	Tiam1	<a href="#">ENSMUSG00000002489</a>
3.	Apc	<a href="#">ENSMUSG00000005871</a>	35.	Mylk	<a href="#">ENSMUSG00000022836</a>
4.	Ppp1r12b	<a href="#">ENSMUSG00000073557</a>	36.	Itgav	<a href="#">ENSMUSG00000027087</a>
5.	Ppp1r12a	<a href="#">ENSMUSG00000019907</a>	37.	Pikfyve	<a href="#">ENSMUSG00000025949</a>
6.	Pik3r1	<a href="#">ENSMUSG00000041417</a>	38.	Crk	<a href="#">ENSMUSG00000017776</a>
7.	Pik3r3	<a href="#">ENSMUSG00000028698</a>	39.	Diap2	<a href="#">ENSMUSG00000034480</a>
8.	Myl12b	<a href="#">ENSMUSG00000034868</a>	40.	Vcl	<a href="#">ENSMUSG00000021823</a>
9.	Slc9a1	<a href="#">ENSMUSG00000028854</a>	41.	Abi2	<a href="#">ENSMUSG00000026782</a>
10.	Pdgfrb	<a href="#">ENSMUSG00000024620</a>	42.	F2	<a href="#">ENSMUSG00000027249</a>
11.	Wasl	<a href="#">ENSMUSG00000029684</a>	43.	Ppp1cb	<a href="#">ENSMUSG00000014956</a>
12.	Wasf2	<a href="#">ENSMUSG00000028868</a>	44.	Myh9	<a href="#">ENSMUSG00000022443</a>
13.	Fgf4	<a href="#">ENSMUSG000000050917</a>	45.	Ssh2	<a href="#">ENSMUSG00000037926</a>
14.	Gsn	<a href="#">ENSMUSG00000026879</a>	46.	Arhgef6	<a href="#">ENSMUSG00000031133</a>
15.	Arhgap35	<a href="#">ENSMUSG00000058230</a>	47.	Araf	<a href="#">ENSMUSG00000001127</a>
16.	Itgb3	<a href="#">ENSMUSG00000020689</a>	48.	F2r	<a href="#">ENSMUSG00000048376</a>
17.	Itgb7	<a href="#">ENSMUSG00000001281</a>	49.	Arpc1b	<a href="#">ENSMUSG00000029622</a>
18.	Pak1	<a href="#">ENSMUSG00000030774</a>	50.	Itgb1	<a href="#">ENSMUSG00000025809</a>
19.	Pfn1	<a href="#">ENSMUSG00000018293</a>	51.	Itga7	<a href="#">ENSMUSG00000025348</a>
20.	Cfl2	<a href="#">ENSMUSG00000062929</a>	52.	Baiap2	<a href="#">ENSMUSG00000025372</a>
21.	Crkl	<a href="#">ENSMUSG00000006134</a>	53.	Gna13	<a href="#">ENSMUSG00000020611</a>
22.	Egfr	<a href="#">ENSMUSG00000020122</a>	54.	Enah	<a href="#">ENSMUSG00000022995</a>
23.	Kras	<a href="#">ENSMUSG00000030265</a>	55.	Pik3cd	<a href="#">ENSMUSG00000039936</a>
24.	Braf	<a href="#">ENSMUSG00000002413</a>	56.	Ssh1	<a href="#">ENSMUSG00000042121</a>
25.	Rdx	<a href="#">ENSMUSG00000032050</a>	57.	Itgb8	<a href="#">ENSMUSG00000025321</a>
26.	Nras	<a href="#">ENSMUSG00000027852</a>	58.	Myl9	<a href="#">ENSMUSG00000067818</a>
27.	Rac1	<a href="#">ENSMUSG00000001847</a>	59.	Pak2	<a href="#">ENSMUSG00000022781</a>
28.	Rock2	<a href="#">ENSMUSG00000020580</a>	60.	Fgf2	<a href="#">ENSMUSG00000037225</a>
29.	Sos1	<a href="#">ENSMUSG00000024241</a>	61.	Cdc42	<a href="#">ENSMUSG00000006699</a>
30.	Actn4	<a href="#">ENSMUSG00000054808</a>	62.	Pip4k2a	<a href="#">ENSMUSG00000026737</a>
31.	Rras2	<a href="#">ENSMUSG00000055723</a>	63.	Fgd1	<a href="#">ENSMUSG00000025265</a>
32.	Actn1	<a href="#">ENSMUSG00000015143</a>	64.	Arpc5	<a href="#">ENSMUSG00000008475</a>

