**Supplementary Material**

**Integrated analysis of miRNA and mRNA expression profiles reveals functional miRNA-targets related to testes development and spermatogenesis in Small Tail Han Sheep**

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**Table S1** **miRNA Sequence Quality Control**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SampleName** | **Encoding** | **TotalReads\_Before** | **TotalBase\_Before** | **TotalReads\_After** | **TotalBase\_After** | **ReadsFilter%** | **BaseFilter%** | **GC%\_Before** | **GC%\_After** |
| A1 | Ion proton | 12709831 | 360886967 | 11309721 | 322866709 | 0.889840392 | 0.894647739 | 47 | 46 |
| A2 | Ion proton | 13032374 | 356662852 | 9630152 | 250978604 | 0.738940733 | 0.703685855 | 51 | 50 |
| A3 | Ion proton | 20244003 | 574675693 | 16422097 | 455070904 | 0.811207991 | 0.791874286 | 49 | 48 |
| B1 | Ion proton | 10365447 | 304166438 | 9152181 | 262135814 | 0.882950923 | 0.861817023 | 47 | 46 |
| B2 | Ion proton | 6475358 | 173846740 | 5663461 | 154206288 | 0.874617434 | 0.88702433 | 46 | 45 |
| B3 | Ion proton | 7771502 | 230709983 | 6663367 | 191708169 | 0.857410447 | 0.830948737 | 47 | 46 |
| C1 | Ion proton | 11204257 | 340414321 | 8694570 | 243081256 | 0.776005941 | 0.714074705 | 49 | 48 |
| C2 | Ion proton | 10673408 | 320850075 | 9291059 | 268612083 | 0.870486634 | 0.83718878 | 47 | 46 |
| C3 | Ion proton | 28710488 | 728489179 | 23805154 | 621198674 | 0.829144876 | 0.852721896 | 51 | 50 |

**Table S2.** **Read mapping summary of known sheep miRNA**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Statistics** | **A1** | **A2** | **A3** | **B1** | **B2** | **B3** | **C1** | **C2** | **C3** |
| All | 11309721 | 9630152 | 16422097 | 9152181 | 5663461 | 6663367 | 8694570 | 9291059 | 23805154 |
| UnMapped | 11092322 | 8520436 | 15557486 | 8893993 | 5353036 | 6546230 | 8040156 | 9104820 | 21155696 |
| Mapped | 217399 | 1109716 | 864611 | 258188 | 310425 | 117137 | 654414 | 186239 | 2649458 |
| MappedRate | 0.019 | 0.115 | 0.053 | 0.028 | 0.055 | 0.018 | 0.075 | 0.02 | 0.111 |
| UniqueMapped | 206025 | 1058385 | 821880 | 245234 | 293270 | 111601 | 622565 | 177842 | 2505507 |
| UniqueMappedRate | 0.018 | 0.11 | 0.05 | 0.027 | 0.052 | 0.017 | 0.072 | 0.019 | 0.105 |
| RepeatMapped | 11374 | 51331 | 42731 | 12954 | 17155 | 5536 | 31849 | 8397 | 143951 |
| AllBase | 322866709 | 250978604 | 455070904 | 262135814 | 154206288 | 191708169 | 243081256 | 268612083 | 621198674 |
| UnMappedBase | 318127823 | 226808412 | 436235279 | 256511260 | 147446472 | 189163068 | 228884340 | 264560080 | 564007103 |
| MappedBase | 4738886 | 24170192 | 18835625 | 5624554 | 6759816 | 2545101 | 14196916 | 4052003 | 57191571 |
| UniqueMappedBase | 4496493 | 23061321 | 17917456 | 5348317 | 6388129 | 2429691 | 13522909 | 3874643 | 54221609 |
| RepeatMappedBase | 242393 | 1108871 | 918169 | 276237 | 371687 | 115410 | 674007 | 177360 | 2969962 |
| InsertSize | 48 | 47 | 48 | 49 | 44 | 51 | 51 | 50 | 49 |

**Table S3 The DE novel miRNAs and DE known sheep miRNAs in 2- vs 6-, 6- vs 12-, and 2- vs 12-month-old testes**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2- vs 6-month-old testes** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **DE novel miRNAs** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AccID** | | | | | | | **Month6** | | | | | **Month2** | | | **Log2FC** | | | | | **FDR** | | | | **Style** | | | | **B1** | | | | **B3** | | | | | **B2** | | | | **A1** | | | | | **A2** | | | | **A3** |
| mmu-miR-1957b | | | | | | | 1.943383253 | | | | | 10.31583231 | | | -2.408217879 | | | | | 0.043788364 | | | | down | | | | 1 | | | | 1 | | | | | 1 | | | | 7 | | | | | 15 | | | | 27 |
| chr24\_40297\_mature | | | | | | | 5.420175759 | | | | | 27.77850869 | | | -2.35755761 | | | | | 0.000566093 | | | | down | | | | 3 | | | | 3 | | | | | 2 | | | | 15 | | | | | 69 | | | | 53 |
| chr18\_31861\_star | | | | | | | 10.52089126 | | | | | 36.31040007 | | | -1.787125901 | | | | | 0.000132487 | | | | down | | | | 9 | | | | 2 | | | | | 8 | | | | 25 | | | | | 84 | | | | 63 |
| chr11\_19859\_mature | | | | | | | 10.35051245 | | | | | 31.68988227 | | | -1.614320103 | | | | | 0.005701906 | | | | down | | | | 4 | | | | 5 | | | | | 8 | | | | 28 | | | | | 70 | | | | 44 |
| chr20\_36792\_star | | | | | | | 26.07860596 | | | | | 76.33272691 | | | -1.549434979 | | | | | 1.07374E-10 | | | | down | | | | 18 | | | | 12 | | | | | 10 | | | | 69 | | | | | 142 | | | | 129 |
| chr1\_1952\_star | | | | | | | 20.07807739 | | | | | 56.24400084 | | | -1.486078094 | | | | | 0.001209198 | | | | down | | | | 21 | | | | 5 | | | | | 7 | | | | 36 | | | | | 111 | | | | 123 |
| chr24\_39205\_star | | | | | | | 18.01755871 | | | | | 49.93926552 | | | -1.470771057 | | | | | 0.001837994 | | | | down | | | | 9 | | | | 10 | | | | | 8 | | | | 47 | | | | | 71 | | | | 102 |
| chr10\_19618\_star | | | | | | | 35.06608796 | | | | | 95.19153097 | | | -1.440756735 | | | | | 9.29643E-11 | | | | down | | | | 15 | | | | 20 | | | | | 18 | | | | 67 | | | | | 194 | | | | 188 |
| chr1\_184\_mature | | | | | | | 52.48732085 | | | | | 140.84269 | | | -1.424043823 | | | | | 0 | | | | down | | | | 23 | | | | 23 | | | | | 42 | | | | 123 | | | | | 271 | | | | 239 |
| chr8\_16296\_mature@@mmu-miR-3960 | | | | | | | 86.59502803 | | | | | 232.2114905 | | | -1.423083264 | | | | | 1.8244E-05 | | | | down | | | | 58 | | | | 24 | | | | | 72 | | | | 201 | | | | | 486 | | | | 359 |
| chr9\_17792\_star | | | | | | | 17.91639629 | | | | | 47.75643097 | | | -1.41441454 | | | | | 0.000480703 | | | | down | | | | 5 | | | | 12 | | | | | 9 | | | | 30 | | | | | 107 | | | | 93 |
| chr20\_35508\_mature | | | | | | | 80.7116349 | | | | | 212.3886935 | | | -1.395858403 | | | | | 0 | | | | down | | | | 50 | | | | 25 | | | | | 67 | | | | 160 | | | | | 406 | | | | 422 |
| chr10\_19618\_mature | | | | | | | 12.02235448 | | | | | 31.3131494 | | | -1.381049155 | | | | | 0.004338156 | | | | down | | | | 7 | | | | 4 | | | | | 10 | | | | 18 | | | | | 72 | | | | 63 |
| chr3\_7509\_mature | | | | | | | 68.65201005 | | | | | 177.3636173 | | | -1.369336233 | | | | | 1.26565E-14 | | | | down | | | | 45 | | | | 21 | | | | | 54 | | | | 139 | | | | | 359 | | | | 320 |
| chr4\_11009\_mature | | | | | | | 30.88115855 | | | | | 77.27455907 | | | -1.323266639 | | | | | 1.21237E-05 | | | | down | | | | 18 | | | | 11 | | | | | 24 | | | | 54 | | | | | 174 | | | | 137 |
| hsa-miR-3615 | | | | | | | 17.48512494 | | | | | 41.51817793 | | | -1.247615026 | | | | | 0.024500846 | | | | down | | | | 14 | | | | 8 | | | | | 4 | | | | 23 | | | | | 88 | | | | 93 |
| chr1\_237\_mature | | | | | | | 54.6277046 | | | | | 129.274775 | | | -1.242736085 | | | | | 7.16316E-13 | | | | down | | | | 26 | | | | 19 | | | | | 52 | | | | 103 | | | | | 266 | | | | 225 |
| chr20\_35179\_mature | | | | | | | 63.51402419 | | | | | 149.3524207 | | | -1.233573535 | | | | | 4.17776E-06 | | | | down | | | | 41 | | | | 22 | | | | | 45 | | | | 107 | | | | | 331 | | | | 264 |
| chr2\_3091\_mature | | | | | | | 74.49813282 | | | | | 173.607369 | | | -1.220552014 | | | | | 0.002354145 | | | | down | | | | 55 | | | | 27 | | | | | 40 | | | | 116 | | | | | 400 | | | | 311 |
| chr5\_11854\_mature | | | | | | | 18.81088503 | | | | | 43.75641437 | | | -1.217926794 | | | | | 0.023187677 | | | | down | | | | 12 | | | | 5 | | | | | 17 | | | | 41 | | | | | 64 | | | | 88 |
| chr24\_40069\_mature | | | | | | | 22.02678498 | | | | | 51.2356698 | | | -1.217889615 | | | | | 0.007419487 | | | | down | | | | 17 | | | | 7 | | | | | 13 | | | | 48 | | | | | 102 | | | | 76 |
| chr14\_25776\_star | | | | | | | 36.36522636 | | | | | 83.80090196 | | | -1.204406215 | | | | | 0.012099206 | | | | down | | | | 27 | | | | 12 | | | | | 22 | | | | 47 | | | | | 178 | | | | 186 |
| chr23\_38598\_mature | | | | | | | 69.91920242 | | | | | 158.6931797 | | | -1.182479492 | | | | | 2.35125E-07 | | | | down | | | | 43 | | | | 28 | | | | | 44 | | | | 106 | | | | | 312 | | | | 338 |
| chr2\_3823\_mature | | | | | | | 155.923229 | | | | | 349.1870454 | | | -1.163164165 | | | | | 1.35446E-11 | | | | down | | | | 95 | | | | 74 | | | | | 73 | | | | 290 | | | | | 681 | | | | 618 |
| chr20\_35197\_mature | | | | | | | 45.66684429 | | | | | 101.9173207 | | | -1.158180252 | | | | | 2.57212E-08 | | | | down | | | | 26 | | | | 23 | | | | | 21 | | | | 86 | | | | | 201 | | | | 175 |
| chr18\_31861\_mature | | | | | | | 104.3144238 | | | | | 224.1228142 | | | -1.103350856 | | | | | 6.21725E-15 | | | | down | | | | 72 | | | | 34 | | | | | 72 | | | | 167 | | | | | 421 | | | | 457 |
| chr9\_18181\_star | | | | | | | 37.22244472 | | | | | 78.88121394 | | | -1.083508941 | | | | | 8.14959E-05 | | | | down | | | | 25 | | | | 12 | | | | | 27 | | | | 51 | | | | | 170 | | | | 157 |
| chr2\_3860\_mature | | | | | | | 176.1237661 | | | | | 372.3339559 | | | -1.080007593 | | | | | 2.01984E-08 | | | | down | | | | 111 | | | | 60 | | | | | 131 | | | | 263 | | | | | 698 | | | | 794 |
| chr6\_13609\_mature | | | | | | | 201.9521282 | | | | | 422.3729448 | | | -1.064504076 | | | | | 9.74984E-07 | | | | down | | | | 144 | | | | 67 | | | | | 130 | | | | 315 | | | | | 754 | | | | 900 |
| chr2\_5486\_mature | | | | | | | 20.81816033 | | | | | 42.79242144 | | | -1.039512732 | | | | | 0.019865453 | | | | down | | | | 19 | | | | 4 | | | | | 14 | | | | 30 | | | | | 89 | | | | 83 |
| chr2\_4108\_mature | | | | | | | 429.6367804 | | | | | 877.4219256 | | | -1.030153253 | | | | | 0 | | | | down | | | | 279 | | | | 137 | | | | | 329 | | | | 679 | | | | | 1691 | | | | 1688 |
| chr20\_36478\_mature | | | | | | | 81.18550095 | | | | | 165.5076124 | | | -1.027603572 | | | | | 0.002317468 | | | | down | | | | 45 | | | | 30 | | | | | 64 | | | | 149 | | | | | 338 | | | | 251 |
| chr19\_34451\_mature | | | | | | | 65.43078576 | | | | | 131.5351722 | | | -1.007407123 | | | | | 0.006472468 | | | | down | | | | 23 | | | | 39 | | | | | 37 | | | | 99 | | | | | 290 | | | | 223 |
| chr17\_29426\_mature | | | | | | | 307.5230957 | | | | | 614.4956262 | | | -0.998707977 | | | | | 1.11674E-05 | | | | down | | | | 224 | | | | 99 | | | | | 198 | | | | 458 | | | | | 1100 | | | | 1307 |
| chr21\_37421\_mature | | | | | | | 19.29007542 | | | | | 38.29378781 | | | -0.989251587 | | | | | 0.034272943 | | | | down | | | | 13 | | | | 11 | | | | | 3 | | | | 32 | | | | | 64 | | | | 78 |
| chr21\_37272\_mature | | | | | | | 16.78763671 | | | | | 33.07492957 | | | -0.978338937 | | | | | 0.02509272 | | | | down | | | | 9 | | | | 10 | | | | | 5 | | | | 21 | | | | | 71 | | | | 67 |
| hsa-miR-4454 | | | | | | | 317.7032294 | | | | | 623.8142244 | | | -0.973436695 | | | | | 1.94007E-11 | | | | down | | | | 201 | | | | 114 | | | | | 222 | | | | 543 | | | | | 1206 | | | | 1057 |
| chr2\_3859\_star | | | | | | | 189.887179 | | | | | 371.4032041 | | | -0.967843762 | | | | | 0.000535426 | | | | down | | | | 133 | | | | 69 | | | | | 112 | | | | 259 | | | | | 683 | | | | 813 |
| mmu-miR-6236 | | | | | | | 166.108687 | | | | | 324.6440072 | | | -0.966731054 | | | | | 0.003081756 | | | | down | | | | 111 | | | | 83 | | | | | 54 | | | | 231 | | | | | 610 | | | | 687 |
| chr20\_36678\_mature | | | | | | | 115.8362906 | | | | | 225.1643698 | | | -0.958891243 | | | | | 2.9976E-15 | | | | down | | | | 54 | | | | 56 | | | | | 76 | | | | 189 | | | | | 417 | | | | 416 |
| chr22\_38276\_mature | | | | | | | 30.23691369 | | | | | 58.67060371 | | | -0.956326948 | | | | | 0.028578093 | | | | down | | | | 18 | | | | 16 | | | | | 11 | | | | 35 | | | | | 124 | | | | 126 |
| chr23\_38620\_star | | | | | | | 23.3152747 | | | | | 45.14146167 | | | -0.953177706 | | | | | 0.003906703 | | | | down | | | | 17 | | | | 11 | | | | | 7 | | | | 34 | | | | | 92 | | | | 84 |
| chr1\_1794\_mature | | | | | | | 159.7886981 | | | | | 306.394624 | | | -0.939225614 | | | | | 3.10174E-12 | | | | down | | | | 95 | | | | 72 | | | | | 87 | | | | 244 | | | | | 594 | | | | 570 |
| chr6\_13610\_mature | | | | | | | 224.3090221 | | | | | 428.3895903 | | | -0.933435774 | | | | | 7.77156E-16 | | | | down | | | | 148 | | | | 80 | | | | | 149 | | | | 334 | | | | | 785 | | | | 859 |
| hsa-miR-4634 | | | | | | | 35.19919641 | | | | | 66.80360147 | | | -0.92438339 | | | | | 0.000306505 | | | | down | | | | 22 | | | | 17 | | | | | 15 | | | | 57 | | | | | 130 | | | | 115 |
| chr24\_39365\_star | | | | | | | 1261.724273 | | | | | 2387.234289 | | | -0.919943493 | | | | | 0.002823159 | | | | down | | | | 957 | | | | 478 | | | | | 593 | | | | 1771 | | | | | 4346 | | | | 5024 |
| chr4\_11010\_mature | | | | | | | 35.81149524 | | | | | 67.73435326 | | | -0.919464963 | | | | | 0.002452328 | | | | down | | | | 19 | | | | 13 | | | | | 30 | | | | 45 | | | | | 151 | | | | 127 |
| chr3\_10221\_mature | | | | | | | 160.1028341 | | | | | 298.5829572 | | | -0.899132974 | | | | | 6.14686E-10 | | | | down | | | | 108 | | | | 47 | | | | | 126 | | | | 247 | | | | | 564 | | | | 549 |
| mmu-miR-1928 | | | | | | | 236.8904321 | | | | | 439.946425 | | | -0.893107919 | | | | | 0.000433363 | | | | down | | | | 136 | | | | 98 | | | | | 156 | | | | 309 | | | | | 968 | | | | 799 |
| chr24\_39365\_mature | | | | | | | 537.5504566 | | | | | 993.9875066 | | | -0.886827541 | | | | | 0.000264745 | | | | down | | | | 414 | | | | 203 | | | | | 245 | | | | 751 | | | | | 1935 | | | | 1935 |
| chr3\_10079\_mature | | | | | | | 42.72248555 | | | | | 77.40752361 | | | -0.857478212 | | | | | 0.007346573 | | | | down | | | | 19 | | | | 23 | | | | | 24 | | | | 50 | | | | | 165 | | | | 156 |
| hsa-miR-4508 | | | | | | | 171.8376743 | | | | | 307.480501 | | | -0.839448552 | | | | | 0.00028707 | | | | down | | | | 110 | | | | 74 | | | | | 90 | | | | 238 | | | | | 646 | | | | 538 |
| chr3\_10209\_mature | | | | | | | 33.45813798 | | | | | 59.80080231 | | | -0.837807682 | | | | | 0.005552424 | | | | down | | | | 18 | | | | 19 | | | | | 12 | | | | 49 | | | | | 115 | | | | 109 |
| chr14\_24674\_mature | | | | | | | 206.2754904 | | | | | 367.8020811 | | | -0.834357232 | | | | | 0.000440644 | | | | down | | | | 132 | | | | 74 | | | | | 142 | | | | 242 | | | | | 746 | | | | 769 |
| hsa-miR-7641 | | | | | | | 137.0803979 | | | | | 242.5827247 | | | -0.823454529 | | | | | 0.009004723 | | | | down | | | | 113 | | | | 42 | | | | | 74 | | | | 209 | | | | | 420 | | | | 465 |
| chr18\_32977\_mature | | | | | | | 547.1076427 | | | | | 959.4278063 | | | -0.810349543 | | | | | 0.009085847 | | | | down | | | | 415 | | | | 213 | | | | | 244 | | | | 748 | | | | | 1722 | | | | 1960 |
| chr2\_5603\_mature | | | | | | | 2246.497798 | | | | | 3909.811248 | | | -0.799421313 | | | | | 0.024160939 | | | | down | | | | 1613 | | | | 999 | | | | | 850 | | | | 2959 | | | | | 7662 | | | | 7549 |
| chr8\_16578\_mature | | | | | | | 66.09632797 | | | | | 114.8592027 | | | -0.797224423 | | | | | 0.007708137 | | | | down | | | | 47 | | | | 24 | | | | | 38 | | | | 86 | | | | | 249 | | | | 200 |
| chr18\_32977\_star | | | | | | | 127.4646441 | | | | | 221.4302823 | | | -0.796755405 | | | | | 8.0863E-06 | | | | down | | | | 90 | | | | 42 | | | | | 84 | | | | 160 | | | | | 426 | | | | 453 |
| chr10\_19333\_mature | | | | | | | 131.5377624 | | | | | 228.2779561 | | | -0.795314517 | | | | | 1.21421E-05 | | | | down | | | | 93 | | | | 51 | | | | | 69 | | | | 178 | | | | | 425 | | | | 451 |
| chr11\_21007\_mature | | | | | | | 466.0499258 | | | | | 805.4105463 | | | -0.789239851 | | | | | 1.98581E-07 | | | | down | | | | 316 | | | | 172 | | | | | 284 | | | | 608 | | | | | 1514 | | | | 1623 |
| chrx\_42279\_mature | | | | | | | 147.3670183 | | | | | 251.7905191 | | | -0.772810285 | | | | | 0.000191823 | | | | down | | | | 89 | | | | 63 | | | | | 86 | | | | 180 | | | | | 532 | | | | 472 |
| chr2\_3247\_mature | | | | | | | 202.468589 | | | | | 345.6634851 | | | -0.771670104 | | | | | 0.008022503 | | | | down | | | | 99 | | | | 80 | | | | | 167 | | | | 220 | | | | | 709 | | | | 732 |
| chr24\_39206\_mature | | | | | | | 173.2432994 | | | | | 293.3308578 | | | -0.759729294 | | | | | 3.75145E-07 | | | | down | | | | 110 | | | | 65 | | | | | 114 | | | | 213 | | | | | 602 | | | | 560 |
| chr15\_27033\_mature | | | | | | | 307.480501 | | | | | 518.6392725 | | | -0.75423653 | | | | | 5.61321E-11 | | | | down | | | | 154 | | | | 140 | | | | | 206 | | | | 395 | | | | | 1007 | | | | 1005 |
| chr3\_6466\_mature | | | | | | | 211.1792054 | | | | | 354.8934403 | | | -0.748918127 | | | | | 1.44416E-10 | | | | down | | | | 136 | | | | 57 | | | | | 187 | | | | 297 | | | | | 640 | | | | 675 |
| chr4\_10764\_mature | | | | | | | 67.92790013 | | | | | 113.6957629 | | | -0.743102329 | | | | | 0.005775922 | | | | down | | | | 43 | | | | 25 | | | | | 46 | | | | 81 | | | | | 204 | | | | 250 |
| chr2\_3859\_mature | | | | | | | 472.7958617 | | | | | 785.5434278 | | | -0.732473627 | | | | | 1.41878E-07 | | | | down | | | | 229 | | | | 193 | | | | | 379 | | | | 627 | | | | | 1372 | | | | 1609 |
| chr2\_3970\_mature | | | | | | | 312.9698932 | | | | | 510.9051684 | | | -0.70703165 | | | | | 1.6801E-05 | | | | down | | | | 213 | | | | 114 | | | | | 193 | | | | 393 | | | | | 935 | | | | 1038 |
| chr6\_12952\_mature | | | | | | | 113.7118798 | | | | | 184.1115678 | | | -0.695197289 | | | | | 2.32768E-06 | | | | down | | | | 69 | | | | 35 | | | | | 97 | | | | 136 | | | | | 344 | | | | 380 |
| chr20\_35197\_star | | | | | | | 59.97333963 | | | | | 95.65690687 | | | -0.67354783 | | | | | 0.013590505 | | | | down | | | | 33 | | | | 22 | | | | | 48 | | | | 69 | | | | | 210 | | | | 170 |
| chr1\_1830\_mature | | | | | | | 11038.45415 | | | | | 16720.23563 | | | -0.599057031 | | | | | 0.000191576 | | | | down | | | | 7163 | | | | 4336 | | | | | 6595 | | | | 13591 | | | | | 32269 | | | | 30614 |
| rno-miR-132-3p | | | | | | | 215.8220279 | | | | | 128.4659074 | | | 0.748456577 | | | | | 5.65788E-07 | | | | up | | | | 99 | | | | 89 | | | | | 179 | | | | 114 | | | | | 243 | | | | 218 |
| chr15\_26392\_mature | | | | | | | 127.9118884 | | | | | 70.75929657 | | | 0.854158747 | | | | | 0.002164647 | | | | up | | | | 66 | | | | 49 | | | | | 104 | | | | 58 | | | | | 98 | | | | 167 |
| rno-miR-147 | | | | | | | 170.3841301 | | | | | 89.69566328 | | | 0.925680828 | | | | | 0.006573979 | | | | up | | | | 67 | | | | 67 | | | | | 165 | | | | 99 | | | | | 125 | | | | 152 |
| chr7\_14696\_mature | | | | | | | 86.50451429 | | | | | 42.62621577 | | | 1.02103444 | | | | | 0.030381489 | | | | up | | | | 33 | | | | 28 | | | | | 99 | | | | 43 | | | | | 81 | | | | 60 |
| chrx\_42853\_mature | | | | | | | 37.30230979 | | | | | 18.36018704 | | | 1.022684211 | | | | | 0.048525856 | | | | up | | | | 27 | | | | 13 | | | | | 22 | | | | 21 | | | | | 23 | | | | 32 |
| chr21\_37526\_mature | | | | | | | 29.98666982 | | | | | 14.00559832 | | | 1.098317695 | | | | | 0.010741858 | | | | up | | | | 11 | | | | 11 | | | | | 32 | | | | 16 | | | | | 21 | | | | 21 |
| chr18\_32725\_mature@@rno-miR-211-5p | | | | | | | 106.1087256 | | | | | 48.59853973 | | | 1.126558428 | | | | | 6.35406E-11 | | | | up | | | | 70 | | | | 28 | | | | | 93 | | | | 42 | | | | | 94 | | | | 83 |
| chrx\_42810\_mature | | | | | | | 28.49053093 | | | | | 11.35738788 | | | 1.326851444 | | | | | 0.04531591 | | | | up | | | | 8 | | | | 10 | | | | | 35 | | | | 13 | | | | | 18 | | | | 16 |
| chr3\_6658\_mature | | | | | | | 398.9632711 | | | | | 155.568513 | | | 1.358705848 | | | | | 0.021306174 | | | | up | | | | 242 | | | | 158 | | | | | 260 | | | | 216 | | | | | 52 | | | | 326 |
| chr17\_28779\_mature | | | | | | | 29.29450592 | | | | | 11.33522712 | | | 1.36981682 | | | | | 0.046784868 | | | | up | | | | 12 | | | | 14 | | | | | 22 | | | | 19 | | | | | 3 | | | | 17 |
| chr5\_12085\_star | | | | | | | 33.42619196 | | | | | 12.34354156 | | | 1.437222621 | | | | | 8.97115E-05 | | | | up | | | | 15 | | | | 13 | | | | | 30 | | | | 18 | | | | | 11 | | | | 17 |
| chr1\_1178\_mature | | | | | | | 24.42273694 | | | | | 8.919704625 | | | 1.453157044 | | | | | 0.014492989 | | | | up | | | | 11 | | | | 9 | | | | | 23 | | | | 17 | | | | | 1 | | | | 10 |
| chr3\_9276\_mature | | | | | | | 16.21793257 | | | | | 5.695314506 | | | 1.509742502 | | | | | 0.043233106 | | | | up | | | | 5 | | | | 8 | | | | | 14 | | | | 10 | | | | | 2 | | | | 7 |
| chr2\_5624\_mature@@rno-miR-449a-5p | | | | | | | 25.27995531 | | | | | 8.864302733 | | | 1.511914855 | | | | | 0.011538241 | | | | up | | | | 9 | | | | 9 | | | | | 28 | | | | 16 | | | | | 5 | | | | 8 |
| rno-miR-375-3p | | | | | | | 317.0536602 | | | | | 108.953361 | | | 1.541016331 | | | | | 0.001119666 | | | | up | | | | 118 | | | | 118 | | | | | 332 | | | | 165 | | | | | 61 | | | | 172 |
| chr2\_5752\_mature | | | | | | | 29.58202015 | | | | | 9.706411492 | | | 1.607710649 | | | | | 0.004287676 | | | | up | | | | 17 | | | | 5 | | | | | 36 | | | | 12 | | | | | 7 | | | | 20 |
| chr18\_31792\_mature | | | | | | | 34.24081562 | | | | | 10.27151079 | | | 1.73706867 | | | | | 0.024564495 | | | | up | | | | 9 | | | | 19 | | | | | 27 | | | | 19 | | | | | 0 | | | | 14 |
| hsa-miR-1298-3p | | | | | | | 74.34372703 | | | | | 21.6621398 | | | 1.779035255 | | | | | 0.028519655 | | | | up | | | | 24 | | | | 19 | | | | | 103 | | | | 39 | | | | | 6 | | | | 26 |
| chr12\_22642\_mature | | | | | | | 17.56499001 | | | | | 5.10805445 | | | 1.781856947 | | | | | 0.007449781 | | | | up | | | | 5 | | | | 9 | | | | | 15 | | | | 9 | | | | | 2 | | | | 6 |
| chr2\_3876\_mature | | | | | | | 13.60368277 | | | | | 3.878132446 | | | 1.810563289 | | | | | 0.030197277 | | | | up | | | | 7 | | | | 7 | | | | | 7 | | | | 6 | | | | | 2 | | | | 6 |
| chr10\_19252\_mature | | | | | | | 22.65505683 | | | | | 6.216092291 | | | 1.865753281 | | | | | 0.028714712 | | | | up | | | | 10 | | | | 13 | | | | | 11 | | | | 13 | | | | | 0 | | | | 5 |
| chr4\_10835\_mature | | | | | | | 31.86083668 | | | | | 8.498650245 | | | 1.906478517 | | | | | 0.002608959 | | | | up | | | | 22 | | | | 13 | | | | | 16 | | | | 19 | | | | | 0 | | | | 4 |
| chr10\_19329\_mature | | | | | | | 46.48146795 | | | | | 11.70087961 | | | 1.990038644 | | | | | 0.000696285 | | | | up | | | | 20 | | | | 15 | | | | | 50 | | | | 0 | | | | | 36 | | | | 30 |
| chr13\_23561\_mature | | | | | | | 53.34453922 | | | | | 13.28537372 | | | 2.005501781 | | | | | 4.99414E-10 | | | | up | | | | 32 | | | | 16 | | | | | 47 | | | | 19 | | | | | 2 | | | | 29 |
| chr17\_29299\_mature | | | | | | | 10.52621559 | | | | | 2.581728171 | | | 2.027577836 | | | | | 0.002643891 | | | | up | | | | 4 | | | | 3 | | | | | 13 | | | | 5 | | | | | 1 | | | | 2 |
| chr8\_16230\_mature | | | | | | | 15.54706603 | | | | | 3.756248283 | | | 2.049278016 | | | | | 0.043509335 | | | | up | | | | 8 | | | | 1 | | | | | 24 | | | | 7 | | | | | 0 | | | | 5 |
| chr10\_18714\_mature | | | | | | | 184.9089233 | | | | | 42.85890371 | | | 2.109147995 | | | | | 1.74653E-06 | | | | up | | | | 89 | | | | 51 | | | | | 205 | | | | 92 | | | | | 6 | | | | 23 |
| chr7\_14232\_mature | | | | | | | 12.46959885 | | | | | 2.880898388 | | | 2.113824372 | | | | | 0.022411517 | | | | up | | | | 5 | | | | 4 | | | | | 14 | | | | 4 | | | | | 0 | | | | 7 |
| chr2\_4991\_mature | | | | | | | 82.04804366 | | | | | 18.79232179 | | | 2.126325612 | | | | | 1.73452E-05 | | | | up | | | | 60 | | | | 31 | | | | | 42 | | | | 32 | | | | | 1 | | | | 31 |
| chr13\_23590\_star | | | | | | | 25.24268494 | | | | | 5.684234127 | | | 2.150827487 | | | | | 6.05772E-06 | | | | up | | | | 11 | | | | 9 | | | | | 25 | | | | 13 | | | | | 0 | | | | 2 |
| hsa-miR-4272 | | | | | | | 15.54706603 | | | | | 3.457078066 | | | 2.16901726 | | | | | 0.001953097 | | | | up | | | | 8 | | | | 8 | | | | | 8 | | | | 8 | | | | | 0 | | | | 1 |
| chr10\_19246\_mature | | | | | | | 39.26166606 | | | | | 8.509730624 | | | 2.205936025 | | | | | 0.003353031 | | | | up | | | | 13 | | | | 24 | | | | | 22 | | | | 16 | | | | | 0 | | | | 11 |
| chr7\_15206\_mature | | | | | | | 101.7853634 | | | | | 22.03887267 | | | 2.207407785 | | | | | 2.69179E-06 | | | | up | | | | 38 | | | | 35 | | | | | 113 | | | | 49 | | | | | 1 | | | | 10 |
| mmu-miR-1929-3p | | | | | | | 10.08429557 | | | | | 2.049870007 | | | 2.29850598 | | | | | 0.024542271 | | | | up | | | | 1 | | | | 4 | | | | | 14 | | | | 5 | | | | | 0 | | | | 0 |
| chr9\_17774\_mature | | | | | | | 39.58112632 | | | | | 7.634380729 | | | 2.374229625 | | | | | 0.000201255 | | | | up | | | | 10 | | | | 14 | | | | | 50 | | | | 13 | | | | | 3 | | | | 10 |
| chr6\_13477\_mature | | | | | | | 25.5621452 | | | | | 4.808884233 | | | 2.410234813 | | | | | 6.54133E-06 | | | | up | | | | 8 | | | | 13 | | | | | 21 | | | | 10 | | | | | 1 | | | | 3 |
| chr1\_993\_mature | | | | | | | 11.50056939 | | | | | 1.706378276 | | | 2.752695881 | | | | | 0.007781247 | | | | up | | | | 2 | | | | 4 | | | | | 16 | | | | 2 | | | | | 1 | | | | 4 |
| chr22\_37998\_mature | | | | | | | 6.415826905 | | | | | 0.764546111 | | | 3.068959799 | | | | | 0.004576183 | | | | up | | | | 3 | | | | 1 | | | | | 9 | | | | 1 | | | | | 0 | | | | 2 |
| chr22\_38226\_mature | | | | | | | 7.379532025 | | | | | 0.819948003 | | | 3.169925001 | | | | | 0.024587365 | | | | up | | | | 0 | | | | 0 | | | | | 18 | | | | 2 | | | | | 0 | | | | 0 |
| chr19\_33386\_star@@rno-miR-138-1-3p | | | | | | | 19.41785952 | | | | | 1.772860547 | | | 3.453233214 | | | | | 0.029490577 | | | | up | | | | 3 | | | | 0 | | | | | 43 | | | | 0 | | | | | 8 | | | | 2 |
| chr1\_444\_mature | | | | | | | 26.39806622 | | | | | 2.293638332 | | | 3.524722424 | | | | | 0.002716511 | | | | up | | | | 4 | | | | 2 | | | | | 54 | | | | 3 | | | | | 2 | | | | 4 |
| chr7\_14588\_mature | | | | | | | 5.068769472 | | | | | 0.409974001 | | | 3.628031223 | | | | | 0.01058 | | | | up | | | | 3 | | | | 0 | | | | | 8 | | | | 1 | | | | | 0 | | | | 0 |
| hsa-miR-6737-3p | | | | | | | 7.975857845 | | | | | 0.587260056 | | | 3.763568279 | | | | | 0.015248851 | | | | up | | | | 1 | | | | 0 | | | | | 18 | | | | 1 | | | | | 0 | | | | 1 |
| chr17\_30196\_star | | | | | | | 9.66367289 | | | | | 0.709144219 | | | 3.768420658 | | | | | 0.029415237 | | | | up | | | | 0 | | | | 2 | | | | | 19 | | | | 0 | | | | | 3 | | | | 1 |
| chr21\_37145\_mature | | | | | | | 10.43570185 | | | | | 0.709144219 | | | 3.879304764 | | | | | 0.026751597 | | | | up | | | | 1 | | | | 0 | | | | | 24 | | | | 0 | | | | | 1 | | | | 3 |
| chr24\_40056\_mature | | | | | | | 6.969558024 | | | | | 0.354572109 | | | 4.296916207 | | | | | 0.033877789 | | | | up | | | | 0 | | | | 0 | | | | | 17 | | | | 0 | | | | | 2 | | | | 0 |
| chr1\_2093\_mature | | | | | | | 7.496667454 | | | | | 0.354572109 | | | 4.402098444 | | | | | 0.021780253 | | | | up | | | | 0 | | | | 1 | | | | | 16 | | | | 0 | | | | | 1 | | | | 1 |
| chr23\_38654\_mature@@rno-miR-122-5p | | | | | | | 83.75183171 | | | | | 3.944614716 | | | 4.408164444 | | | | | 0.000365205 | | | | up | | | | 0 | | | | 1 | | | | | 202 | | | | 4 | | | | | 9 | | | | 4 |
| chr3\_6281\_mature | | | | | | | 15.72809351 | | | | | 0.709144219 | | | 4.471120936 | | | | | 0.003206627 | | | | up | | | | 3 | | | | 0 | | | | | 34 | | | | 0 | | | | | 1 | | | | 3 |