**S3B.** Lists of genes involved in Regulation of actin cytoskeleton (04810) as predicted targets of the Group 2 miRNAs

Gene Name	Gene Ensembl id	Gene Name	Gene Ensembl id
1. Vav2	<a href="#">ENSMUSG00000009621</a>	48. Braf	<a href="#">ENSMUSG00000002413</a>
2. Sos2	<a href="#">ENSMUSG000000034801</a>	49. Rdx	<a href="#">ENSMUSG000000032050</a>
3. Apc	<a href="#">ENSMUSG00000005871</a>	50. Nckap1	<a href="#">ENSMUSG000000027002</a>
4. Fgf10	<a href="#">ENSMUSG000000021732</a>	51. Nras	<a href="#">ENSMUSG000000027852</a>
5. Pip5k1c	<a href="#">ENSMUSG000000034902</a>	52. Rac1	<a href="#">ENSMUSG00000001847</a>
6. Pip4k2b	<a href="#">ENSMUSG000000018547</a>	53. Rock2	<a href="#">ENSMUSG000000020580</a>
7. Pik3r1	<a href="#">ENSMUSG000000041417</a>	54. Sos1	<a href="#">ENSMUSG000000024241</a>
8. Pik3r3	<a href="#">ENSMUSG000000028698</a>	55. Itga8	<a href="#">ENSMUSG000000026768</a>
9. Slc9a1	<a href="#">ENSMUSG000000028854</a>	56. Mras	<a href="#">ENSMUSG000000032470</a>
10. Pdgfrb	<a href="#">ENSMUSG000000024620</a>	57. Itgb2	<a href="#">ENSMUSG00000000290</a>
11. Arpc5l	<a href="#">ENSMUSG000000026755</a>	58. Rras2	<a href="#">ENSMUSG000000055723</a>
12. Msn	<a href="#">ENSMUSG000000031207</a>	59. Actn1	<a href="#">ENSMUSG000000015143</a>
13. Wasl	<a href="#">ENSMUSG000000029684</a>	60. Pik3cb	<a href="#">ENSMUSG000000032462</a>
14. Diap3	<a href="#">ENSMUSG000000022021</a>	61. Tiam1	<a href="#">ENSMUSG000000002489</a>
15. Wasf2	<a href="#">ENSMUSG000000028868</a>	62. Arpc1a	<a href="#">ENSMUSG000000029621</a>
16. Vav3	<a href="#">ENSMUSG000000033721</a>	63. Fgf18	<a href="#">ENSMUSG000000057967</a>
17. Map2k1	<a href="#">ENSMUSG000000004936</a>	64. Itgav	<a href="#">ENSMUSG000000027087</a>
18. Itga6	<a href="#">ENSMUSG000000027111</a>	65. Pikfyve	<a href="#">ENSMUSG000000025949</a>
19. Fgf7	<a href="#">ENSMUSG000000027208</a>	66. Crk	<a href="#">ENSMUSG000000017776</a>
20. Ezr	<a href="#">ENSMUSG000000052397</a>	67. Diap2	<a href="#">ENSMUSG000000034480</a>
21. Gsn	<a href="#">ENSMUSG000000026879</a>	68. Vcl	<a href="#">ENSMUSG000000021823</a>
22. Rock1	<a href="#">ENSMUSG000000024290</a>	69. Abi2	<a href="#">ENSMUSG000000026782</a>
23. Arhgap35	<a href="#">ENSMUSG000000058230</a>	70. Ppp1cb	<a href="#">ENSMUSG000000014956</a>
24. Fgf12	<a href="#">ENSMUSG000000022523</a>	71. Myh9	<a href="#">ENSMUSG000000022443</a>
25. Itgb3	<a href="#">ENSMUSG000000020689</a>	72. Arhgef7	<a href="#">ENSMUSG000000031511</a>
26. Itgb7	<a href="#">ENSMUSG000000001281</a>	73. Actg1	<a href="#">ENSMUSG000000062825</a>
27. Pak1	<a href="#">ENSMUSG000000030774</a>	74. Ssh2	<a href="#">ENSMUSG000000037926</a>
28. Myh10	<a href="#">ENSMUSG000000020900</a>	75. Arhgef6	<a href="#">ENSMUSG000000031133</a>
29. Bdkrb1	<a href="#">ENSMUSG000000041347</a>	76. Itga3	<a href="#">ENSMUSG00000001507</a>
30. Itga5	<a href="#">ENSMUSG00000000555</a>	77. Fgf9	<a href="#">ENSMUSG000000021974</a>
31. Pfn1	<a href="#">ENSMUSG000000018293</a>	78. F2r	<a href="#">ENSMUSG000000048376</a>
32. Src	<a href="#">ENSMUSG000000027646</a>	79. Arpc1b	<a href="#">ENSMUSG000000029622</a>
33. Cfl2	<a href="#">ENSMUSG000000062929</a>	80. Fgfr2	<a href="#">ENSMUSG000000030849</a>
34. Ppp1r12c	<a href="#">ENSMUSG000000019254</a>	81. Itgb1	<a href="#">ENSMUSG000000025809</a>
35. Actb	<a href="#">ENSMUSG000000029580</a>	82. Gna13	<a href="#">ENSMUSG000000020611</a>
36. Itga11	<a href="#">ENSMUSG000000032243</a>	83. Enah	<a href="#">ENSMUSG000000022995</a>
37. Pdgfd	<a href="#">ENSMUSG000000032006</a>	84. Itgb8	<a href="#">ENSMUSG000000025321</a>
38. Diap1	<a href="#">ENSMUSG000000024456</a>	85. Mylk4	<a href="#">ENSMUSG000000044951</a>
39. Itga1	<a href="#">ENSMUSG000000042284</a>	86. Pak2	<a href="#">ENSMUSG000000022781</a>
40. Arhgef12	<a href="#">ENSMUSG000000059495</a>	87. Cdc42	<a href="#">ENSMUSG000000006699</a>
41. Dock1	<a href="#">ENSMUSG000000058325</a>	88. Iqgap2	<a href="#">ENSMUSG000000021676</a>
42. Egfr	<a href="#">ENSMUSG000000020122</a>	89. Cyfip2	<a href="#">ENSMUSG000000020340</a>
43. Pfn2	<a href="#">ENSMUSG000000027805</a>	90. Pip4k2a	<a href="#">ENSMUSG000000026737</a>
44. Iqgap1	<a href="#">ENSMUSG000000030536</a>	91. Pak4	<a href="#">ENSMUSG000000030602</a>
45. Fgf13	<a href="#">ENSMUSG000000031137</a>	92. Limk2	<a href="#">ENSMUSG000000020451</a>
46. Kras	<a href="#">ENSMUSG000000030265</a>	93. Arpc5	<a href="#">ENSMUSG000000008475</a>
47. Pip5k1b	<a href="#">ENSMUSG000000024867</a>		