| chr22\_38264\_mature | | | | | | | 9.839376033 | | | | | 0.409974001 | | | 4.584962501 | | | | | 0.002507585 | | | | up | | | | 0 | | | | 0 | | | | | 24 | | | | 1 | | | | | 0 | | | | 0 |
| chr18\_32890\_mature | | | | | | | 10.3292151 | | | | | 0.354572109 | | | 4.864507762 | | | | | 0.002675271 | | | | up | | | | 2 | | | | 1 | | | | | 20 | | | | 0 | | | | | 2 | | | | 0 |
| chr22\_37931\_star | | | | | | | 6.522313659 | | | | | 0.177286055 | | | 5.201232859 | | | | | 0.008221472 | | | | up | | | | 2 | | | | 0 | | | | | 13 | | | | 0 | | | | | 0 | | | | 1 |
| rno-miR-351-5p | | | | | | | 6.86307127 | | | | | 0.177286055 | | | 5.274703373 | | | | | 0.040016251 | | | | up | | | | 1 | | | | 1 | | | | | 13 | | | | 0 | | | | | 1 | | | | 0 |
| chr19\_33628\_mature | | | | | | | 7.086693453 | | | | | 0.177286055 | | | 5.320961681 | | | | | 0.009275083 | | | | up | | | | 0 | | | | 1 | | | | | 15 | | | | 0 | | | | | 0 | | | | 1 |
| chr14\_25698\_mature | | | | | | | 7.086693453 | | | | | 0.177286055 | | | 5.320961681 | | | | | 0.009275083 | | | | up | | | | 0 | | | | 1 | | | | | 15 | | | | 0 | | | | | 1 | | | | 0 |
| chr7\_13935\_mature | | | | | | | 7.379532025 | | | | | 0.177286055 | | | 5.379378367 | | | | | 0.009405746 | | | | up | | | | 0 | | | | 0 | | | | | 18 | | | | 0 | | | | | 0 | | | | 1 |
| hsa-miR-520f-5p | | | | | | | 8.023776884 | | | | | 0.177286055 | | | 5.500130527 | | | | | 0.003780841 | | | | up | | | | 0 | | | | 2 | | | | | 15 | | | | 0 | | | | | 0 | | | | 1 |
| hsa-miR-6835-3p | | | | | | | 12.70919404 | | | | | 0 | | | 20 | | | | | 2.07044E-06 | | | | up | | | | 0 | | | | 0 | | | | | 31 | | | | 0 | | | | | 0 | | | | 0 |
| hsa-miR-3529-5p | | | | | | | 13.11916804 | | | | | 0 | | | 20 | | | | | 5.86482E-07 | | | | up | | | | 0 | | | | 0 | | | | | 32 | | | | 0 | | | | | 0 | | | | 0 |
| hsa-miR-7-2-3p | | | | | | | 13.52914205 | | | | | 0 | | | 20 | | | | | 1.65963E-07 | | | | up | | | | 0 | | | | 0 | | | | | 33 | | | | 0 | | | | | 0 | | | | 0 |
| **DE known miRNA** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AccID** | | | **Month6** | | | | | **Month2** | | | | | **Log2FC** | | | | | **FDR** | | | | | **Style** | | | | | | **B1** | | | | **B3** | | | | | **B2** | | | | **A1** | | | | **A2** | | | | **A3** |
| oar-miR-409-3p | | | 250.0694016 | | | | | 487.1641842 | | | | | -0.962079531 | | | | | 0.000447574 | | | | | down | | | | | | 157 | | | | 73 | | | | | 175 | | | | 180 | | | | 1414 | | | | 1270 |
| oar-miR-495-3p | | | 208.497502 | | | | | 325.1373453 | | | | | -0.641019174 | | | | | 0.001548281 | | | | | down | | | | | | 145 | | | | 68 | | | | | 115 | | | | 117 | | | | 1035 | | | | 796 |
| oar-miR-200c | | | 307.5926652 | | | | | 32.10859408 | | | | | 3.2599897 | | | | | 0.021828608 | | | | | up | | | | | | 3 | | | | 170 | | | | | 243 | | | | 19 | | | | 139 | | | | 12 |
| oar-miR-379-5p | | | 498.8885427 | | | | | 757.9836384 | | | | | -0.60344917 | | | | | 0.035121566 | | | | | down | | | | | | 365 | | | | 144 | | | | | 297 | | | | 267 | | | | 2441 | | | | 1865 |
| oar-miR-665-3p | | | 332.9244458 | | | | | 618.4922931 | | | | | -0.89356081 | | | | | 0.037492287 | | | | | down | | | | | | 265 | | | | 127 | | | | | 107 | | | | 215 | | | | 2068 | | | | 1480 |
| **6- vs 12-month-old testes** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **DE novel miRNAs** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AccID** | | | **Month12** | | | | | **Month6** | | | | | **Log2FC** | | | | | **FDR** | | | | | **Style** | | | | | | **C1** | | | | **C2** | | | | | **C3** | | | | **B1** | | | | **B3** | | | | **B2** |
| rno-miR-132-3p | | | 108.3851267 | | | | | 215.8220279 | | | | | -0.993675326 | | | | | 1.4766E-14 | | | | | down | | | | | | 111 | | | | 54 | | | | | 457 | | | | 99 | | | | 89 | | | | 179 |
| chr5\_12085\_star | | | 8.431465316 | | | | | 33.42619196 | | | | | -1.987123721 | | | | | 1.53117E-10 | | | | | down | | | | | | 10 | | | | 7 | | | | | 7 | | | | 15 | | | | 13 | | | | 30 |
| hsa-miR-3529-5p | | | 0 | | | | | 13.11916804 | | | | | -20 | | | | | 6.31425E-09 | | | | | down | | | | | | 0 | | | | 0 | | | | | 0 | | | | 0 | | | | 0 | | | | 32 |
| hsa-miR-6835-3p | | | 0 | | | | | 12.70919404 | | | | | -20 | | | | | 2.62361E-08 | | | | | down | | | | | | 0 | | | | 0 | | | | | 0 | | | | 0 | | | | 0 | | | | 31 |
| chr20\_35197\_mature | | | 92.02616414 | | | | | 45.66684429 | | | | | 1.010896996 | | | | | 7.15903E-08 | | | | | up | | | | | | 98 | | | | 43 | | | | | 396 | | | | 26 | | | | 23 | | | | 21 |
| chr4\_10835\_mature | | | 7.031554092 | | | | | 31.86083668 | | | | | -2.179868664 | | | | | 9.20285E-08 | | | | | down | | | | | | 9 | | | | 5 | | | | | 10 | | | | 22 | | | | 13 | | | | 16 |
| chr23\_38654\_mature@@rno-miR-122-5p | | | 2.607834624 | | | | | 83.75183171 | | | | | -5.005196455 | | | | | 1.66243E-06 | | | | | down | | | | | | 0 | | | | 3 | | | | | 8 | | | | 0 | | | | 1 | | | | 202 |
| chr2\_5752\_mature | | | 6.687575906 | | | | | 29.58202015 | | | | | -2.145165311 | | | | | 1.96149E-06 | | | | | down | | | | | | 4 | | | | 6 | | | | | 18 | | | | 17 | | | | 5 | | | | 36 |
| chr7\_15206\_mature | | | 31.80598302 | | | | | 101.7853634 | | | | | -1.678160038 | | | | | 2.65224E-06 | | | | | down | | | | | | 30 | | | | 33 | | | | | 4 | | | | 38 | | | | 35 | | | | 113 |
| chrx\_42810\_mature | | | 3.33578846 | | | | | 28.49053093 | | | | | -3.094382799 | | | | | 2.66014E-06 | | | | | down | | | | | | 7 | | | | 0 | | | | | 13 | | | | 8 | | | | 10 | | | | 35 |
| chr9\_17774\_mature | | | 8.599454663 | | | | | 39.58112632 | | | | | -2.202495587 | | | | | 2.80734E-06 | | | | | down | | | | | | 7 | | | | 9 | | | | | 5 | | | | 10 | | | | 14 | | | | 50 |
| rno-miR-144-5p | | | 33.80585619 | | | | | 84.74748286 | | | | | -1.325897332 | | | | | 3.09948E-06 | | | | | down | | | | | | 56 | | | | 10 | | | | | 111 | | | | 44 | | | | 27 | | | | 81 |
| chr18\_31482\_mature@@rno-miR-184 | | | 10.7593177 | | | | | 29.25191122 | | | | | -1.442944296 | | | | | 5.97355E-06 | | | | | down | | | | | | 13 | | | | 6 | | | | | 32 | | | | 19 | | | | 6 | | | | 30 |
| chr24\_39411\_star | | | 84.17866179 | | | | | 297.8753959 | | | | | -1.823182484 | | | | | 9.03006E-06 | | | | | down | | | | | | 41 | | | | 91 | | | | | 138 | | | | 121 | | | | 79 | | | | 370 |
| chr15\_26392\_mature | | | 67.65170985 | | | | | 127.9118884 | | | | | -0.918952055 | | | | | 3.28008E-05 | | | | | down | | | | | | 41 | | | | 48 | | | | | 284 | | | | 66 | | | | 49 | | | | 104 |
| chr10\_18714\_mature | | | 67.71570579 | | | | | 184.9089233 | | | | | -1.449252455 | | | | | 8.86917E-05 | | | | | down | | | | | | 35 | | | | 85 | | | | | 6 | | | | 89 | | | | 51 | | | | 205 |
| hsa-miR-7-2-3p | | | 0.079994927 | | | | | 13.52914205 | | | | | -7.401946124 | | | | | 9.9098E-05 | | | | | down | | | | | | 0 | | | | 0 | | | | | 1 | | | | 0 | | | | 0 | | | | 33 |
| hsa-miR-1298-3p | | | 19.88673888 | | | | | 74.34372703 | | | | | -1.9024043 | | | | | 0.00015389 | | | | | down | | | | | | 14 | | | | 21 | | | | | 19 | | | | 24 | | | | 19 | | | | 103 |
| hsa-miR-6820-3p | | | 3.175798606 | | | | | 25.12554951 | | | | | -2.983963818 | | | | | 0.000192698 | | | | | down | | | | | | 5 | | | | 1 | | | | | 11 | | | | 11 | | | | 8 | | | | 27 |
| chrx\_42853\_mature | | | 12.75119138 | | | | | 37.30230979 | | | | | -1.548632918 | | | | | 0.000225023 | | | | | down | | | | | | 12 | | | | 6 | | | | | 61 | | | | 27 | | | | 13 | | | | 22 |
| chr8\_16702\_mature | | | 7.70351148 | | | | | 20.75426828 | | | | | -1.429819946 | | | | | 0.000237891 | | | | | down | | | | | | 7 | | | | 8 | | | | | 2 | | | | 13 | | | | 6 | | | | 18 |
| chr1\_444\_mature | | | 0.887943691 | | | | | 26.39806622 | | | | | -4.893820249 | | | | | 0.000238393 | | | | | down | | | | | | 1 | | | | 0 | | | | | 7 | | | | 4 | | | | 2 | | | | 54 |
| mmu-miR-1929-3p | | | 0.159989854 | | | | | 10.08429557 | | | | | -5.977986079 | | | | | 0.000258292 | | | | | down | | | | | | 0 | | | | 0 | | | | | 2 | | | | 1 | | | | 4 | | | | 14 |
| chr1\_899\_mature | | | 1.391911732 | | | | | 9.306942265 | | | | | -2.741239532 | | | | | 0.000417529 | | | | | down | | | | | | 0 | | | | 2 | | | | | 1 | | | | 5 | | | | 5 | | | | 4 |
| chr1\_997\_star | | | 42.18932455 | | | | | 83.14485722 | | | | | -0.978749041 | | | | | 0.000563034 | | | | | down | | | | | | 28 | | | | 33 | | | | | 142 | | | | 53 | | | | 20 | | | | 80 |
| chr13\_22865\_mature | | | 3.759761574 | | | | | 15.33941686 | | | | | -2.028530557 | | | | | 0.000653069 | | | | | down | | | | | | 4 | | | | 3 | | | | | 6 | | | | 5 | | | | 4 | | | | 21 |
| chr1\_993\_mature | | | 1.551901586 | | | | | 11.50056939 | | | | | -2.889596314 | | | | | 0.000689313 | | | | | down | | | | | | 2 | | | | 1 | | | | | 3 | | | | 2 | | | | 4 | | | | 16 |
| chr3\_6538\_mature | | | 68.07568296 | | | | | 143.0223588 | | | | | -1.071029246 | | | | | 0.000731079 | | | | | down | | | | | | 68 | | | | 46 | | | | | 195 | | | | 55 | | | | 52 | | | | 150 |
| chr22\_37998\_mature | | | 1.311916804 | | | | | 6.415826905 | | | | | -2.289958985 | | | | | 0.000904602 | | | | | down | | | | | | 0 | | | | 2 | | | | | 0 | | | | 3 | | | | 1 | | | | 9 |
| chr10\_18764\_mature | | | 472.9220095 | | | | | 0.59632582 | | | | | 9.631285765 | | | | | 0.001222319 | | | | | up | | | | | | 1437 | | | | 1 | | | | | 12 | | | | 1 | | | | 0 | | | | 0 |
| hsa-miR-606 | | | 0.159989854 | | | | | 10.43570185 | | | | | -6.027403403 | | | | | 0.001338746 | | | | | down | | | | | | 0 | | | | 0 | | | | | 2 | | | | 1 | | | | 0 | | | | 24 |
| chr13\_23481\_mature | | | 2.447844769 | | | | | 13.03930298 | | | | | -2.413282775 | | | | | 0.001418108 | | | | | down | | | | | | 4 | | | | 1 | | | | | 6 | | | | 9 | | | | 6 | | | | 5 |
| hsa-miR-6737-3p | | | 0.079994927 | | | | | 7.975857845 | | | | | -6.639587372 | | | | | 0.001565359 | | | | | down | | | | | | 0 | | | | 0 | | | | | 1 | | | | 1 | | | | 0 | | | | 18 |
| mmu-miR-30a-5p | | | 0.639959417 | | | | | 9.519915773 | | | | | -3.894896485 | | | | | 0.001683193 | | | | | down | | | | | | 0 | | | | 0 | | | | | 8 | | | | 3 | | | | 3 | | | | 12 |
| chr18\_32890\_mature | | | 0.239984781 | | | | | 10.3292151 | | | | | -5.4276439 | | | | | 0.001806013 | | | | | down | | | | | | 0 | | | | 0 | | | | | 3 | | | | 2 | | | | 1 | | | | 20 |
| chr23\_38654\_star@@hsa-miR-3591-5p | | | 0.327979201 | | | | | 7.496667454 | | | | | -4.514573173 | | | | | 0.002091191 | | | | | down | | | | | | 1 | | | | 0 | | | | | 0 | | | | 0 | | | | 1 | | | | 16 |
| chr19\_33386\_star@@rno-miR-138-1-3p | | | 1.215922892 | | | | | 19.41785952 | | | | | -3.99726053 | | | | | 0.002411339 | | | | | down | | | | | | 0 | | | | 1 | | | | | 7 | | | | 3 | | | | 0 | | | | 43 |
| chr18\_32725\_mature@@rno-miR-211-5p | | | 50.13282081 | | | | | 106.1087256 | | | | | -1.081715981 | | | | | 0.002753334 | | | | | down | | | | | | 21 | | | | 48 | | | | | 147 | | | | 70 | | | | 28 | | | | 93 |
| chr11\_20627\_mature | | | 87.37845887 | | | | | 42.65326916 | | | | | 1.03462134 | | | | | 0.003134594 | | | | | up | | | | | | 79 | | | | 42 | | | | | 424 | | | | 29 | | | | 17 | | | | 23 |
| chr17\_29300\_mature | | | 2.127865061 | | | | | 9.743537955 | | | | | -2.195039056 | | | | | 0.003140177 | | | | | down | | | | | | 2 | | | | 2 | | | | | 2 | | | | 2 | | | | 3 | | | | 14 |
| chr6\_13013\_mature | | | 36.58168016 | | | | | 90.6734707 | | | | | -1.30955917 | | | | | 0.003241519 | | | | | down | | | | | | 33 | | | | 30 | | | | | 76 | | | | 67 | | | | 34 | | | | 46 |
| chr3\_6281\_mature | | | 1.71189144 | | | | | 15.72809351 | | | | | -3.199680683 | | | | | 0.003488706 | | | | | down | | | | | | 0 | | | | 2 | | | | | 5 | | | | 3 | | | | 0 | | | | 34 |
| chr20\_36537\_mature | | | 80.57889007 | | | | | 139.0663759 | | | | | -0.787299802 | | | | | 0.003493368 | | | | | down | | | | | | 81 | | | | 36 | | | | | 380 | | | | 85 | | | | 37 | | | | 131 |
| chr21\_37145\_mature | | | 0.239984781 | | | | | 10.43570185 | | | | | -5.442440902 | | | | | 0.003681835 | | | | | down | | | | | | 0 | | | | 0 | | | | | 3 | | | | 1 | | | | 0 | | | | 24 |
| mmu-miR-3968 | | | 30.27807991 | | | | | 94.83710276 | | | | | -1.64717787 | | | | | 0.005100413 | | | | | down | | | | | | 27 | | | | 9 | | | | | 194 | | | | 62 | | | | 25 | | | | 84 |
| chr5\_12057\_mature | | | 358.4732673 | | | | | 789.0029522 | | | | | -1.138165162 | | | | | 0.005810438 | | | | | down | | | | | | 160 | | | | 376 | | | | | 742 | | | | 427 | | | | 236 | | | | 764 |
| chr6\_13609\_mature | | | 361.5290735 | | | | | 201.9521282 | | | | | 0.840098321 | | | | | 0.00738024 | | | | | up | | | | | | 338 | | | | 173 | | | | | 1715 | | | | 144 | | | | 67 | | | | 130 |
| chr1\_2093\_mature | | | 0.159989854 | | | | | 7.496667454 | | | | | -5.550197083 | | | | | 0.007845162 | | | | | down | | | | | | 0 | | | | 0 | | | | | 2 | | | | 0 | | | | 1 | | | | 16 |
| chr2\_5559\_star | | | 17.7748728 | | | | | 5.30304033 | | | | | 1.744947611 | | | | | 0.008287865 | | | | | up | | | | | | 14 | | | | 9 | | | | | 91 | | | | 3 | | | | 2 | | | | 4 |
| chr13\_23561\_mature | | | 24.13446951 | | | | | 53.34453922 | | | | | -1.144245477 | | | | | 0.008358254 | | | | | down | | | | | | 9 | | | | 29 | | | | | 27 | | | | 32 | | | | 16 | | | | 47 |
| chr5\_11830\_mature | | | 0.239984781 | | | | | 8.795805848 | | | | | -5.195800935 | | | | | 0.008685842 | | | | | down | | | | | | 0 | | | | 0 | | | | | 3 | | | | 1 | | | | 0 | | | | 20 |
| chr24\_40260\_mature | | | 0.319979708 | | | | | 10.65932404 | | | | | -5.057991723 | | | | | 0.009003921 | | | | | down | | | | | | 0 | | | | 0 | | | | | 4 | | | | 0 | | | | 0 | | | | 26 |
| chr3\_9360\_star | | | 3.831757008 | | | | | 13.03397864 | | | | | -1.766199556 | | | | | 0.009419881 | | | | | down | | | | | | 1 | | | | 4 | | | | | 11 | | | | 3 | | | | 5 | | | | 16 |
| chr3\_6658\_mature | | | 178.4126859 | | | | | 398.9632711 | | | | | -1.161037736 | | | | | 0.009494022 | | | | | down | | | | | | 159 | | | | 172 | | | | | 168 | | | | 242 | | | | 158 | | | | 260 |
| chr14\_25698\_mature | | | 0.159989854 | | | | | 7.086693453 | | | | | -5.46906032 | | | | | 0.010316019 | | | | | down | | | | | | 0 | | | | 0 | | | | | 2 | | | | 0 | | | | 1 | | | | 15 |
| chr7\_14232\_mature | | | 5.151673305 | | | | | 12.46959885 | | | | | -1.275302041 | | | | | 0.010334618 | | | | | down | | | | | | 6 | | | | 4 | | | | | 7 | | | | 5 | | | | 4 | | | | 14 |
| chr21\_37414\_mature | | | 3.42378288 | | | | | 16.31377065 | | | | | -2.252427154 | | | | | 0.010942788 | | | | | down | | | | | | 2 | | | | 3 | | | | | 10 | | | | 3 | | | | 5 | | | | 24 |
| chr8\_16487\_mature | | | 0.239984781 | | | | | 6.075069293 | | | | | -4.661886039 | | | | | 0.011339602 | | | | | down | | | | | | 0 | | | | 0 | | | | | 3 | | | | 4 | | | | 0 | | | | 9 |
| chr12\_22667\_mature@@rno-miR-205 | | | 995.7208561 | | | | | 5.340310693 | | | | | 7.54267386 | | | | | 0.012091462 | | | | | up | | | | | | 2979 | | | | 27 | | | | | 12 | | | | 1 | | | | 2 | | | | 7 |
| chr7\_14588\_mature | | | 0.407974128 | | | | | 5.068769472 | | | | | -3.63508598 | | | | | 0.012835769 | | | | | down | | | | | | 1 | | | | 0 | | | | | 1 | | | | 3 | | | | 0 | | | | 8 |
| hsa-miR-3615 | | | 38.25357414 | | | | | 17.48512494 | | | | | 1.129466444 | | | | | 0.013127619 | | | | | up | | | | | | 42 | | | | 15 | | | | | 183 | | | | 14 | | | | 8 | | | | 4 |
| chr22\_38264\_mature | | | 0.319979708 | | | | | 9.839376033 | | | | | -4.942514505 | | | | | 0.013348949 | | | | | down | | | | | | 0 | | | | 0 | | | | | 4 | | | | 0 | | | | 0 | | | | 24 |
| chr10\_19252\_mature | | | 7.199543439 | | | | | 22.65505683 | | | | | -1.653855784 | | | | | 0.013377399 | | | | | down | | | | | | 12 | | | | 4 | | | | | 8 | | | | 10 | | | | 13 | | | | 11 |
| rno-miR-3553 | | | 629.4320844 | | | | | 4.296740508 | | | | | 7.194664258 | | | | | 0.013903399 | | | | | up | | | | | | 1912 | | | | 1 | | | | | 21 | | | | 2 | | | | 2 | | | | 3 |
| chr23\_38620\_star | | | 57.3883607 | | | | | 23.3152747 | | | | | 1.299482737 | | | | | 0.01448567 | | | | | up | | | | | | 60 | | | | 22 | | | | | 291 | | | | 17 | | | | 11 | | | | 7 |
| rno-miR-207 | | | 0.887943691 | | | | | 15.16903805 | | | | | -4.094517599 | | | | | 0.014834348 | | | | | down | | | | | | 1 | | | | 0 | | | | | 7 | | | | 0 | | | | 0 | | | | 37 |
| chr24\_39542\_mature | | | 0.887943691 | | | | | 7.422126727 | | | | | -3.063292538 | | | | | 0.015450856 | | | | | down | | | | | | 1 | | | | 0 | | | | | 7 | | | | 4 | | | | 1 | | | | 10 |
| chr8\_16249\_mature | | | 4.655704757 | | | | | 12.51751789 | | | | | -1.42687704 | | | | | 0.015804405 | | | | | down | | | | | | 2 | | | | 5 | | | | | 9 | | | | 4 | | | | 6 | | | | 11 |
| chrx\_42700\_mature | | | 497.1764714 | | | | | 4.600227756 | | | | | 6.755908923 | | | | | 0.016014188 | | | | | up | | | | | | 1505 | | | | 3 | | | | | 20 | | | | 3 | | | | 3 | | | | 0 |
| chr4\_11184\_mature | | | 4.01574534 | | | | | 14.00833244 | | | | | -1.802545538 | | | | | 0.016063747 | | | | | down | | | | | | 2 | | | | 5 | | | | | 1 | | | | 12 | | | | 6 | | | | 3 |
| chr24\_39448\_mature | | | 0.327979201 | | | | | 4.743984873 | | | | | -3.854423176 | | | | | 0.016143373 | | | | | down | | | | | | 1 | | | | 0 | | | | | 0 | | | | 0 | | | | 2 | | | | 7 |
| chr26\_41943\_mature | | | 17.24690628 | | | | | 45.83189875 | | | | | -1.410014459 | | | | | 0.017387428 | | | | | down | | | | | | 12 | | | | 17 | | | | | 27 | | | | 14 | | | | 12 | | | | 64 |
| chr15\_26920\_mature | | | 122.2482476 | | | | | 263.9327432 | | | | | -1.110356556 | | | | | 0.017676196 | | | | | down | | | | | | 76 | | | | 128 | | | | | 167 | | | | 173 | | | | 95 | | | | 175 |
| chr6\_13736\_mature@@hsa-miR-95-3p | | | 40.94940318 | | | | | 88.14973464 | | | | | -1.106113801 | | | | | 0.017892006 | | | | | down | | | | | | 41 | | | | 34 | | | | | 65 | | | | 28 | | | | 36 | | | | 92 |
| chr7\_13935\_mature | | | 1.391911732 | | | | | 7.379532025 | | | | | -2.406461605 | | | | | 0.018436047 | | | | | down | | | | | | 0 | | | | 2 | | | | | 1 | | | | 0 | | | | 0 | | | | 18 |
| chr7\_16114\_mature | | | 1.463907166 | | | | | 21.04710685 | | | | | -3.84572596 | | | | | 0.018840791 | | | | | down | | | | | | 3 | | | | 0 | | | | | 6 | | | | 2 | | | | 5 | | | | 37 |
| chr18\_31795\_mature | | | 0.319979708 | | | | | 9.019428031 | | | | | -4.816983623 | | | | | 0.020162226 | | | | | down | | | | | | 0 | | | | 0 | | | | | 4 | | | | 0 | | | | 0 | | | | 22 |
| chr1\_997\_mature | | | 199.3233599 | | | | | 453.6708407 | | | | | -1.186535137 | | | | | 0.020357795 | | | | | down | | | | | | 137 | | | | 200 | | | | | 290 | | | | 182 | | | | 129 | | | | 547 |
| chr19\_33628\_mature | | | 0.815948256 | | | | | 7.086693453 | | | | | -3.118563073 | | | | | 0.020831767 | | | | | down | | | | | | 0 | | | | 1 | | | | | 2 | | | | 0 | | | | 1 | | | | 15 |
| chr22\_38226\_mature | | | 0.487969055 | | | | | 7.379532025 | | | | | -3.918667763 | | | | | 0.022545117 | | | | | down | | | | | | 1 | | | | 0 | | | | | 2 | | | | 0 | | | | 0 | | | | 18 |
| chr7\_15128\_star | | | 14.3750884 | | | | | 32.32405406 | | | | | -1.169037323 | | | | | 0.023291434 | | | | | down | | | | | | 19 | | | | 4 | | | | | 69 | | | | 16 | | | | 9 | | | | 35 |
| rno-miR-375-3p | | | 145.438777 | | | | | 317.0536602 | | | | | -1.124315059 | | | | | 0.025494624 | | | | | down | | | | | | 205 | | | | 98 | | | | | 174 | | | | 118 | | | | 118 | | | | 332 |
| chr15\_26685\_mature | | | 1258.024222 | | | | | 2487.109942 | | | | | -0.983310582 | | | | | 0.026901423 | | | | | down | | | | | | 749 | | | | 1122 | | | | | 3455 | | | | 1158 | | | | 809 | | | | 2533 |
| chr21\_37421\_mature | | | 61.09212583 | | | | | 19.29007542 | | | | | 1.663127659 | | | | | 0.027278844 | | | | | up | | | | | | 47 | | | | 30 | | | | | 325 | | | | 13 | | | | 11 | | | | 3 |
| chr19\_34228\_mature | | | 5.983620547 | | | | | 12.72516706 | | | | | -1.088594002 | | | | | 0.027448162 | | | | | down | | | | | | 4 | | | | 7 | | | | | 1 | | | | 7 | | | | 3 | | | | 14 |
| chr8\_16230\_mature | | | 5.8156312 | | | | | 15.54706603 | | | | | -1.418634659 | | | | | 0.028675462 | | | | | down | | | | | | 3 | | | | 7 | | | | | 3 | | | | 8 | | | | 1 | | | | 24 |
| chr20\_35519\_mature | | | 0.983937603 | | | | | 6.735287166 | | | | | -2.775100723 | | | | | 0.028789978 | | | | | down | | | | | | 1 | | | | 1 | | | | | 0 | | | | 0 | | | | 5 | | | | 5 |
| rno-miR-183-5p | | | 626.4882711 | | | | | 6.735287166 | | | | | 6.539404232 | | | | | 0.029509194 | | | | | up | | | | | | 1904 | | | | 1 | | | | | 17 | | | | 0 | | | | 5 | | | | 5 |
| chrx\_43094\_mature | | | 1072.507987 | | | | | 8.204804366 | | | | | 7.030303741 | | | | | 0.029570824 | | | | | up | | | | | | 3256 | | | | 3 | | | | | 33 | | | | 6 | | | | 1 | | | | 9 |
| chr24\_40056\_mature | | | 0.239984781 | | | | | 6.969558024 | | | | | -4.860052345 | | | | | 0.031172827 | | | | | down | | | | | | 0 | | | | 0 | | | | | 3 | | | | 0 | | | | 0 | | | | 17 |
| chr14\_24695\_mature | | | 40.01346254 | | | | | 0 | | | | | 20 | | | | | 0.031205671 | | | | | up | | | | | | 122 | | | | 0 | | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| chr10\_18768\_mature | | | 519.9350282 | | | | | 1016.027387 | | | | | -0.966536031 | | | | | 0.031890901 | | | | | down | | | | | | 312 | | | | 462 | | | | | 1432 | | | | 478 | | | | 441 | | | | 775 |
| chr1\_1808\_mature | | | 10.47933545 | | | | | 27.66525859 | | | | | -1.400528178 | | | | | 0.032495888 | | | | | down | | | | | | 10 | | | | 10 | | | | | 8 | | | | 13 | | | | 16 | | | | 12 |
| chr3\_6681\_mature | | | 10.73531922 | | | | | 25.23203627 | | | | | -1.232891548 | | | | | 0.033251143 | | | | | down | | | | | | 10 | | | | 11 | | | | | 3 | | | | 10 | | | | 14 | | | | 15 |
| chr18\_31886\_star@@rno-miR-345-3p | | | 51.01276501 | | | | | 29.18801916 | | | | | 0.805481994 | | | | | 0.033380551 | | | | | up | | | | | | 59 | | | | 19 | | | | | 240 | | | | 13 | | | | 15 | | | | 18 |
| chr13\_23591\_mature | | | 74.48327662 | | | | | 140.5731634 | | | | | -0.916332753 | | | | | 0.036264019 | | | | | down | | | | | | 49 | | | | 66 | | | | | 189 | | | | 67 | | | | 40 | | | | 154 |
| rno-miR-182 | | | 1159.678459 | | | | | 9.621078189 | | | | | 6.913310554 | | | | | 0.036756857 | | | | | up | | | | | | 3513 | | | | 3 | | | | | 69 | | | | 7 | | | | 1 | | | | 11 |
| chr4\_10739\_star | | | 126.1919975 | | | | | 231.5501214 | | | | | -0.875704089 | | | | | 0.039591228 | | | | | down | | | | | | 69 | | | | 108 | | | | | 409 | | | | 113 | | | | 68 | | | | 245 |
| chr1\_2522\_mature | | | 0.159989854 | | | | | 5.223175265 | | | | | -5.02887479 | | | | | 0.039952901 | | | | | down | | | | | | 0 | | | | 0 | | | | | 2 | | | | 1 | | | | 1 | | | | 9 |
| chr17\_29299\_mature | | | 4.75169867 | | | | | 10.52621559 | | | | | -1.147471594 | | | | | 0.04096229 | | | | | down | | | | | | 4 | | | | 5 | | | | | 2 | | | | 4 | | | | 3 | | | | 13 |
| chr2\_4991\_mature | | | 37.7496061 | | | | | 82.04804366 | | | | | -1.120007344 | | | | | 0.041385796 | | | | | down | | | | | | 35 | | | | 37 | | | | | 25 | | | | 60 | | | | 31 | | | | 42 |
| chr26\_41780\_mature | | | 1.463907166 | | | | | 14.73244236 | | | | | -3.331100649 | | | | | 0.046422067 | | | | | down | | | | | | 1 | | | | 1 | | | | | 6 | | | | 3 | | | | 2 | | | | 27 |
| chr23\_38404\_mature | | | 13.58313862 | | | | | 28.33612514 | | | | | -1.06082561 | | | | | 0.04809202 | | | | | down | | | | | | 8 | | | | 15 | | | | | 14 | | | | 21 | | | | 9 | | | | 18 |
| chr13\_23590\_star | | | 12.79118884 | | | | | 25.24268494 | | | | | -0.980715013 | | | | | 0.049165754 | | | | | down | | | | | | 3 | | | | 18 | | | | | 0 | | | | 11 | | | | 9 | | | | 25 |
| chr24\_40069\_mature | | | 46.11707547 | | | | | 22.02678498 | | | | | 1.066042091 | | | | | 0.04947244 | | | | | up | | | | | | 37 | | | | 24 | | | | | 228 | | | | 17 | | | | 7 | | | | 13 |
| **DE known miRNA** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AccID** | **Month12** | | | **Month6** | | | | | **Log2FC** | | | | **FDR** | | | | **Style** | | | | **C1** | | | | **C2** | | | | | **C3** | | | | | **B1** | | | | | | | | **B3** | | | | **B2** | | | |
| oar-miR-23b | 17714.459 | | | 11382.65 | | | | | 0.638091 | | | | 0.018459 | | | | up | | | | 27307 | | | | 5858 | | | | | 93712 | | | | | 6958 | | | | | | | | 3908 | | | | 6878 | | | |
| **2- vs 12-month-old testes** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **DE novel miRNAs** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AccID** | | | | | | **Month12** | | | | **Month2** | | | | **Log2FC** | | | | | **FDR** | | | | **Style** | | | | **C1** | | | | **C2** | | | **C3** | | | | | **A1** | | | | | **A2** | | | | **A3** | | |
| chr12\_22667\_mature@@rno-miR-205 | | | | | | 995.7208561 | | | | 0.941832165 | | | | 10.04605564 | | | | | 1.32325E-09 | | | | up | | | | 2979 | | | | 27 | | | 12 | | | | | 1 | | | | | 0 | | | | 3 | | |
| chr10\_18764\_mature | | | | | | 472.9220095 | | | | 0.531858164 | | | | 9.796345011 | | | | | 2.87624E-08 | | | | up | | | | 1437 | | | | 1 | | | 12 | | | | | 0 | | | | | 3 | | | | 0 | | |
| chr1\_1165\_mature | | | | | | 23.46251212 | | | | 68.47673861 | | | | -1.545256501 | | | | | 4.69986E-08 | | | | down | | | | 23 | | | | 10 | | | 117 | | | | | 52 | | | | | 155 | | | | 111 | | |
| chrx\_42700\_mature | | | | | | 497.1764714 | | | | 2.360120603 | | | | 7.71875363 | | | | | 4.11933E-06 | | | | up | | | | 1505 | | | | 3 | | | 20 | | | | | 1 | | | | | 5 | | | | 6 | | |
| rno-miR-182 | | | | | | 1159.678459 | | | | 6.836593483 | | | | 7.40623149 | | | | | 6.17308E-06 | | | | up | | | | 3513 | | | | 3 | | | 69 | | | | | 5 | | | | | 17 | | | | 10 | | |
| chrx\_43094\_mature | | | | | | 1072.507987 | | | | 5.961243588 | | | | 7.49115935 | | | | | 8.36989E-06 | | | | up | | | | 3256 | | | | 3 | | | 33 | | | | | 2 | | | | | 14 | | | | 15 | | |
| rno-miR-3553 | | | | | | 629.4320844 | | | | 3.889212824 | | | | 7.338428726 | | | | | 8.37874E-06 | | | | up | | | | 1912 | | | | 1 | | | 21 | | | | | 3 | | | | | 11 | | | | 4 | | |
| rno-miR-183-5p | | | | | | 626.4882711 | | | | 4.831044989 | | | | 7.018808402 | | | | | 2.35299E-05 | | | | up | | | | 1904 | | | | 1 | | | 17 | | | | | 4 | | | | | 15 | | | | 3 | | |
| chr9\_18579\_mature | | | | | | 7.879500319 | | | | 23.46824149 | | | | -1.574533694 | | | | | 0.000101309 | | | | down | | | | 13 | | | | 1 | | | 37 | | | | | 14 | | | | | 53 | | | | 47 | | |
| rno-miR-200b-3p | | | | | | 1038.134166 | | | | 14.02775907 | | | | 6.209564539 | | | | | 0.000554535 | | | | up | | | | 3143 | | | | 6 | | | 42 | | | | | 10 | | | | | 40 | | | | 16 | | |
| rno-miR-96-5p | | | | | | 784.4462541 | | | | 10.80336896 | | | | 6.182121423 | | | | | 0.000928209 | | | | up | | | | 2364 | | | | 4 | | | 81 | | | | | 3 | | | | | 37 | | | | 17 | | |
| hsa-miR-6820-3p | | | | | | 3.175798606 | | | | 22.06103343 | | | | -2.796309042 | | | | | 0.001360748 | | | | down | | | | 5 | | | | 1 | | | 11 | | | | | 11 | | | | | 65 | | | | 34 | | |
| hsa-miR-4680-3p | | | | | | 0.327979201 | | | | 4.487553259 | | | | -3.774252827 | | | | | 0.001824157 | | | | down | | | | 1 | | | | 0 | | | 0 | | | | | 1 | | | | | 11 | | | | 12 | | |