**S3C.** Lists of genes involved in Regulation of actin cytoskeleton (04810) as predicted targets of the Group 4 miRNAs.

Gene Name		Gene Ensembl id		Gene Name		Gene Ensembl id	
1.	Apc	<a href="#">ENSMUSG00000005871</a>		30.	Sos1	<a href="#">ENSMUSG000000024241</a>	
2.	Fgf10	<a href="#">ENSMUSG000000021732</a>		31.	Itgb2	<a href="#">ENSMUSG000000000290</a>	
3.	Pip5k1c	<a href="#">ENSMUSG000000034902</a>		32.	Rras2	<a href="#">ENSMUSG000000055723</a>	
4.	Pip4k2b	<a href="#">ENSMUSG000000018547</a>		33.	Apc2	<a href="#">ENSMUSG000000020135</a>	
5.	Ppp1r12a	<a href="#">ENSMUSG000000019907</a>		34.	Actn1	<a href="#">ENSMUSG000000015143</a>	
6.	Pik3r1	<a href="#">ENSMUSG000000041417</a>		35.	Tiam1	<a href="#">ENSMUSG000000002489</a>	
7.	Bcar1	<a href="#">ENSMUSG000000031955</a>		36.	Crk	<a href="#">ENSMUSG000000017776</a>	
8.	Slc9a1	<a href="#">ENSMUSG000000028854</a>		37.	Diap2	<a href="#">ENSMUSG000000034480</a>	
9.	Pdgfrb	<a href="#">ENSMUSG000000024620</a>		38.	Vcl	<a href="#">ENSMUSG000000021823</a>	
10.	Wasl	<a href="#">ENSMUSG000000029684</a>		39.	Pip4k2c	<a href="#">ENSMUSG000000025417</a>	
11.	Cfl1	<a href="#">ENSMUSG000000056201</a>		40.	Ppp1cb	<a href="#">ENSMUSG000000014956</a>	
12.	Wasf2	<a href="#">ENSMUSG000000028868</a>		41.	Myh9	<a href="#">ENSMUSG000000022443</a>	
13.	Ptk2	<a href="#">ENSMUSG000000022607</a>		42.	Ssh2	<a href="#">ENSMUSG000000037926</a>	
14.	Ezr	<a href="#">ENSMUSG000000052397</a>		43.	Araf	<a href="#">ENSMUSG000000001127</a>	
15.	Itgb3	<a href="#">ENSMUSG000000020689</a>		44.	Fgf9	<a href="#">ENSMUSG000000021974</a>	
16.	Pak1	<a href="#">ENSMUSG000000030774</a>		45.	Rac2	<a href="#">ENSMUSG000000033220</a>	
17.	Arhgef4	<a href="#">ENSMUSG000000037509</a>		46.	Gna13	<a href="#">ENSMUSG000000020611</a>	
18.	Rhoa	<a href="#">ENSMUSG000000007815</a>		47.	Itgb8	<a href="#">ENSMUSG000000025321</a>	
19.	Pfn1	<a href="#">ENSMUSG000000018293</a>		48.	Pak2	<a href="#">ENSMUSG000000022781</a>	
20.	Src	<a href="#">ENSMUSG000000027646</a>		49.	Fgf2	<a href="#">ENSMUSG000000037225</a>	
21.	Cfl2	<a href="#">ENSMUSG000000062929</a>		50.	Cdc42	<a href="#">ENSMUSG000000006699</a>	
22.	Crkl	<a href="#">ENSMUSG000000006134</a>		51.	Cyfp2	<a href="#">ENSMUSG000000020340</a>	
23.	Arhgef12	<a href="#">ENSMUSG000000059495</a>		52.	Pip4k2a	<a href="#">ENSMUSG000000026737</a>	
24.	Egfr	<a href="#">ENSMUSG000000020122</a>		53.	Rras	<a href="#">ENSMUSG000000038387</a>	
25.	Kras	<a href="#">ENSMUSG000000030265</a>		54.	Itgal	<a href="#">ENSMUSG000000030830</a>	
26.	Rdx	<a href="#">ENSMUSG000000032050</a>		55.	Pak4	<a href="#">ENSMUSG000000030602</a>	
27.	Nckap1	<a href="#">ENSMUSG000000027002</a>		56.	Limk2	<a href="#">ENSMUSG000000020451</a>	
28.	Nras	<a href="#">ENSMUSG000000027852</a>		57.	Arpc5	<a href="#">ENSMUSG000000008475</a>	
29.	Rock2	<a href="#">ENSMUSG000000020580</a>					

**S4A.** Lists of genes involved in ECM-receptor interaction (04512) as predicted targets of the Group 3 miRNAs.

	Gene Name	Gene Ensembl id
1.	Col3a1	<a href="#">ENSMUSG00000026043</a>
2.	Itgb4	<a href="#">ENSMUSG00000020758</a>
3.	Col6a3	<a href="#">ENSMUSG00000048126</a>
4.	Itgb3	<a href="#">ENSMUSG00000020689</a>
5.	Itgb7	<a href="#">ENSMUSG00000001281</a>
6.	Thbs2	<a href="#">ENSMUSG00000023885</a>
7.	Fn1	<a href="#">ENSMUSG00000026193</a>
8.	Col5a2	<a href="#">ENSMUSG00000026042</a>
9.	Sdc1	<a href="#">ENSMUSG00000020592</a>
10.	Hmmr	<a href="#">ENSMUSG00000020330</a>
11.	Col5a3	<a href="#">ENSMUSG00000004098</a>
12.	Lamc1	<a href="#">ENSMUSG00000026478</a>
13.	Col4a1	<a href="#">ENSMUSG00000031502</a>
14.	Tnc	<a href="#">ENSMUSG00000028364</a>
15.	Itgb1	<a href="#">ENSMUSG00000025809</a>
16.	Col11a1	<a href="#">ENSMUSG00000027966</a>
17.	Cd44	<a href="#">ENSMUSG00000005087</a>
18.	Col6a2	<a href="#">ENSMUSG00000020241</a>
19.	Lama5	<a href="#">ENSMUSG00000015647</a>
20.	Itgb8	<a href="#">ENSMUSG00000025321</a>
21.	Col4a2	<a href="#">ENSMUSG00000031503</a>
22.	Col6a1	<a href="#">ENSMUSG00000001119</a>
23.	Npnt	<a href="#">ENSMUSG00000040998</a>

S5A. Lists of genes involved in Focal adhesion (04510) as predicted targets of the Group 1 miRNAs.