| chr2\_5559\_mature | | | | | | 5.407657072 | | | | 25.11921787 | | | | -2.215715973 | | | | | 0.002094662 | | | | down | | | | 6 | | | | 0 | | | 43 | | | | | 15 | | | | | 55 | | | | 52 | | |
| chr14\_24695\_mature | | | | | | 40.01346254 | | | | 0.819948003 | | | | 5.608809243 | | | | | 0.003111228 | | | | up | | | | 122 | | | | 0 | | | 0 | | | | | 2 | | | | | 0 | | | | 0 | | |
| mmu-miR-1957a | | | | | | 166.2614565 | | | | 54.84787316 | | | | 1.599946172 | | | | | 0.008401485 | | | | up | | | | 218 | | | | 78 | | | 545 | | | | | 46 | | | | | 122 | | | | 81 | | |
| chr2\_3859\_mature | | | | | | 491.5448286 | | | | 785.5434278 | | | | -0.67636804 | | | | | 0.009134581 | | | | down | | | | 557 | | | | 190 | | | 2303 | | | | | 627 | | | | | 1372 | | | | 1609 | | |
| chr12\_22542\_mature@@rno-miR-429 | | | | | | 539.5897818 | | | | 12.62055102 | | | | 5.418016223 | | | | | 0.010640783 | | | | up | | | | 1639 | | | | 2 | | | 9 | | | | | 7 | | | | | 49 | | | | 6 | | |
| chr20\_36537\_mature | | | | | | 80.57889007 | | | | 145.5740116 | | | | -0.853278985 | | | | | 0.015635633 | | | | down | | | | 81 | | | | 36 | | | 380 | | | | | 106 | | | | | 330 | | | | 246 | | |
| mmu-miR-182-3p | | | | | | 39.75747877 | | | | 0.709144219 | | | | 5.809003403 | | | | | 0.016114654 | | | | up | | | | 118 | | | | 1 | | | 5 | | | | | 0 | | | | | 2 | | | | 2 | | |
| rno-miR-196b-5p | | | | | | 19.59075765 | | | | 0.177286055 | | | | 6.787950325 | | | | | 0.019861798 | | | | up | | | | 59 | | | | 0 | | | 3 | | | | | 0 | | | | | 1 | | | | 0 | | |
| chr2\_5696\_star | | | | | | 130.1597459 | | | | 4.066498879 | | | | 5.000352313 | | | | | 0.021691819 | | | | up | | | | 381 | | | | 5 | | | 24 | | | | | 3 | | | | | 7 | | | | 9 | | |
| chr1\_1382\_mature@@mmu-miR-802-5p | | | | | | 44.35718708 | | | | 1.351806167 | | | | 5.036207674 | | | | | 0.021834444 | | | | up | | | | 135 | | | | 0 | | | 1 | | | | | 2 | | | | | 1 | | | | 2 | | |
| chr26\_41662\_mature | | | | | | 70.74751353 | | | | 121.9617252 | | | | -0.785677114 | | | | | 0.03998747 | | | | down | | | | 82 | | | | 31 | | | 294 | | | | | 67 | | | | | 272 | | | | 261 | | |
| **DE known miRNAs** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **AccID** | | **Month12** | | | **Month2** | | | | | | **Log2FC** | | | | | **FDR** | | | | | | **Style** | | | | **C1** | | | | | | | **C2** | | | **C3** | | | | **A1** | | | | | **A2** | | | | **A3** | |
| oar-miR-200b | | 2162.904419 | | | 29.37403806 | | | | | | 6.202284495 | | | | | 2.90712E-05 | | | | | | up | | | | 8866 | | | | | | | 22 | | | 84 | | | | 9 | | | | | 142 | | | | 44 | |
| oar-miR-200c | | 1475.996127 | | | 32.10859408 | | | | | | 5.522585629 | | | | | 0.000125764 | | | | | | up | | | | 6079 | | | | | | | 10 | | | 21 | | | | 19 | | | | | 139 | | | | 12 | |
| oar-miR-758-3p | | 26.94327131 | | | 48.35546004 | | | | | | -0.843753774 | | | | | 0.000225441 | | | | | | down | | | | 28 | | | | | | | 12 | | | 148 | | | | 23 | | | | | 123 | | | | 112 | |
| oar-miR-200a | | 7221.75421 | | | 138.5260891 | | | | | | 5.704119705 | | | | | 0.000314318 | | | | | | up | | | | 29744 | | | | | | | 38 | | | 275 | | | | 50 | | | | | 731 | | | | 122 | |

**Table S4 The union of DE miRNA in 2-vs 6-, 6-vs 12-, and 2-vs 12-month-old testes.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AccID** | **OverlapInfo** | **Log2FC\_Month12vsMonth2** | **FDR\_Month12vsMonth2** | **Style\_Month12vsMonth2** | **Log2FC\_Month12vsMonth6** | **FDR\_Month12vsMonth6** | **Style\_Month12vsMonth6** | **Log2FC\_Month6vsMonth2** | **FDR\_Month6vsMonth2** | **Style\_Month6vsMonth2** |
| chr12\_22667\_mature@@rno-miR-205 | Month12vsMonth2\_Month12vsMonth6 | 10.04605564 | 1.32E-09 | up | 7.54267386 | 0.012091462 | up |  |  |  |
| chr10\_18764\_mature | Month12vsMonth2\_Month12vsMonth6 | 9.796345011 | 2.88E-08 | up | 9.631285765 | 0.001222319 | up |  |  |  |
| chr1\_1165\_mature | Month12vsMonth2 | -1.545256501 | 4.70E-08 | down |  |  |  |  |  |  |
| chrx\_42700\_mature | Month12vsMonth2\_Month12vsMonth6 | 7.71875363 | 4.12E-06 | up | 6.755908923 | 0.016014188 | up |  |  |  |
| rno-miR-182 | Month12vsMonth2\_Month12vsMonth6 | 7.40623149 | 6.17E-06 | up | 6.913310554 | 0.036756857 | up |  |  |  |
| chrx\_43094\_mature | Month12vsMonth2\_Month12vsMonth6 | 7.49115935 | 8.37E-06 | up | 7.030303741 | 0.029570824 | up |  |  |  |
| rno-miR-3553 | Month12vsMonth2\_Month12vsMonth6 | 7.338428726 | 8.38E-06 | up | 7.194664258 | 0.013903399 | up |  |  |  |
| rno-miR-183-5p | Month12vsMonth2\_Month12vsMonth6 | 7.018808402 | 2.35E-05 | up | 6.539404232 | 0.029509194 | up |  |  |  |
| chr9\_18579\_mature | Month12vsMonth2 | -1.574533694 | 0.000101309 | down |  |  |  |  |  |  |
| rno-miR-200b-3p | Month12vsMonth2 | 6.209564539 | 0.000554535 | up |  |  |  |  |  |  |
| rno-miR-96-5p | Month12vsMonth2 | 6.182121423 | 0.000928209 | up |  |  |  |  |  |  |
| hsa-miR-6820-3p | Month12vsMonth2\_Month12vsMonth6 | -2.796309042 | 0.001360748 | down | -2.983963818 | 0.000192698 | down |  |  |  |
| hsa-miR-4680-3p | Month12vsMonth2 | -3.774252827 | 0.001824157 | down |  |  |  |  |  |  |
| chr2\_5559\_mature | Month12vsMonth2 | -2.215715973 | 0.002094662 | down |  |  |  |  |  |  |
| chr14\_24695\_mature | Month12vsMonth2\_Month12vsMonth6 | 5.608809243 | 0.003111228 | up | 20 | 0.031205671 | up |  |  |  |
| mmu-miR-1957a | Month12vsMonth2 | 1.599946172 | 0.008401485 | up |  |  |  |  |  |  |
| chr2\_3859\_mature | Month12vsMonth2\_Month6vsMonth2 | -0.67636804 | 0.009134581 | down |  |  |  | -0.732473627 | 1.42E-07 | down |
| chr12\_22542\_mature@@rno-miR-429 | Month12vsMonth2 | 5.418016223 | 0.010640783 | up |  |  |  |  |  |  |
| chr20\_36537\_mature | Month12vsMonth2\_Month12vsMonth6 | -0.853278985 | 0.015635633 | down | -0.787299802 | 0.003493368 | down |  |  |  |
| mmu-miR-182-3p | Month12vsMonth2 | 5.809003403 | 0.016114654 | up |  |  |  |  |  |  |
| rno-miR-196b-5p | Month12vsMonth2 | 6.787950325 | 0.019861798 | up |  |  |  |  |  |  |
| chr2\_5696\_star | Month12vsMonth2 | 5.000352313 | 0.021691819 | up |  |  |  |  |  |  |
| chr1\_1382\_mature@@mmu-miR-802-5p | Month12vsMonth2 | 5.036207674 | 0.021834444 | up |  |  |  |  |  |  |
| chr26\_41662\_mature | Month12vsMonth2 | -0.785677114 | 0.03998747 | down |  |  |  |  |  |  |
| oar-miR-200b | Month12vsMonth2 | 6.202284495 | 2.91E-05 | up |  |  |  |  |  |  |
| oar-miR-200c | Month12vsMonth2\_Month6vsMonth2 | 5.522585629 | 0.000125764 | up |  |  |  | 3.2599897 | 0.021828608 | up |
| oar-miR-758-3p | Month12vsMonth2 | -0.843753774 | 0.000225441 | down |  |  |  |  |  |  |
| oar-miR-200a | Month12vsMonth2 | 5.704119705 | 0.000314318 | up |  |  |  |  |  |  |
| rno-miR-132-3p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -0.993675326 | 1.48E-14 | down | 0.748456577 | 5.66E-07 | up |
| chr5\_12085\_star | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.987123721 | 1.53E-10 | down | 1.437222621 | 8.97E-05 | up |
| hsa-miR-3529-5p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -20 | 6.31E-09 | down | 20 | 5.86E-07 | up |
| hsa-miR-6835-3p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -20 | 2.62E-08 | down | 20 | 2.07E-06 | up |
| chr20\_35197\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | 1.010896996 | 7.16E-08 | up | -1.158180252 | 2.57E-08 | down |
| chr4\_10835\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -2.179868664 | 9.20E-08 | down | 1.906478517 | 0.002608959 | up |
| chr23\_38654\_mature@@rno-miR-122-5p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -5.005196455 | 1.66E-06 | down | 4.408164444 | 0.000365205 | up |
| chr2\_5752\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -2.145165311 | 1.96E-06 | down | 1.607710649 | 0.004287676 | up |
| chr7\_15206\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.678160038 | 2.65E-06 | down | 2.207407785 | 2.69E-06 | up |
| chrx\_42810\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -3.094382799 | 2.66E-06 | down | 1.326851444 | 0.04531591 | up |
| chr9\_17774\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -2.202495587 | 2.81E-06 | down | 2.374229625 | 0.000201255 | up |
| rno-miR-144-5p | Month12vsMonth6 |  |  |  | -1.325897332 | 3.10E-06 | down |  |  |  |
| chr18\_31482\_mature@@rno-miR-184 | Month12vsMonth6 |  |  |  | -1.442944296 | 5.97E-06 | down |  |  |  |
| chr24\_39411\_star | Month12vsMonth6 |  |  |  | -1.823182484 | 9.03E-06 | down |  |  |  |
| chr15\_26392\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -0.918952055 | 3.28E-05 | down | 0.854158747 | 0.002164647 | up |
| chr10\_18714\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.449252455 | 8.87E-05 | down | 2.109147995 | 1.75E-06 | up |
| hsa-miR-7-2-3p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -7.401946124 | 9.91E-05 | down | 20 | 1.66E-07 | up |
| hsa-miR-1298-3p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.9024043 | 0.00015389 | down | 1.779035255 | 0.028519655 | up |
| chrx\_42853\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.548632918 | 0.000225023 | down | 1.022684211 | 0.048525856 | up |
| chr8\_16702\_mature | Month12vsMonth6 |  |  |  | -1.429819946 | 0.000237891 | down |  |  |  |
| chr1\_444\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -4.893820249 | 0.000238393 | down | 3.524722424 | 0.002716511 | up |
| mmu-miR-1929-3p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -5.977986079 | 0.000258292 | down | 2.29850598 | 0.024542271 | up |
| chr1\_899\_mature | Month12vsMonth6 |  |  |  | -2.741239532 | 0.000417529 | down |  |  |  |
| chr1\_997\_star | Month12vsMonth6 |  |  |  | -0.978749041 | 0.000563034 | down |  |  |  |
| chr13\_22865\_mature | Month12vsMonth6 |  |  |  | -2.028530557 | 0.000653069 | down |  |  |  |
| chr1\_993\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -2.889596314 | 0.000689313 | down | 2.752695881 | 0.007781247 | up |
| chr3\_6538\_mature | Month12vsMonth6 |  |  |  | -1.071029246 | 0.000731079 | down |  |  |  |
| chr22\_37998\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -2.289958985 | 0.000904602 | down | 3.068959799 | 0.004576183 | up |
| hsa-miR-606 | Month12vsMonth6 |  |  |  | -6.027403403 | 0.001338746 | down |  |  |  |
| chr13\_23481\_mature | Month12vsMonth6 |  |  |  | -2.413282775 | 0.001418108 | down |  |  |  |
| hsa-miR-6737-3p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -6.639587372 | 0.001565359 | down | 3.763568279 | 0.015248851 | up |
| mmu-miR-30a-5p | Month12vsMonth6 |  |  |  | -3.894896485 | 0.001683193 | down |  |  |  |
| chr18\_32890\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -5.4276439 | 0.001806013 | down | 4.864507762 | 0.002675271 | up |
| chr23\_38654\_star@@hsa-miR-3591-5p | Month12vsMonth6 |  |  |  | -4.514573173 | 0.002091191 | down |  |  |  |
| chr19\_33386\_star@@rno-miR-138-1-3p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -3.99726053 | 0.002411339 | down | 3.453233214 | 0.029490577 | up |
| chr18\_32725\_mature@@rno-miR-211-5p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.081715981 | 0.002753334 | down | 1.126558428 | 6.35E-11 | up |
| chr11\_20627\_mature | Month12vsMonth6 |  |  |  | 1.03462134 | 0.003134594 | up |  |  |  |
| chr17\_29300\_mature | Month12vsMonth6 |  |  |  | -2.195039056 | 0.003140177 | down |  |  |  |
| chr6\_13013\_mature | Month12vsMonth6 |  |  |  | -1.30955917 | 0.003241519 | down |  |  |  |
| chr3\_6281\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -3.199680683 | 0.003488706 | down | 4.471120936 | 0.003206627 | up |
| chr21\_37145\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -5.442440902 | 0.003681835 | down | 3.879304764 | 0.026751597 | up |
| mmu-miR-3968 | Month12vsMonth6 |  |  |  | -1.64717787 | 0.005100413 | down |  |  |  |
| chr5\_12057\_mature | Month12vsMonth6 |  |  |  | -1.138165162 | 0.005810438 | down |  |  |  |
| chr6\_13609\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | 0.840098321 | 0.00738024 | up | -1.064504076 | 9.75E-07 | down |
| chr1\_2093\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -5.550197083 | 0.007845162 | down | 4.402098444 | 0.021780253 | up |
| chr2\_5559\_star | Month12vsMonth6 |  |  |  | 1.744947611 | 0.008287865 | up |  |  |  |
| chr13\_23561\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.144245477 | 0.008358254 | down | 2.005501781 | 4.99E-10 | up |
| chr5\_11830\_mature | Month12vsMonth6 |  |  |  | -5.195800935 | 0.008685842 | down |  |  |  |
| chr24\_40260\_mature | Month12vsMonth6 |  |  |  | -5.057991723 | 0.009003921 | down |  |  |  |
| chr3\_9360\_star | Month12vsMonth6 |  |  |  | -1.766199556 | 0.009419881 | down |  |  |  |
| chr3\_6658\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.161037736 | 0.009494022 | down | 1.358705848 | 0.021306174 | up |
| chr14\_25698\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -5.46906032 | 0.010316019 | down | 5.320961681 | 0.009275083 | up |
| chr7\_14232\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.275302041 | 0.010334618 | down | 2.113824372 | 0.022411517 | up |
| chr21\_37414\_mature | Month12vsMonth6 |  |  |  | -2.252427154 | 0.010942788 | down |  |  |  |
| chr8\_16487\_mature | Month12vsMonth6 |  |  |  | -4.661886039 | 0.011339602 | down |  |  |  |
| chr7\_14588\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -3.63508598 | 0.012835769 | down | 3.628031223 | 0.01058 | up |
| hsa-miR-3615 | Month12vsMonth6\_Month6vsMonth2 |  |  |  | 1.129466444 | 0.013127619 | up | -1.247615026 | 0.024500846 | down |
| chr22\_38264\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -4.942514505 | 0.013348949 | down | 4.584962501 | 0.002507585 | up |