Gene Name		Gene Ensembl id	Gene Name		Gene Ensembl id
1.	Pxn	<a href="#">ENSMUSG00000029528</a>	28.	Arhgap5	<a href="#">ENSMUSG00000035133</a>
2.	Ppp1r12b	<a href="#">ENSMUSG00000073557</a>	29.	Rap1b	<a href="#">ENSMUSG00000052681</a>
3.	Ppp1r12a	<a href="#">ENSMUSG00000019907</a>	30.	Bcl2	<a href="#">ENSMUSG00000057329</a>
4.	Flt1	<a href="#">ENSMUSG00000029648</a>	31.	Actn4	<a href="#">ENSMUSG00000054808</a>
5.	Pik3r1	<a href="#">ENSMUSG00000041417</a>	32.	Actn1	<a href="#">ENSMUSG00000015143</a>
6.	Pik3r3	<a href="#">ENSMUSG00000028698</a>	33.	Pik3cb	<a href="#">ENSMUSG00000032462</a>
7.	Gsk3b	<a href="#">ENSMUSG00000022812</a>	34.	Mylk	<a href="#">ENSMUSG00000022836</a>
8.	Myl12b	<a href="#">ENSMUSG00000034868</a>	35.	Ccnd2	<a href="#">ENSMUSG00000000184</a>
9.	Pdgfrb	<a href="#">ENSMUSG00000024620</a>	36.	Itgav	<a href="#">ENSMUSG00000027087</a>
10.	Rap1a	<a href="#">ENSMUSG00000068798</a>	37.	Crk	<a href="#">ENSMUSG00000017776</a>
11.	Tnr	<a href="#">ENSMUSG00000015829</a>	38.	Prkca	<a href="#">ENSMUSG00000050965</a>
12.	Birc3	<a href="#">ENSMUSG00000032000</a>	39.	Vcl	<a href="#">ENSMUSG00000021823</a>
13.	Arhgap35	<a href="#">ENSMUSG00000058230</a>	40.	Ppp1cb	<a href="#">ENSMUSG00000014956</a>
14.	Igf1	<a href="#">ENSMUSG00000020053</a>	41.	Lamc1	<a href="#">ENSMUSG00000026478</a>
15.	Itgb3	<a href="#">ENSMUSG00000020689</a>	42.	Fyn	<a href="#">ENSMUSG00000019843</a>
16.	Itgb7	<a href="#">ENSMUSG00000001281</a>	43.	Itgb1	<a href="#">ENSMUSG00000025809</a>
17.	Col1a1	<a href="#">ENSMUSG00000001506</a>	44.	Itga7	<a href="#">ENSMUSG00000025348</a>
18.	Pak1	<a href="#">ENSMUSG00000030774</a>	45.	Pten	<a href="#">ENSMUSG00000013663</a>
19.	Shc1	<a href="#">ENSMUSG00000042626</a>	46.	Pik3cd	<a href="#">ENSMUSG00000039936</a>
20.	Crkl	<a href="#">ENSMUSG00000006134</a>	47.	Itgb8	<a href="#">ENSMUSG00000025321</a>
21.	Egfr	<a href="#">ENSMUSG00000020122</a>	48.	Myl9	<a href="#">ENSMUSG00000067818</a>
22.	Braf	<a href="#">ENSMUSG00000002413</a>	49.	Pak2	<a href="#">ENSMUSG00000022781</a>
23.	Mapk9	<a href="#">ENSMUSG00000020366</a>	50.	Col4a2	<a href="#">ENSMUSG00000031503</a>
24.	Parva	<a href="#">ENSMUSG00000030770</a>	51.	Cdc42	<a href="#">ENSMUSG00000006699</a>
25.	Rac1	<a href="#">ENSMUSG00000001847</a>	52.	Cav2	<a href="#">ENSMUSG00000000058</a>
26.	Rock2	<a href="#">ENSMUSG00000020580</a>	53.	Mapk8	<a href="#">ENSMUSG00000021936</a>
27.	Sos1	<a href="#">ENSMUSG00000024241</a>			

**S5B.** Lists of genes involved in Focal adhesion (04510) as predicted targets of the Group 2 miRNAs.

Gene Name		Gene Ensembl id	Gene Name		Gene Ensembl id
1.	Vav2	<a href="#">ENSMUSG00000009621</a>	46.	Parva	<a href="#">ENSMUSG00000030770</a>
2.	Sos2	<a href="#">ENSMUSG00000034801</a>	47.	Ccnd1	<a href="#">ENSMUSG00000070348</a>
3.	Lama4	<a href="#">ENSMUSG00000019846</a>	48.	Rac1	<a href="#">ENSMUSG00000001847</a>
4.	Pip5k1c	<a href="#">ENSMUSG00000034902</a>	49.	Rock2	<a href="#">ENSMUSG00000020580</a>
5.	Flt1	<a href="#">ENSMUSG00000029648</a>	50.	Sos1	<a href="#">ENSMUSG00000024241</a>
6.	Pik3r1	<a href="#">ENSMUSG00000041417</a>	51.	Arhgap5	<a href="#">ENSMUSG00000035133</a>
7.	Ibsp	<a href="#">ENSMUSG00000029306</a>	52.	Rap1b	<a href="#">ENSMUSG00000052681</a>
8.	Pdpk1	<a href="#">ENSMUSG00000024122</a>	53.	Itga8	<a href="#">ENSMUSG00000026768</a>
9.	Jun	<a href="#">ENSMUSG00000052684</a>	54.	Bcl2	<a href="#">ENSMUSG00000057329</a>
10.	Pik3r3	<a href="#">ENSMUSG00000028698</a>	55.	Actn1	<a href="#">ENSMUSG00000015143</a>
11.	Gsk3b	<a href="#">ENSMUSG00000022812</a>	56.	Pik3cb	<a href="#">ENSMUSG00000032462</a>
12.	Pdgfrb	<a href="#">ENSMUSG00000024620</a>	57.	Col24a1	<a href="#">ENSMUSG00000028197</a>
13.	Kdr	<a href="#">ENSMUSG00000062960</a>	58.	Ccnd2	<a href="#">ENSMUSG00000000184</a>
14.	Rap1a	<a href="#">ENSMUSG00000068798</a>	59.	Itgav	<a href="#">ENSMUSG00000027087</a>
15.	Col3a1	<a href="#">ENSMUSG00000026043</a>	60.	Crk	<a href="#">ENSMUSG00000017776</a>
16.	Spp1	<a href="#">ENSMUSG00000029304</a>	61.	Prkca	<a href="#">ENSMUSG00000050965</a>
17.	Vav3	<a href="#">ENSMUSG00000033721</a>	62.	Col1a2	<a href="#">ENSMUSG00000029661</a>
18.	Map2k1	<a href="#">ENSMUSG00000004936</a>	63.	Vcl	<a href="#">ENSMUSG00000021823</a>
19.	Itga6	<a href="#">ENSMUSG00000027111</a>	64.	Ppp1cb	<a href="#">ENSMUSG00000014956</a>
20.	Thbs1	<a href="#">ENSMUSG00000040152</a>	65.	Actg1	<a href="#">ENSMUSG00000062825</a>
21.	Rock1	<a href="#">ENSMUSG00000024290</a>	66.	Elk1	<a href="#">ENSMUSG00000009406</a>
22.	Birc3	<a href="#">ENSMUSG00000032000</a>	67.	Lamc1	<a href="#">ENSMUSG00000026478</a>
23.	Arhgap35	<a href="#">ENSMUSG00000058230</a>	68.	Itga3	<a href="#">ENSMUSG00000001507</a>
24.	Igf1	<a href="#">ENSMUSG00000020053</a>	69.	Fyn	<a href="#">ENSMUSG00000019843</a>
25.	Itgb3	<a href="#">ENSMUSG00000020689</a>	70.	Tnc	<a href="#">ENSMUSG00000028364</a>
26.	Itgb7	<a href="#">ENSMUSG00000001281</a>	71.	Itgb1	<a href="#">ENSMUSG00000025809</a>
27.	Grb2	<a href="#">ENSMUSG00000059923</a>	72.	Col11a1	<a href="#">ENSMUSG00000027966</a>
28.	Pak1	<a href="#">ENSMUSG00000030774</a>	73.	Vtn	<a href="#">ENSMUSG00000017344</a>
29.	Shc1	<a href="#">ENSMUSG00000042626</a>	74.	Pten	<a href="#">ENSMUSG00000013663</a>
30.	Col27a1	<a href="#">ENSMUSG00000045672</a>	75.	Flnc	<a href="#">ENSMUSG00000068699</a>
31.	Itga5	<a href="#">ENSMUSG00000000555</a>	76.	Col6a2	<a href="#">ENSMUSG00000020241</a>
32.	Src	<a href="#">ENSMUSG00000027646</a>	77.	ErbB2	<a href="#">ENSMUSG00000062312</a>
33.	Rasgrf1	<a href="#">ENSMUSG00000032356</a>	78.	Itgb8	<a href="#">ENSMUSG00000025321</a>
34.	Ppp1r12c	<a href="#">ENSMUSG00000019254</a>	79.	Mylk4	<a href="#">ENSMUSG00000044951</a>
35.	Actb	<a href="#">ENSMUSG00000029580</a>	80.	Pak2	<a href="#">ENSMUSG00000022781</a>
36.	Itga11	<a href="#">ENSMUSG00000032243</a>	81.	Met	<a href="#">ENSMUSG00000009376</a>
37.	Pdgfd	<a href="#">ENSMUSG00000032006</a>	82.	Col4a2	<a href="#">ENSMUSG00000031503</a>
38.	Diap1	<a href="#">ENSMUSG00000024456</a>	83.	Cdc42	<a href="#">ENSMUSG00000006699</a>
39.	Vegfa	<a href="#">ENSMUSG00000023951</a>	84.	Col5a1	<a href="#">ENSMUSG00000026837</a>
40.	Itga1	<a href="#">ENSMUSG00000042284</a>	85.	Shc4	<a href="#">ENSMUSG00000035109</a>
41.	Dock1	<a href="#">ENSMUSG00000058325</a>	86.	Tln1	<a href="#">ENSMUSG00000028465</a>
42.	Egfr	<a href="#">ENSMUSG00000020122</a>	87.	Cav2	<a href="#">ENSMUSG00000000058</a>
43.	Thbs2	<a href="#">ENSMUSG00000023885</a>	88.	Mapk8	<a href="#">ENSMUSG00000021936</a>
44.	Braf	<a href="#">ENSMUSG00000002413</a>	89.	Pak4	<a href="#">ENSMUSG00000030602</a>
45.	Mapk9	<a href="#">ENSMUSG00000020366</a>			

S5C. Lists of genes involved in Focal adhesion (04510) as predicted targets of the Group 3 miRNAs.