| chr10\_19252\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.653855784 | 0.013377399 | down | 1.865753281 | 0.028714712 | up |
| chr23\_38620\_star | Month12vsMonth6\_Month6vsMonth2 |  |  |  | 1.299482737 | 0.01448567 | up | -0.953177706 | 0.003906703 | down |
| rno-miR-207 | Month12vsMonth6 |  |  |  | -4.094517599 | 0.014834348 | down |  |  |  |
| chr24\_39542\_mature | Month12vsMonth6 |  |  |  | -3.063292538 | 0.015450856 | down |  |  |  |
| chr8\_16249\_mature | Month12vsMonth6 |  |  |  | -1.42687704 | 0.015804405 | down |  |  |  |
| chr4\_11184\_mature | Month12vsMonth6 |  |  |  | -1.802545538 | 0.016063747 | down |  |  |  |
| chr24\_39448\_mature | Month12vsMonth6 |  |  |  | -3.854423176 | 0.016143373 | down |  |  |  |
| chr26\_41943\_mature | Month12vsMonth6 |  |  |  | -1.410014459 | 0.017387428 | down |  |  |  |
| chr15\_26920\_mature | Month12vsMonth6 |  |  |  | -1.110356556 | 0.017676196 | down |  |  |  |
| chr6\_13736\_mature@@hsa-miR-95-3p | Month12vsMonth6 |  |  |  | -1.106113801 | 0.017892006 | down |  |  |  |
| chr7\_13935\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -2.406461605 | 0.018436047 | down | 5.379378367 | 0.009405746 | up |
| chr7\_16114\_mature | Month12vsMonth6 |  |  |  | -3.84572596 | 0.018840791 | down |  |  |  |
| chr18\_31795\_mature | Month12vsMonth6 |  |  |  | -4.816983623 | 0.020162226 | down |  |  |  |
| chr1\_997\_mature | Month12vsMonth6 |  |  |  | -1.186535137 | 0.020357795 | down |  |  |  |
| chr19\_33628\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -3.118563073 | 0.020831767 | down | 5.320961681 | 0.009275083 | up |
| chr22\_38226\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -3.918667763 | 0.022545117 | down | 3.169925001 | 0.024587365 | up |
| chr7\_15128\_star | Month12vsMonth6 |  |  |  | -1.169037323 | 0.023291434 | down |  |  |  |
| rno-miR-375-3p | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.124315059 | 0.025494624 | down | 1.541016331 | 0.001119666 | up |
| chr15\_26685\_mature | Month12vsMonth6 |  |  |  | -0.983310582 | 0.026901423 | down |  |  |  |
| chr21\_37421\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | 1.663127659 | 0.027278844 | up | -0.989251587 | 0.034272943 | down |
| chr19\_34228\_mature | Month12vsMonth6 |  |  |  | -1.088594002 | 0.027448162 | down |  |  |  |
| chr8\_16230\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.418634659 | 0.028675462 | down | 2.049278016 | 0.043509335 | up |
| chr20\_35519\_mature | Month12vsMonth6 |  |  |  | -2.775100723 | 0.028789978 | down |  |  |  |
| chr24\_40056\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -4.860052345 | 0.031172827 | down | 4.296916207 | 0.033877789 | up |
| chr10\_18768\_mature | Month12vsMonth6 |  |  |  | -0.966536031 | 0.031890901 | down |  |  |  |
| chr1\_1808\_mature | Month12vsMonth6 |  |  |  | -1.400528178 | 0.032495888 | down |  |  |  |
| chr3\_6681\_mature | Month12vsMonth6 |  |  |  | -1.232891548 | 0.033251143 | down |  |  |  |
| chr18\_31886\_star@@rno-miR-345-3p | Month12vsMonth6 |  |  |  | 0.805481994 | 0.033380551 | up |  |  |  |
| chr13\_23591\_mature | Month12vsMonth6 |  |  |  | -0.916332753 | 0.036264019 | down |  |  |  |
| chr4\_10739\_star | Month12vsMonth6 |  |  |  | -0.875704089 | 0.039591228 | down |  |  |  |
| chr1\_2522\_mature | Month12vsMonth6 |  |  |  | -5.02887479 | 0.039952901 | down |  |  |  |
| chr17\_29299\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.147471594 | 0.04096229 | down | 2.027577836 | 0.002643891 | up |
| chr2\_4991\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -1.120007344 | 0.041385796 | down | 2.126325612 | 1.73E-05 | up |
| chr26\_41780\_mature | Month12vsMonth6 |  |  |  | -3.331100649 | 0.046422067 | down |  |  |  |
| chr23\_38404\_mature | Month12vsMonth6 |  |  |  | -1.06082561 | 0.04809202 | down |  |  |  |
| chr13\_23590\_star | Month12vsMonth6\_Month6vsMonth2 |  |  |  | -0.980715013 | 0.049165754 | down | 2.150827487 | 6.06E-06 | up |
| chr24\_40069\_mature | Month12vsMonth6\_Month6vsMonth2 |  |  |  | 1.066042091 | 0.04947244 | up | -1.217889615 | 0.007419487 | down |
| oar-miR-23b | Month12vsMonth6 |  |  |  | 0.638091222 | 0.018459189 | up |  |  |  |
| mmu-miR-1957b | Month6vsMonth2 |  |  |  |  |  |  | -2.408217879 | 0.043788364 | down |
| chr24\_40297\_mature | Month6vsMonth2 |  |  |  |  |  |  | -2.35755761 | 0.000566093 | down |
| chr18\_31861\_star | Month6vsMonth2 |  |  |  |  |  |  | -1.787125901 | 0.000132487 | down |
| chr11\_19859\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.614320103 | 0.005701906 | down |
| chr20\_36792\_star | Month6vsMonth2 |  |  |  |  |  |  | -1.549434979 | 1.07E-10 | down |
| chr1\_1952\_star | Month6vsMonth2 |  |  |  |  |  |  | -1.486078094 | 0.001209198 | down |
| chr24\_39205\_star | Month6vsMonth2 |  |  |  |  |  |  | -1.470771057 | 0.001837994 | down |
| chr10\_19618\_star | Month6vsMonth2 |  |  |  |  |  |  | -1.440756735 | 9.30E-11 | down |
| chr1\_184\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.424043823 | 0 | down |
| chr8\_16296\_mature@@mmu-miR-3960 | Month6vsMonth2 |  |  |  |  |  |  | -1.423083264 | 1.82E-05 | down |
| chr9\_17792\_star | Month6vsMonth2 |  |  |  |  |  |  | -1.41441454 | 0.000480703 | down |
| chr20\_35508\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.395858403 | 0 | down |
| chr10\_19618\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.381049155 | 0.004338156 | down |
| chr3\_7509\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.369336233 | 1.27E-14 | down |
| chr4\_11009\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.323266639 | 1.21E-05 | down |
| chr1\_237\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.242736085 | 7.16E-13 | down |
| chr20\_35179\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.233573535 | 4.18E-06 | down |
| chr2\_3091\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.220552014 | 0.002354145 | down |
| chr5\_11854\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.217926794 | 0.023187677 | down |
| chr14\_25776\_star | Month6vsMonth2 |  |  |  |  |  |  | -1.204406215 | 0.012099206 | down |
| chr23\_38598\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.182479492 | 2.35E-07 | down |
| chr2\_3823\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.163164165 | 1.35E-11 | down |
| chr18\_31861\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.103350856 | 6.22E-15 | down |
| chr9\_18181\_star | Month6vsMonth2 |  |  |  |  |  |  | -1.083508941 | 8.15E-05 | down |
| chr2\_3860\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.080007593 | 2.02E-08 | down |
| chr2\_5486\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.039512732 | 0.019865453 | down |
| chr2\_4108\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.030153253 | 0 | down |
| chr20\_36478\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.027603572 | 0.002317468 | down |
| chr19\_34451\_mature | Month6vsMonth2 |  |  |  |  |  |  | -1.007407123 | 0.006472468 | down |
| chr17\_29426\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.998707977 | 1.12E-05 | down |
| chr21\_37272\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.978338937 | 0.02509272 | down |
| hsa-miR-4454 | Month6vsMonth2 |  |  |  |  |  |  | -0.973436695 | 1.94E-11 | down |
| chr2\_3859\_star | Month6vsMonth2 |  |  |  |  |  |  | -0.967843762 | 0.000535426 | down |
| mmu-miR-6236 | Month6vsMonth2 |  |  |  |  |  |  | -0.966731054 | 0.003081756 | down |
| chr20\_36678\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.958891243 | 3.00E-15 | down |
| chr22\_38276\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.956326948 | 0.028578093 | down |
| chr1\_1794\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.939225614 | 3.10E-12 | down |
| chr6\_13610\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.933435774 | 7.77E-16 | down |
| hsa-miR-4634 | Month6vsMonth2 |  |  |  |  |  |  | -0.92438339 | 0.000306505 | down |
| chr24\_39365\_star | Month6vsMonth2 |  |  |  |  |  |  | -0.919943493 | 0.002823159 | down |
| chr4\_11010\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.919464963 | 0.002452328 | down |
| chr3\_10221\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.899132974 | 6.15E-10 | down |
| mmu-miR-1928 | Month6vsMonth2 |  |  |  |  |  |  | -0.893107919 | 0.000433363 | down |
| chr24\_39365\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.886827541 | 0.000264745 | down |
| chr3\_10079\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.857478212 | 0.007346573 | down |
| hsa-miR-4508 | Month6vsMonth2 |  |  |  |  |  |  | -0.839448552 | 0.00028707 | down |
| chr3\_10209\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.837807682 | 0.005552424 | down |
| chr14\_24674\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.834357232 | 0.000440644 | down |
| hsa-miR-7641 | Month6vsMonth2 |  |  |  |  |  |  | -0.823454529 | 0.009004723 | down |
| chr18\_32977\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.810349543 | 0.009085847 | down |
| chr2\_5603\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.799421313 | 0.024160939 | down |
| chr8\_16578\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.797224423 | 0.007708137 | down |
| chr18\_32977\_star | Month6vsMonth2 |  |  |  |  |  |  | -0.796755405 | 8.09E-06 | down |
| chr10\_19333\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.795314517 | 1.21E-05 | down |
| chr11\_21007\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.789239851 | 1.99E-07 | down |
| chrx\_42279\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.772810285 | 0.000191823 | down |
| chr2\_3247\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.771670104 | 0.008022503 | down |
| chr24\_39206\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.759729294 | 3.75E-07 | down |
| chr15\_27033\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.75423653 | 5.61E-11 | down |
| chr3\_6466\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.748918127 | 1.44E-10 | down |
| chr4\_10764\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.743102329 | 0.005775922 | down |
| chr2\_3970\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.70703165 | 1.68E-05 | down |
| chr6\_12952\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.695197289 | 2.33E-06 | down |
| chr20\_35197\_star | Month6vsMonth2 |  |  |  |  |  |  | -0.67354783 | 0.013590505 | down |
| chr1\_1830\_mature | Month6vsMonth2 |  |  |  |  |  |  | -0.599057031 | 0.000191576 | down |
| rno-miR-147 | Month6vsMonth2 |  |  |  |  |  |  | 0.925680828 | 0.006573979 | up |
| chr7\_14696\_mature | Month6vsMonth2 |  |  |  |  |  |  | 1.02103444 | 0.030381489 | up |
| chr21\_37526\_mature | Month6vsMonth2 |  |  |  |  |  |  | 1.098317695 | 0.010741858 | up |
| chr17\_28779\_mature | Month6vsMonth2 |  |  |  |  |  |  | 1.36981682 | 0.046784868 | up |
| chr1\_1178\_mature | Month6vsMonth2 |  |  |  |  |  |  | 1.453157044 | 0.014492989 | up |
| chr3\_9276\_mature | Month6vsMonth2 |  |  |  |  |  |  | 1.509742502 | 0.043233106 | up |
| chr2\_5624\_mature@@rno-miR-449a-5p | Month6vsMonth2 |  |  |  |  |  |  | 1.511914855 | 0.011538241 | up |
| chr18\_31792\_mature | Month6vsMonth2 |  |  |  |  |  |  | 1.73706867 | 0.024564495 | up |
| chr12\_22642\_mature | Month6vsMonth2 |  |  |  |  |  |  | 1.781856947 | 0.007449781 | up |
| chr2\_3876\_mature | Month6vsMonth2 |  |  |  |  |  |  | 1.810563289 | 0.030197277 | up |
| chr10\_19329\_mature | Month6vsMonth2 |  |  |  |  |  |  | 1.990038644 | 0.000696285 | up |
| hsa-miR-4272 | Month6vsMonth2 |  |  |  |  |  |  | 2.16901726 | 0.001953097 | up |
| chr10\_19246\_mature | Month6vsMonth2 |  |  |  |  |  |  | 2.205936025 | 0.003353031 | up |
| chr6\_13477\_mature | Month6vsMonth2 |  |  |  |  |  |  | 2.410234813 | 6.54E-06 | up |
| chr17\_30196\_star | Month6vsMonth2 |  |  |  |  |  |  | 3.768420658 | 0.029415237 | up |
| chr22\_37931\_star | Month6vsMonth2 |  |  |  |  |  |  | 5.201232859 | 0.008221472 | up |
| rno-miR-351-5p | Month6vsMonth2 |  |  |  |  |  |  | 5.274703373 | 0.040016251 | up |
| hsa-miR-520f-5p | Month6vsMonth2 |  |  |  |  |  |  | 5.500130527 | 0.003780841 | up |
| oar-miR-409-3p | Month6vsMonth2 |  |  |  |  |  |  | -0.962079531 | 0.000447574 | down |
| oar-miR-495-3p | Month6vsMonth2 |  |  |  |  |  |  | -0.641019174 | 0.001548281 | down |
| oar-miR-379-5p | Month6vsMonth2 |  |  |  |  |  |  | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | Month6vsMonth2 |  |  |  |  |  |  | -0.89356081 | 0.037492287 | down |

**Table S5 Predicted target mRNAs of DE known sheep miRNAs**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Predicted target mRNAs of DE known miRNA** | | | | | | | | | | | | | | | | | | |
| **2- vs 6-month-old sheep testes** | | | | | | | | | | | | | | | | | | |
| **miRNA** | **TargetGene** | **Energy** | **Score** | **StartSubject** | **EndSubject** | **GeneType-Target** | **Log2FC-Target** | **FDR-Target** | **Style-Target** | **Symbol-Target** | **KeggID-Target** | **Description-Target** | **E-Value-Target** | **Blast\_Symbol-Target** | **Blast\_Description-Target** | **Log2FC-miRNA** | **FDR-miRNA** | **Style-miRNA** |
| oar-miR-665-3p | ACOXL | -15.51 | 142 | 3742 | 3763 | mRNA | 1.900926626 | 1.04E-04 | up | ACOXL | oas:101118010 | Uncharacterized protein | 0 | ACOXL | cDNA FLJ59051, highly similar to Homo sapiens acyl-Coenzyme A oxidase-like (ACOXL), mRNA | -0.89356081 | 0.037492287 | down |