Gene Name		Gene Ensembl id	Gene Name		Gene Ensembl id
1.	Sos2	<a href="#">ENSMUSG00000034801</a>	28.	Col5a2	<a href="#">ENSMUSG00000026042</a>
2.	Ppp1r12b	<a href="#">ENSMUSG00000073557</a>	29.	Pik3cb	<a href="#">ENSMUSG00000032462</a>
3.	Pik3r1	<a href="#">ENSMUSG00000041417</a>	30.	Col5a3	<a href="#">ENSMUSG00000004098</a>
4.	Parvb	<a href="#">ENSMUSG00000022438</a>	31.	Pdgfb	<a href="#">ENSMUSG00000000489</a>
5.	Pdpk1	<a href="#">ENSMUSG00000024122</a>	32.	Ccnd2	<a href="#">ENSMUSG00000000184</a>
6.	Gsk3b	<a href="#">ENSMUSG00000022812</a>	33.	Crk	<a href="#">ENSMUSG00000017776</a>
7.	Pdgfrb	<a href="#">ENSMUSG00000024620</a>	34.	Prkca	<a href="#">ENSMUSG00000050965</a>
8.	Rap1a	<a href="#">ENSMUSG00000068798</a>	35.	Ppp1cb	<a href="#">ENSMUSG00000014956</a>
9.	Col3a1	<a href="#">ENSMUSG00000026043</a>	36.	Elk1	<a href="#">ENSMUSG00000009406</a>
10.	Flnb	<a href="#">ENSMUSG00000025278</a>	37.	Lamc1	<a href="#">ENSMUSG00000026478</a>
11.	Itgb4	<a href="#">ENSMUSG00000020758</a>	38.	Col4a1	<a href="#">ENSMUSG00000031502</a>
12.	Col6a3	<a href="#">ENSMUSG00000048126</a>	39.	Fyn	<a href="#">ENSMUSG00000019843</a>
13.	Rock1	<a href="#">ENSMUSG00000024290</a>	40.	Tnc	<a href="#">ENSMUSG00000028364</a>
14.	Birc3	<a href="#">ENSMUSG00000032000</a>	41.	Itgb1	<a href="#">ENSMUSG00000025809</a>
15.	Igf1	<a href="#">ENSMUSG00000020053</a>	42.	Col11a1	<a href="#">ENSMUSG00000027966</a>
16.	Itgb3	<a href="#">ENSMUSG00000020689</a>	43.	Pten	<a href="#">ENSMUSG00000013663</a>
17.	Itgb7	<a href="#">ENSMUSG00000001281</a>	44.	Col6a2	<a href="#">ENSMUSG00000020241</a>
18.	Hgf	<a href="#">ENSMUSG00000028864</a>	45.	ErbB2	<a href="#">ENSMUSG00000062312</a>
19.	Vegfa	<a href="#">ENSMUSG00000023951</a>	46.	Lama5	<a href="#">ENSMUSG00000015647</a>
20.	Egfr	<a href="#">ENSMUSG00000020122</a>	47.	Itgb8	<a href="#">ENSMUSG00000025321</a>
21.	Thbs2	<a href="#">ENSMUSG00000023885</a>	48.	Col4a2	<a href="#">ENSMUSG00000031503</a>
22.	Braf	<a href="#">ENSMUSG00000002413</a>	49.	Cdc42	<a href="#">ENSMUSG00000006699</a>
23.	Fn1	<a href="#">ENSMUSG00000026193</a>	50.	Shc4	<a href="#">ENSMUSG00000035109</a>
24.	Rock2	<a href="#">ENSMUSG00000020580</a>	51.	Col6a1	<a href="#">ENSMUSG00000001119</a>
25.	Sos1	<a href="#">ENSMUSG00000024241</a>	52.	Cav2	<a href="#">ENSMUSG00000000058</a>
26.	Arhgap5	<a href="#">ENSMUSG00000035133</a>	53.	Mapk8	<a href="#">ENSMUSG00000021936</a>
27.	Rap1b	<a href="#">ENSMUSG00000052681</a>			

**S5D.** Lists of genes involved in Focal adhesion (04510) as predicted targets of the Group 4 miRNAs.

Gene Name		Gene Ensembl id	Gene Name		Gene Ensembl id
1.	Pip5k1c	<a href="#">ENSMUSG00000034902</a>	27.	Igf1r	<a href="#">ENSMUSG00000005533</a>
2.	Ppp1r12a	<a href="#">ENSMUSG00000019907</a>	28.	Rock2	<a href="#">ENSMUSG00000020580</a>
3.	Flt1	<a href="#">ENSMUSG00000029648</a>	29.	Sos1	<a href="#">ENSMUSG00000024241</a>
4.	Pik3r1	<a href="#">ENSMUSG00000041417</a>	30.	Arhgap5	<a href="#">ENSMUSG00000035133</a>
5.	Pdpk1	<a href="#">ENSMUSG00000024122</a>	31.	Bcl2	<a href="#">ENSMUSG00000057329</a>
6.	Bcar1	<a href="#">ENSMUSG00000031955</a>	32.	Actn1	<a href="#">ENSMUSG00000015143</a>
7.	Pdgfrb	<a href="#">ENSMUSG00000024620</a>	33.	Ccnd2	<a href="#">ENSMUSG00000000184</a>
8.	Kdr	<a href="#">ENSMUSG00000062960</a>	34.	Crk	<a href="#">ENSMUSG00000017776</a>
9.	Spp1	<a href="#">ENSMUSG00000029304</a>	35.	Prkca	<a href="#">ENSMUSG00000050965</a>
10.	Tnr	<a href="#">ENSMUSG00000015829</a>	36.	Col1a2	<a href="#">ENSMUSG00000029661</a>
11.	Ptk2	<a href="#">ENSMUSG00000022607</a>	37.	Vcl	<a href="#">ENSMUSG00000021823</a>
12.	Thbs1	<a href="#">ENSMUSG00000040152</a>	38.	Ppp1cb	<a href="#">ENSMUSG00000014956</a>
13.	Reln	<a href="#">ENSMUSG00000042453</a>	39.	Lama1	<a href="#">ENSMUSG00000032796</a>
14.	Birc3	<a href="#">ENSMUSG00000032000</a>	40.	Col4a1	<a href="#">ENSMUSG00000031502</a>
15.	Igf1	<a href="#">ENSMUSG00000020053</a>	41.	Fyn	<a href="#">ENSMUSG00000019843</a>
16.	Itgb3	<a href="#">ENSMUSG00000020689</a>	42.	Rac2	<a href="#">ENSMUSG00000033220</a>
17.	Col1a1	<a href="#">ENSMUSG00000001506</a>	43.	Pten	<a href="#">ENSMUSG00000013663</a>
18.	Pak1	<a href="#">ENSMUSG00000030774</a>	44.	Itgb8	<a href="#">ENSMUSG00000025321</a>
19.	Rhoa	<a href="#">ENSMUSG00000007815</a>	45.	Pak2	<a href="#">ENSMUSG00000022781</a>
20.	Src	<a href="#">ENSMUSG00000027646</a>	46.	Met	<a href="#">ENSMUSG00000009376</a>
21.	Rasgrf1	<a href="#">ENSMUSG00000032356</a>	47.	Lamb1	<a href="#">ENSMUSG00000002900</a>
22.	Vegfa	<a href="#">ENSMUSG00000023951</a>	48.	Col4a2	<a href="#">ENSMUSG00000031503</a>
23.	Crkl	<a href="#">ENSMUSG00000006134</a>	49.	Cdc42	<a href="#">ENSMUSG00000006699</a>
24.	Egfr	<a href="#">ENSMUSG00000020122</a>	50.	Shc4	<a href="#">ENSMUSG00000035109</a>
25.	Mapk9	<a href="#">ENSMUSG00000020366</a>	51.	Tln1	<a href="#">ENSMUSG00000028465</a>
26.	Ccnd1	<a href="#">ENSMUSG00000070348</a>	52.	Pak4	<a href="#">ENSMUSG00000030602</a>