| oar-miR-379-5p | ANAPC1 | -21.83 | 155 | 5850 | 5870 | mRNA | -0.73782965 | 0.026912005 | down | ANAPC1 | oas:101117916 | Uncharacterized protein | 0 | ANAPC1 | Anaphase-promoting complex subunit 1 | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | ANKRD37 | -19.19 | 153 | 2343 | 2363 | mRNA | 1.4744961 | 0.002613817 | up | ANKRD37 | oas:101112948 | Uncharacterized protein | 4.00E-79 | ANKRD37 | cDNA FLJ50037, highly similar to Ankyrin repeat domain-containing protein 37 | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | APPBP2 | -18.65 | 140 | 3789 | 3810 | mRNA | -0.727546715 | 0.033446983 | down | APPBP2 | oas:101108927 | Uncharacterized protein | 0 | APPBP2 | Amyloid protein-binding protein 2 | -0.89356081 | 0.037492287 | down |
| oar-miR-379-5p | ASB16 | -18.78 | 151 | 687 | 709 | mRNA | 1.646885801 | 0.019930343 | up | ASB16 | oas:101115385 | Uncharacterized protein | 0 | ASB16 | Ankyrin repeat and SOCS box protein 16 | -0.60344917 | 0.035121566 | down |
| oar-miR-379-5p | ATP10B | -19.1 | 142 | 2003 | 2023 | mRNA | 2.902249732 | 1.39E-08 | up | ATP10B | oas:101117246 | Phospholipid-translocating ATPase | 0 | ATP10B | Phospholipid-translocating ATPase | -0.60344917 | 0.035121566 | down |
| oar-miR-379-5p | ATP13A5 | -16.8 | 155 | 51 | 72 | mRNA | 1.713104556 | 0.024787381 | up | ATP13A5 | oas:101107321 | Uncharacterized protein | 0 | ATP13A5 | Probable cation-transporting ATPase 13A5 | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | ATP13A5 | -17.68 | 141 | 2150 | 2171 | mRNA | 1.713104556 | 0.024787381 | up | ATP13A5 | oas:101107321 | Uncharacterized protein | 0 | ATP13A5 | Probable cation-transporting ATPase 13A5 | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | BCL2L11 | -15.51 | 142 | 3354 | 3375 | mRNA | 1.059441286 | 2.49E-04 | up | BCL2L11 | oas:100505402 | BCL2-like protein 11 | 5.00E-65 | BCL2L11 | Bcl-2-like protein 11 | -0.89356081 | 0.037492287 | down |
| oar-miR-379-5p | BCL7A | -26.4 | 166 | 1024 | 1044 | mRNA | -1.378139647 | 0.046442125 | down | BCL7A | oas:101103013 | B-cell CLL/lymphoma 7A | 4.00E-93 | BCL7A | B-cell CLL/lymphoma 7 protein family member A | -0.60344917 | 0.035121566 | down |
| oar-miR-200c | BMPR2 | -17.26 | 148 | 990 | 1011 | mRNA | -0.907869286 | 0.006461915 | down | BMPR2 |  | Receptor protein serine/threonine kinase | | |  | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | BOLA1 | -16.47 | 140 | 42 | 63 | mRNA | 1.68487893 | 0.024293468 | up | BOLA1 | oas:101123165 | Uncharacterized protein | 3.00E-63 | BOLA1 | BolA-like protein 1 | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | C20H6orf25 | -15.71 | 150 | 480 | 502 | mRNA | 1.975559321 | 4.71E-04 | up | C20H6orf25 | oas:101103601 | Uncharacterized protein | 3.00E-87 | C6orf25 | cDNA FLJ35073 fis, clone PLACE6000630 | 3.2599897 | 0.021828608 | up |
| oar-miR-409-3p | C20H6orf25 | -17.84 | 141 | 123 | 145 | mRNA | 1.975559321 | 4.71E-04 | up | C20H6orf25 | oas:101103601 | Uncharacterized protein | 3.00E-87 | C6orf25 | cDNA FLJ35073 fis, clone PLACE6000630 | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | C22H10orf90 | -17.65 | 150 | 1088 | 1109 | mRNA | 1.875331761 | 0.004115613 | up | C22H10orf90 | oas:101116691 | Uncharacterized protein | 0 | C10orf90 | Centrosomal protein C10orf90 | -0.89356081 | 0.037492287 | down |
| oar-miR-495-3p | C2H9orf72 | -15.04 | 151 | 641 | 663 | mRNA | -0.749694339 | 6.20E-04 | down | C2H9orf72 | oas:101111774 | Uncharacterized protein | 0 | C9orf72 | Protein C9orf72 | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | C3H12orf56 | -15.7 | 141 | 9994 | 10015 | mRNA | 1.897885983 | 0.046168485 | up | C3H12orf56 | oas:101111356 | chromosome 3 open reading frame, human C12orf56 | 0 | C12orf56 | chromosome 12 open reading frame 56 | -0.89356081 | 0.037492287 | down |
| oar-miR-379-5p | C3H12orf56 | -23.41 | 148 | 5028 | 5049 | mRNA | 1.897885983 | 0.046168485 | up | C3H12orf56 | oas:101111356 | chromosome 3 open reading frame, human C12orf56 | 0 | C12orf56 | chromosome 12 open reading frame 56 | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | C3H12orf56 | -29.8 | 153 | 6853 | 6875 | mRNA | 1.897885983 | 0.046168485 | up | C3H12orf56 | oas:101111356 | chromosome 3 open reading frame, human C12orf56 | 0 | C12orf56 | chromosome 12 open reading frame 56 | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | CACUL1 | -21.85 | 141 | 4917 | 4937 | mRNA | 1.214750675 | 0.015419728 | up | CACUL1 | oas:101105965 | Uncharacterized protein | 0 | CACUL1 | CDK2-associated and cullin domain-containing protein 1 | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | CACUL1 | -16.73 | 155 | 453 | 476 | mRNA | 1.214750675 | 0.015419728 | up | CACUL1 | oas:101105965 | Uncharacterized protein | 0 | CACUL1 | CDK2-associated and cullin domain-containing protein 1 | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | CCIN | -34.02 | 169 | 842 | 861 | mRNA | 1.939910745 | 0.022372543 | up | CCIN | oas:101110996 | Uncharacterized protein | 0 | CCIN | Calicin | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | CDK5R1 | -15.35 | 150 | 2032 | 2053 | mRNA | 1.776996332 | 0.001659284 | up | CDK5R1 | oas:101120847 | Uncharacterized protein | 7.00E-160 | CDK5R1 | Cyclin-dependent kinase 5 activator 1 | 3.2599897 | 0.021828608 | up |
| oar-miR-409-3p | CDK5R1 | -18.3 | 160 | 174 | 196 | mRNA | 1.776996332 | 0.001659284 | up | CDK5R1 | oas:101120847 | Uncharacterized protein | 7.00E-160 | CDK5R1 | Cyclin-dependent kinase 5 activator 1 | -0.962079531 | 4.48E-04 | down |
| oar-miR-200c | CHMP5 | -21.34 | 167 | 440 | 463 | mRNA | 1.300807564 | 0.024085262 | up | CHMP5 | oas:101104370 | Uncharacterized protein | 5.00E-123 | CHMP5 | Charged multivesicular body protein 5 | 3.2599897 | 0.021828608 | up |
| oar-miR-200c | CHRNB3 | -15.13 | 150 | 1098 | 1119 | mRNA | 1.836297677 | 0.005809903 | up | CHRNB3 | oas:101122833 | Uncharacterized protein | 0 | CHRNB3 | Neuronal acetylcholine receptor subunit beta-3 | 3.2599897 | 0.021828608 | up |
| oar-miR-409-3p | CORIN | -17.36 | 168 | 15 | 36 | mRNA | 1.866603482 | 0.00128039 | up | CORIN | oas:101112571 | Uncharacterized protein | 0 | CORIN | Atrial natriuretic peptide-converting enzyme | -0.962079531 | 4.48E-04 | down |
| oar-miR-200c | CYTIP | -22.2 | 143 | 104 | 125 | mRNA | 1.23368979 | 4.80E-05 | up | CYTIP | oas:101113467 | Uncharacterized protein | 8.00E-168 | CYTIP | Cytohesin-interacting protein | 3.2599897 | 0.021828608 | up |
| oar-miR-200c | DCC | -19 | 141 | 1110 | 1130 | mRNA | 1.124819158 | 0.024715025 | up | DCC | oas:101118654 | Uncharacterized protein | 0 | DCC | Netrin receptor DCC | 3.2599897 | 0.021828608 | up |
| oar-miR-495-3p | DCTN6 | -15.3 | 151 | 72 | 93 | mRNA | 1.170215188 | 0.00190846 | up | DCTN6 | oas:101104551 | Uncharacterized protein | 9.00E-106 | DCTN6 | Dynactin subunit 6 | -0.641019174 | 0.001548281 | down |
| oar-miR-200c | DDI1 | -19.32 | 163 | 1594 | 1617 | mRNA | 1.991929021 | 0.026444215 | up | DDI1 | oas:101117530 | Uncharacterized protein | 1.00E-180 | DDI1 | Protein DDI1 homolog 1 | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | DDI2 | -15.7 | 141 | 1280 | 1301 | mRNA | 0.735130457 | 0.005954012 | up | DDI2 | oas:101110160 | Uncharacterized protein | 0 | DDI2 | Protein DDI1 homolog 2 | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | DENND2C | -18.31 | 157 | 1429 | 1452 | mRNA | -1.097037753 | 2.23E-06 | down | DENND2C | oas:101122903 | Uncharacterized protein | 0 | DENND2C | DENN domain-containing protein 2C | 3.2599897 | 0.021828608 | up |
| oar-miR-495-3p | DENND2C | -15.29 | 154 | 1334 | 1352 | mRNA | -1.097037753 | 2.23E-06 | down | DENND2C | oas:101122903 | Uncharacterized protein | 0 | DENND2C | DENN domain-containing protein 2C | -0.641019174 | 0.001548281 | down |
| oar-miR-200c | DGKK | -18.59 | 144 | 3537 | 3557 | mRNA | 1.515760835 | 3.26E-04 | up | DGKK | oas:101110739 | Diacylglycerol kinase | 0 | DGKK | Diacylglycerol kinase kappa | 3.2599897 | 0.021828608 | up |
| oar-miR-379-5p | DGKK | -20.45 | 148 | 1612 | 1633 | mRNA | 1.515760835 | 3.26E-04 | up | DGKK | oas:101110739 | Diacylglycerol kinase | 0 | DGKK | Diacylglycerol kinase kappa | -0.60344917 | 0.035121566 | down |
| oar-miR-495-3p | DNER | -18.64 | 168 | 415 | 436 | mRNA | 1.840706774 | 0.012064864 | up | DNER | oas:101119703 | Uncharacterized protein | 0 | DNER | cDNA FLJ76207, highly similar to Homo sapiens delta-notch-like EGF repeat-containing transmembrane (DNER), mRNA | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | DUSP13 | -19.18 | 146 | 953 | 977 | mRNA | 1.959431563 | 0.022403296 | up | DUSP13 | oas:101102034 | Uncharacterized protein | 8.00E-136 | DUSP13 | Dual specificity phosphatase 13, isoform CRA\_a | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | EID1 | -15.27 | 143 | 29 | 52 | mRNA | -0.895079805 | 0.010926596 | down | EID1 | oas:101110514 | EP300 interacting inhibitor of differentiation 1 | 3.00E-75 | EID1 | EP300-interacting inhibitor of differentiation 1 | -0.962079531 | 4.48E-04 | down |
| oar-miR-495-3p | EPC2 | -15.13 | 156 | 1086 | 1107 | mRNA | -0.585950416 | 0.049398894 | down | EPC2 | oas:101121402 | Enhancer of polycomb homolog | 0 | EPC2 | Enhancer of polycomb homolog 2 | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | ERCC4 | -19.18 | 156 | 2360 | 2381 | mRNA | -0.694899077 | 0.025745851 | down | ERCC4 | oas:101109669 | Uncharacterized protein | 0 | ERCC4 | cDNA FLJ51369, highly similar to DNA repair endonuclease XPF (EC 3.1.-.-) | -0.89356081 | 0.037492287 | down |
| oar-miR-495-3p | ERCC4 | -15.38 | 151 | 1454 | 1475 | mRNA | -0.694899077 | 0.025745851 | down | ERCC4 | oas:101109669 | Uncharacterized protein | 0 | ERCC4 | cDNA FLJ51369, highly similar to DNA repair endonuclease XPF (EC 3.1.-.-) | -0.641019174 | 0.001548281 | down |
| oar-miR-495-3p | FAM168B | -15.1 | 152 | 1399 | 1420 | mRNA | -0.88611536 | 0.017486722 | down | FAM168B | oas:101104965 | Uncharacterized protein | 6.00E-101 | FAM168B | Myelin-associated neurite-outgrowth inhibitor | -0.641019174 | 0.001548281 | down |
| oar-miR-379-5p | FAM168B | -16.45 | 150 | 1825 | 1847 | mRNA | -0.88611536 | 0.017486722 | down | FAM168B | oas:101104965 | Uncharacterized protein | 6.00E-101 | FAM168B | Myelin-associated neurite-outgrowth inhibitor | -0.60344917 | 0.035121566 | down |
| oar-miR-379-5p | FSTL4 | -20.33 | 152 | 4043 | 4064 | mRNA | 1.279603369 | 0.041716526 | up | FSTL4 | oas:101123036 | Uncharacterized protein | 0 | FSTL4 | Follistatin-related protein 4 | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | GCC1 | -18.8 | 146 | 1662 | 1681 | mRNA | 1.505484714 | 7.16E-05 | up | GCC1 | oas:101109438 | Uncharacterized protein | 0 | GCC1 | GRIP and coiled-coil domain containing 1 | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | GRIK5 | -21.14 | 152 | 612 | 634 | mRNA | 1.429367479 | 0.038564255 | up | GRIK5 | oas:101103501 | glutamate receptor, ionotropic, kainate 5 | 0 | GRIK5 | Glutamate receptor ionotropic, kainate 5 | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | GRIK5 | -18.16 | 156 | 700 | 721 | mRNA | 1.429367479 | 0.038564255 | up | GRIK5 | oas:101103501 | glutamate receptor, ionotropic, kainate 5 | 0 | GRIK5 | Glutamate receptor ionotropic, kainate 5 | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | HIP1R | -21.05 | 147 | 940 | 961 | mRNA | -0.633223912 | 0.001817757 | down | HIP1R | oas:101123327 | Uncharacterized protein | 0 | HIP1R | Huntingtin interacting protein 1 related, isoform CRA\_a | -0.89356081 | 0.037492287 | down |
| oar-miR-495-3p | HIP1R | -19.08 | 144 | 385 | 404 | mRNA | -0.633223912 | 0.001817757 | down | HIP1R | oas:101123327 | Uncharacterized protein | 0 | HIP1R | Huntingtin interacting protein 1 related, isoform CRA\_a | -0.641019174 | 0.001548281 | down |
| oar-miR-495-3p | IL2RB | -22.39 | 177 | 1913 | 1934 | mRNA | -1.639947321 | 0.046009703 | down | IL2RB | oas:101107088 | Uncharacterized protein | 3.00E-161 | IL2RB | Interleukin-2 receptor subunit beta | -0.641019174 | 0.001548281 | down |
| oar-miR-200c | IP6K1 | -16.99 | 156 | 788 | 809 | mRNA | 0.614949641 | 6.21E-04 | up | IP6K1 | oas:101102341 | Uncharacterized protein | 0 | IP6K1 | Inositol hexaphosphate kinase 1, isoform CRA\_a | 3.2599897 | 0.021828608 | up |
| oar-miR-495-3p | ITPRIPL1 | -19.42 | 164 | 834 | 853 | mRNA | 1.496652856 | 0.031293119 | up | ITPRIPL1 | oas:101112893 | Uncharacterized protein | 0 | ITPRIPL1 | Inositol 1,4,5-trisphosphate receptor-interacting protein-like 1 | -0.641019174 | 0.001548281 | down |
| oar-miR-409-3p | KCND3 | -17.37 | 143 | 3889 | 3911 | mRNA | 1.595963293 | 2.86E-07 | up | KCND3 | oas:101115919 | Uncharacterized protein | 0 | KCND3 | Potassium voltage-gated channel, Shal-related subfamily, member 3, isoform CRA\_b | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | KCNN3 | -29.63 | 164 | 5524 | 5545 | mRNA | 1.909599221 | 0.010842874 | up | KCNN3 | oas:101112614 | Uncharacterized protein | 0 | KCNN3 | Small conductance calcium-activated potassium channel protein 3 | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | KCTD12 | -15.65 | 141 | 4131 | 4152 | mRNA | -0.881805646 | 8.12E-04 | down | KCTD12 | oas:101102499 | Uncharacterized protein | 1.00E-152 | KCTD12 | cDNA FLJ46506 fis, clone THYMU3030752, highly similar to BTB/POZ domain-containing protein KCTD12 | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | KL | -17.71 | 141 | 538 | 559 | mRNA | 1.420819413 | 0.005736843 | up | KL | oas:101110249 | Uncharacterized protein | 0 | KL | cDNA FLJ40030 fis, clone STOMA2009250, highly similar to Klotho (EC 3.2.1.31) | 3.2599897 | 0.021828608 | up |