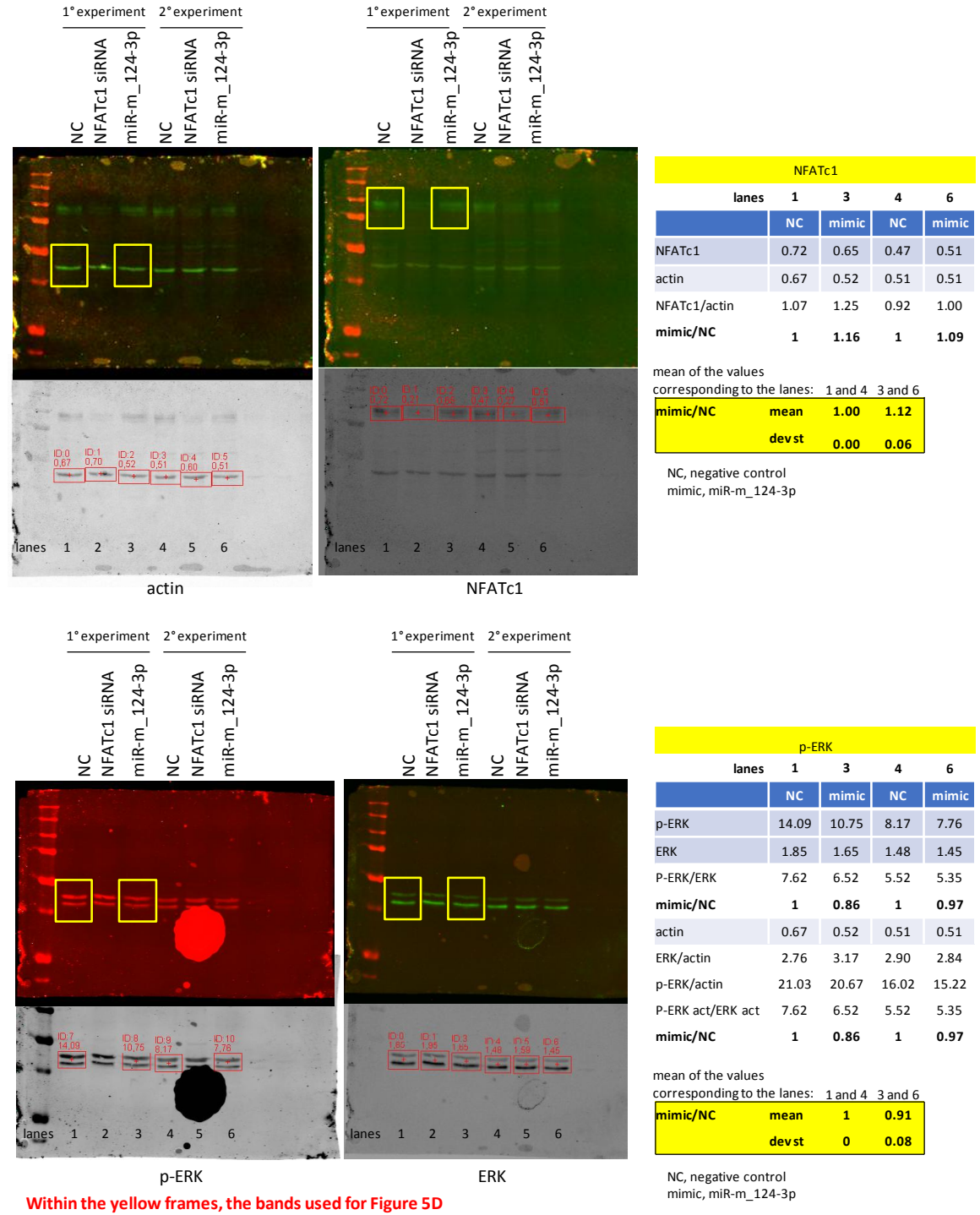
**S6A.** Lists of genes involved in Osteoclast differentiation (04380) as predicted targets of the Group 1 miRNA.

	Gene Name	Gene Ensembl id
1.	Mapk14	<a href="#">ENSMUSG00000053436</a>
2.	Pik3r1	<a href="#">ENSMUSG00000041417</a>
3.	Pik3r3	<a href="#">ENSMUSG00000028698</a>
4.	Cybb	<a href="#">ENSMUSG00000015340</a>
5.	Stat2	<a href="#">ENSMUSG00000040033</a>
6.	Tnfrsf1a	<a href="#">ENSMUSG00000030341</a>
7.	Socs3	<a href="#">ENSMUSG00000053113</a>
8.	Ifngr1	<a href="#">ENSMUSG00000020009</a>
9.	Fhl2	<a href="#">ENSMUSG00000008136</a>
10.	Map2k6	<a href="#">ENSMUSG00000020623</a>
11.	Itgb3	<a href="#">ENSMUSG00000020689</a>
12.	Creb1	<a href="#">ENSMUSG00000025958</a>
13.	Il1r1	<a href="#">ENSMUSG00000026072</a>
14.	Junb	<a href="#">ENSMUSG00000052837</a>
15.	Sqstm1	<a href="#">ENSMUSG00000015837</a>
16.	Ifngr2	<a href="#">ENSMUSG00000022965</a>
17.	Lcp2	<a href="#">ENSMUSG00000002699</a>
18.	Ppp3cb	<a href="#">ENSMUSG00000021816</a>
19.	Mapk9	<a href="#">ENSMUSG00000020366</a>
20.	Tgfb2	<a href="#">ENSMUSG00000032440</a>
21.	Rac1	<a href="#">ENSMUSG00000001847</a>
22.	Camk4	<a href="#">ENSMUSG00000038128</a>
23.	Jak1	<a href="#">ENSMUSG00000028530</a>
24.	Mitf	<a href="#">ENSMUSG00000035158</a>
25.	Pik3cb	<a href="#">ENSMUSG00000032462</a>
26.	Tnf	<a href="#">ENSMUSG00000024401</a>
27.	Socs1	<a href="#">ENSMUSG00000038037</a>
28.	Fosl2	<a href="#">ENSMUSG00000029135</a>
29.	Fyn	<a href="#">ENSMUSG00000019843</a>
30.	Ppp3r1	<a href="#">ENSMUSG00000033953</a>
31.	Ppp3ca	<a href="#">ENSMUSG00000028161</a>
32.	Calcr	<a href="#">ENSMUSG00000023964</a>
33.	Tnfrsf11	<a href="#">ENSMUSG00000022015</a>
34.	Pik3cd	<a href="#">ENSMUSG00000039936</a>
35.	Tab2	<a href="#">ENSMUSG00000015755</a>
36.	Mapk8	<a href="#">ENSMUSG00000021936</a>

**S6B.** Lists of genes involved in Osteoclast differentiation (04380) as predicted targets of the Group 2 miRNA.

Gene Name		Gene Ensembl id	Gene Name		Gene Ensembl id
1.	<b>Tgfb2</b>	<a href="#">ENSMUSG00000039239</a>	26.	<b>Tgfb2</b>	<a href="#">ENSMUSG00000032440</a>
2.	<b>Mapk14</b>	<a href="#">ENSMUSG00000053436</a>	27.	<b>Rac1</b>	<a href="#">ENSMUSG00000001847</a>
3.	<b>Irf9</b>	<a href="#">ENSMUSG00000002325</a>	28.	<b>Camk4</b>	<a href="#">ENSMUSG00000038128</a>
4.	<b>Pik3r1</b>	<a href="#">ENSMUSG000000041417</a>	29.	<b>Jak1</b>	<a href="#">ENSMUSG00000028530</a>
5.	<b>Jun</b>	<a href="#">ENSMUSG00000052684</a>	30.	<b>Map2k7</b>	<a href="#">ENSMUSG00000002948</a>
6.	<b>Pik3r3</b>	<a href="#">ENSMUSG00000028698</a>	31.	<b>Ifng</b>	<a href="#">ENSMUSG00000055170</a>
7.	<b>Stat2</b>	<a href="#">ENSMUSG00000040033</a>	32.	<b>Mitf</b>	<a href="#">ENSMUSG00000035158</a>
8.	<b>Fosl1</b>	<a href="#">ENSMUSG00000024912</a>	33.	<b>Pik3cb</b>	<a href="#">ENSMUSG00000032462</a>
9.	<b>Stat1</b>	<a href="#">ENSMUSG00000026104</a>	34.	<b>Tnf</b>	<a href="#">ENSMUSG00000024401</a>
10.	<b>Socs3</b>	<a href="#">ENSMUSG00000053113</a>	35.	<b>Nfkb1</b>	<a href="#">ENSMUSG00000028163</a>
11.	<b>Ifngr1</b>	<a href="#">ENSMUSG00000020009</a>	36.	<b>Socs1</b>	<a href="#">ENSMUSG00000038037</a>
12.	<b>Map2k1</b>	<a href="#">ENSMUSG00000004936</a>	37.	<b>Fosl2</b>	<a href="#">ENSMUSG00000029135</a>
13.	<b>Fos</b>	<a href="#">ENSMUSG00000021250</a>	38.	<b>Fyn</b>	<a href="#">ENSMUSG00000019843</a>
14.	<b>Map2k6</b>	<a href="#">ENSMUSG00000020623</a>	39.	<b>Ppp3r1</b>	<a href="#">ENSMUSG00000033953</a>
15.	<b>Ncf1</b>	<a href="#">ENSMUSG00000015950</a>	40.	<b>Traf6</b>	<a href="#">ENSMUSG00000027164</a>
16.	<b>Itgb3</b>	<a href="#">ENSMUSG00000020689</a>	41.	<b>Csf1</b>	<a href="#">ENSMUSG00000014599</a>
17.	<b>Creb1</b>	<a href="#">ENSMUSG00000025958</a>	42.	<b>Calcr</b>	<a href="#">ENSMUSG00000023964</a>
18.	<b>Junb</b>	<a href="#">ENSMUSG00000052837</a>	43.	<b>Tnfsf11</b>	<a href="#">ENSMUSG00000022015</a>
19.	<b>Grb2</b>	<a href="#">ENSMUSG00000059923</a>	44.	<b>Cyld</b>	<a href="#">ENSMUSG00000036712</a>
20.	<b>Sqstm1</b>	<a href="#">ENSMUSG00000015837</a>	45.	<b>Mapk11</b>	<a href="#">ENSMUSG00000053137</a>
21.	<b>Ifngr2</b>	<a href="#">ENSMUSG00000022965</a>	46.	<b>Sirpa</b>	<a href="#">ENSMUSG00000037902</a>
22.	<b>Lcp2</b>	<a href="#">ENSMUSG00000002699</a>	47.	<b>Map3k7</b>	<a href="#">ENSMUSG00000028284</a>
23.	<b>Tgfb2</b>	<a href="#">ENSMUSG00000007613</a>	48.	<b>Nfatc2</b>	<a href="#">ENSMUSG00000027544</a>
24.	<b>Ifnar2</b>	<a href="#">ENSMUSG00000022971</a>	49.	<b>Tab2</b>	<a href="#">ENSMUSG00000015755</a>
25.	<b>Mapk9</b>	<a href="#">ENSMUSG00000020366</a>	50.	<b>Mapk8</b>	<a href="#">ENSMUSG00000021936</a>

Figure S2. Western blot with two independent biological samples (1° and 2° experiments), detected with NFATc1, ERK1/2, p-ERK1/2 and  $\beta$ -actin antibodies. Proteins were visualized using an Odyssey Infrared Imaging System (LI-COR Lincoln) according to the manufacturer's instructions. Fluorescence quantification of proteins was performed with the application software, version 3.0 (LI-COR, Biosciences) and values were shown as Integrated Intensity.



Within the yellow frames, the bands used for Figure 5D