| oar-miR-409-3p | LEMD3 | -15.52 | 143 | 235 | 258 | mRNA | -0.751753295 | 0.007135987 | down | LEMD3 | oas:101116043 | Uncharacterized protein | 0 | LEMD3 | LEM domain containing 3, isoform CRA\_a | -0.962079531 | 4.48E-04 | down |
| oar-miR-409-3p | LGALS8 | -15.06 | 148 | 4307 | 4329 | mRNA | 1.024429102 | 0.033405463 | up | LGALS8 | oas:101115850 | Galectin | 0 | LGALS8 | Galectin-8g | -0.962079531 | 4.48E-04 | down |
| oar-miR-495-3p | LNPEP | -15.25 | 147 | 2603 | 2622 | mRNA | 1.462754558 | 3.43E-05 | up | LNPEP |  | Uncharacterized protein | |  |  | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | LOC101102188 | -15.48 | 140 | 751 | 772 | mRNA | 2.277902172 | 0.013615637 | up | LOC101102188 | oas:101102188 | Uncharacterized protein | 1.00E-96 | GTF2F2 | General transcription factor IIF, polypeptide 2, 30kDa, isoform CRA\_c | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | LOC101112162 | -20.67 | 144 | 59 | 80 | mRNA | -1.537246112 | 0.04254425 | down | LOC101112162 | oas:101112162 | Beta-hexosaminidase | 0 | HEXB | Beta-hexosaminidase subunit beta | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | LOC101115436 | -19.3 | 142 | 2899 | 2920 | mRNA | 2.006953876 | 6.89E-04 | up | LOC101115436 | oas:101115436 | Uncharacterized protein | 9.00E-31 | RLIM | HCG1811491 | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | LOC101115527 | -25.57 | 156 | 269 | 288 | mRNA | 1.478796919 | 0.006221355 | up | LOC101115527 | oas:101115527 | Uncharacterized protein | 4.00E-68 | MAL | Mal, T-cell differentiation protein, isoform CRA\_a | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | LOC101116124 | -15.13 | 161 | 341 | 362 | mRNA | 1.477063201 | 0.021087997 | up | LOC101116124 | oas:101116124 | Uncharacterized protein | 2.00E-165 | CSNK1A1 | Casein kinase 1, alpha 1, isoform CRA\_b | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | LOC101120505 | -16.29 | 144 | 1 | 14 | mRNA | -1.017442119 | 0.040767982 | down | LOC101120505 | oas:101120505 | Uncharacterized protein | 0 | SGK494 | Uncharacterized protein | -0.89356081 | 0.037492287 | down |
| oar-miR-495-3p | LOC101120834 | -21.7 | 164 | 1651 | 1671 | mRNA | -1.314744299 | 0.021332471 | down | LOC101120834 | oas:101120834 | cytochrome P450 2U1-like | 0 | CYP2U1 | cDNA FLJ75600, highly similar to Homo sapiens cytochrome P450, family 2, subfamily U, polypeptide 1(CYP2U1), mRNA | -0.641019174 | 0.001548281 | down |
| oar-miR-495-3p | LOC101122683 | -15.26 | 153 | 121 | 145 | mRNA | 2.182143973 | 1.78E-04 | up | LOC101122683 | oas:101122683 | Uncharacterized protein | 0 | OVOS2 | Putative uncharacterized protein DKFZp686C0338 | -0.641019174 | 0.001548281 | down |
| oar-miR-379-5p | LRIT1 | -19.35 | 147 | 374 | 396 | mRNA | 1.812036703 | 0.002486475 | up | LRIT1 | oas:101113563 | leucine-rich repeat, immunoglobulin-like and transmembrane domains 1 | 0 | LRIT1 | Leucine-rich repeat, immunoglobulin-like domain and transmembrane domain-containing protein 1 | -0.60344917 | 0.035121566 | down |
| oar-miR-200c | MAP2 | -19.05 | 144 | 744 | 768 | mRNA | 1.103092773 | 0.047235819 | up | MAP2 | oas:101121239 | Microtubule-associated protein | 0 | MAP2 | Microtubule-associated protein 2 | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | MED31 | -18.58 | 149 | 1057 | 1078 | mRNA | 0.632164403 | 0.019586011 | up | MED31 | oas:101104161 | Uncharacterized protein | 6.00E-73 | MED31 | Mediator of RNA polymerase II transcription subunit 31 | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | MFAP3L | -17.18 | 158 | 4630 | 4651 | mRNA | 1.26824657 | 8.53E-04 | up | MFAP3L | oas:101121914 | microfibrillar-associated protein 3-like | 0 | MFAP3L | Microfibrillar-associated protein 3-like | -0.962079531 | 4.48E-04 | down |
| oar-miR-495-3p | MFI2 | -15.21 | 143 | 1239 | 1261 | mRNA | 1.625895534 | 0.004571478 | up | MFI2 | oas:101102773 | Uncharacterized protein | 0 | MFI2 | Melanotransferrin | -0.641019174 | 0.001548281 | down |
| oar-miR-200c | MMP16 | -15.06 | 149 | 1541 | 1562 | mRNA | 0.63644761 | 0.019734948 | up | MMP16 | oas:101116410 | Uncharacterized protein | 0 | MMP16 | Matrix metalloproteinase-16 | 3.2599897 | 0.021828608 | up |
| oar-miR-379-5p | MMP16 | -23.48 | 156 | 8002 | 8021 | mRNA | 0.63644761 | 0.019734948 | up | MMP16 | oas:101116410 | Uncharacterized protein | 0 | MMP16 | Matrix metalloproteinase-16 | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | MMP16 | -18.29 | 151 | 730 | 750 | mRNA | 0.63644761 | 0.019734948 | up | MMP16 | oas:101116410 | Uncharacterized protein | 0 | MMP16 | Matrix metalloproteinase-16 | -0.962079531 | 4.48E-04 | down |
| oar-miR-200c | MTR | -16.35 | 143 | 2865 | 2888 | mRNA | -1.145887638 | 0.020110901 | down | MTR | oas:101116797 | Uncharacterized protein | 0 | MTR | cDNA FLJ53729, moderately similar to Methionine synthase (EC 2.1.1.13) | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | MYLK3 | -23.87 | 143 | 19 | 41 | mRNA | 2.590940017 | 0.032784874 | up | MYLK3 | oas:101113784 | Uncharacterized protein | 0 | MYLK3 | Myosin light chain kinase 3 | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | NBN | -16.2 | 147 | 26 | 48 | mRNA | 0.891135024 | 0.02978152 | up | NBN | oas:101115286 | Nibrin | 0 | NBN | Nibrin | 3.2599897 | 0.021828608 | up |
| oar-miR-409-3p | NPSR1 | -15.85 | 158 | 2642 | 2664 | mRNA | 2.712222821 | 0.025912215 | up | NPSR1 | oas:101118180 | Uncharacterized protein | 0 | NPSR1 | G protein-coupled receptor 154, isoform CRA\_b | -0.962079531 | 4.48E-04 | down |
| oar-miR-379-5p | NRG3 | -17.46 | 151 | 1217 | 1240 | mRNA | 2.223024 | 0.028303498 | up | NRG3 | oas:101112537 | Uncharacterized protein | 0 | NRG3 | cDNA FLJ16534 fis, clone OCBBF2029471, highly similar to Pro-neuregulin-3, membrane-bound isoform | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | OLFML2B | -22.91 | 147 | 21 | 42 | mRNA | 1.214781491 | 0.028775407 | up | OLFML2B | oas:101107748 | Uncharacterized protein | 0 | OLFML2B | Olfactomedin-like protein 2B | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | PAPPA2 | -17.23 | 142 | 538 | 559 | mRNA | 4.975443092 | 0.002869699 | up | PAPPA2 | oas:101118205 | Uncharacterized protein | 0 | PAPPA2 | Pappalysin-2variant | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | PARD6B | -26.78 | 154 | 213 | 233 | mRNA | 0.72887311 | 0.011402126 | up | PARD6B | oas:101118720 | par-6 partitioning defective 6 homolog beta (C. elegans) | 0 | PARD6B | Partitioning defective 6 homolog beta | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | PARD6B | -15.88 | 152 | 2217 | 2238 | mRNA | 0.72887311 | 0.011402126 | up | PARD6B | oas:101118720 | par-6 partitioning defective 6 homolog beta (C. elegans) | 0 | PARD6B | Partitioning defective 6 homolog beta | 3.2599897 | 0.021828608 | up |
| oar-miR-200c | PLEKHB2 | -15.2 | 153 | 2540 | 2565 | mRNA | -0.706605627 | 5.00E-04 | down | PLEKHB2 | oas:101105216 | pleckstrin homology domain containing, family B (evectins) member 2 | 1.00E-117 | PLEKHB2 | Pleckstrin homology domain-containing family B member 2 | 3.2599897 | 0.021828608 | up |
| oar-miR-495-3p | PLEKHB2 | -15.88 | 162 | 2407 | 2427 | mRNA | -0.706605627 | 5.00E-04 | down | PLEKHB2 | oas:101105216 | pleckstrin homology domain containing, family B (evectins) member 2 | 1.00E-117 | PLEKHB2 | Pleckstrin homology domain-containing family B member 2 | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | PPM1H | -15.55 | 146 | 3578 | 3599 | mRNA | 1.656512833 | 0.028210707 | up | PPM1H | oas:101117068 | Uncharacterized protein | 0 | PPM1H | Protein phosphatase 1H | -0.89356081 | 0.037492287 | down |
| oar-miR-379-5p | PRIM1 | -19.73 | 159 | 19 | 40 | mRNA | -0.746926299 | 0.042754726 | down | PRIM1 | oas:101105645 | DNA primase | 0 | PRIM1 | DNA primase small subunit | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | PRKX | -26.08 | 150 | 251 | 277 | mRNA | 1.407427306 | 0.005626238 | up | PRKX | oas:101116807 | Uncharacterized protein | 1.00E-159 | PRKX | Protein kinase, X-linked, isoform CRA\_b | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | PSTPIP2 | -16.31 | 147 | 1141 | 1164 | mRNA | 1.860632243 | 0.001272684 | up | PSTPIP2 | oas:101111145 | Uncharacterized protein | 1.00E-175 | PSTPIP2 | Proline-serine-threonine phosphatase-interacting protein 2 | -0.962079531 | 4.48E-04 | down |
| oar-miR-379-5p | RAB3C | -22.97 | 140 | 6026 | 6044 | mRNA | 1.8664846 | 0.017284135 | up | RAB3C | oas:101110089 | Uncharacterized protein | 6.00E-135 | RAB3C | Ras-related protein Rab-3C | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | RAB3C | -24.34 | 166 | 2275 | 2301 | mRNA | 1.8664846 | 0.017284135 | up | RAB3C | oas:101110089 | Uncharacterized protein | 6.00E-135 | RAB3C | Ras-related protein Rab-3C | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | RASSF5 | -17.51 | 144 | 688 | 709 | mRNA | 1.304962904 | 0.001261721 | up | RASSF5 | oas:101117178 | Uncharacterized protein | 1.00E-138 | RASSF5 | Ras association domain-containing protein 5 | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | RBM33 | -18.03 | 144 | 336 | 357 | mRNA | -0.823669343 | 1.18E-04 | down | RBM33 | oas:101117415 | Uncharacterized protein | 0 | RBM33 | RNA-binding protein 33 | 3.2599897 | 0.021828608 | up |
| oar-miR-495-3p | RBM33 | -15.78 | 151 | 5174 | 5196 | mRNA | -0.823669343 | 1.18E-04 | down | RBM33 | oas:101117415 | Uncharacterized protein | 0 | RBM33 | RNA-binding protein 33 | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | RICTOR | -16.92 | 146 | 2625 | 2646 | mRNA | -0.834719191 | 0.005366017 | down | RICTOR | oas:101105528 | Uncharacterized protein | 0 | RICTOR | Rapamycin-insensitive companion of mTOR | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | RNF125 | -17.68 | 150 | 2879 | 2901 | mRNA | 1.787770247 | 5.43E-05 | up | RNF125 | oas:101114324 | Uncharacterized protein | 2.00E-119 | RNF125 | E3 ubiquitin-protein ligase RNF125 | -0.962079531 | 4.48E-04 | down |
| oar-miR-200c | RUNX1T1 | -15.01 | 142 | 1744 | 1770 | mRNA | 1.429387511 | 0.001188536 | up | RUNX1T1 | oas:101113340 | Uncharacterized protein | 0 | RUNX1T1 | Protein CBFA2T1 | 3.2599897 | 0.021828608 | up |
| oar-miR-379-5p | RUNX1T1 | -16.41 | 140 | 3573 | 3594 | mRNA | 1.429387511 | 0.001188536 | up | RUNX1T1 | oas:101113340 | Uncharacterized protein | 0 | RUNX1T1 | Protein CBFA2T1 | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | SCML4 | -20.19 | 143 | 1534 | 1555 | mRNA | 2.119307685 | 1.56E-05 | up | SCML4 | oas:101118704 | Uncharacterized protein | 0 | SCML4 | cDNA FLJ55567, highly similar to Homo sapiens sex comb on midleg-like 4 (SCML4), mRNA | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | SCML4 | -15.46 | 151 | 1646 | 1669 | mRNA | 2.119307685 | 1.56E-05 | up | SCML4 | oas:101118704 | Uncharacterized protein | 0 | SCML4 | cDNA FLJ55567, highly similar to Homo sapiens sex comb on midleg-like 4 (SCML4), mRNA | 3.2599897 | 0.021828608 | up |
| oar-miR-495-3p | SEMA5A | -17.65 | 163 | 232 | 254 | mRNA | -1.29349145 | 1.03E-06 | down | SEMA5A | oas:101123150 | Uncharacterized protein | 0 | SEMA5A | cDNA FLJ56616, highly similar to Semaphorin-5A | -0.641019174 | 0.001548281 | down |
| oar-miR-409-3p | SEMA5A | -16.18 | 149 | 816 | 836 | mRNA | -1.29349145 | 1.03E-06 | down | SEMA5A | oas:101123150 | Uncharacterized protein | 0 | SEMA5A | cDNA FLJ56616, highly similar to Semaphorin-5A | -0.962079531 | 4.48E-04 | down |
| oar-miR-379-5p | SERPINA10 | -18.24 | 140 | 483 | 504 | mRNA | 2.153844822 | 1.25E-04 | up | SERPINA10 | oas:101117968 | Uncharacterized protein | 1.00E-172 | SERPINA10 | Serpin peptidase inhibitor, clade A (Alpha-1 antiproteinase, antitrypsin), member 10, isoform CRA\_b | -0.60344917 | 0.035121566 | down |
| oar-miR-200c | SERPINB5 | -15.68 | 141 | 1715 | 1742 | mRNA | -1.545938937 | 0.037653571 | down | SERPINB5 | oas:101103364 | Uncharacterized protein | 0 | SERPINB5 | Serpin peptidase inhibitor, clade B (Ovalbumin), member 5, isoform CRA\_b | 3.2599897 | 0.021828608 | up |
| oar-miR-200c | SLC9A4 | -19.66 | 160 | 1459 | 1480 | mRNA | 2.600955128 | 0.019291514 | up | SLC9A4 | oas:101109006 | Sodium/hydrogen exchanger | 0 | SLC9A4 | Sodium/hydrogen exchanger 4 | 3.2599897 | 0.021828608 | up |
| oar-miR-200c | SSC5D | -21.22 | 167 | 1272 | 1294 | mRNA | 1.317515531 | 3.24E-04 | up | SSC5D | oas:101119500 | Uncharacterized protein | 2.00E-171 | SSC5D | Soluble scavenger receptor cysteine-rich domain-containing protein SSC5D | 3.2599897 | 0.021828608 | up |
| oar-miR-379-5p | STK32B | -15.64 | 154 | 396 | 420 | mRNA | 1.643358245 | 1.27E-11 | up | STK32B | oas:101103155 | Uncharacterized protein | 0 | STK32B | cDNA FLJ78035, highly similar to Homo sapiens serine/threonine protein kinase | -0.60344917 | 0.035121566 | down |
| oar-miR-379-5p | SUN5 | -18.14 | 148 | 501 | 521 | mRNA | 1.895733053 | 0.029215073 | up | SUN5 | oas:101106350 | Uncharacterized protein | 0 | SUN5 | SUN domain-containing protein 5 | -0.60344917 | 0.035121566 | down |
| oar-miR-379-5p | SV2C | -15.61 | 153 | 3157 | 3182 | mRNA | 1.185391316 | 2.82E-05 | up | SV2C | oas:101110415 | Uncharacterized protein | 0 | SV2C | cDNA FLJ37598 fis, clone BRCOC2008642, highly similar to Synaptic vesicle glycoprotein 2C | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | SV2C | -20.74 | 149 | 4430 | 4454 | mRNA | 1.185391316 | 2.82E-05 | up | SV2C | oas:101110415 | Uncharacterized protein | 0 | SV2C | cDNA FLJ37598 fis, clone BRCOC2008642, highly similar to Synaptic vesicle glycoprotein 2C | -0.962079531 | 4.48E-04 | down |
| oar-miR-409-3p | SWI5 | -21.05 | 163 | 160 | 179 | mRNA | 1.225393215 | 0.035564904 | up | SWI5 | oas:101120905 | Uncharacterized protein | 2.00E-30 | SWI5 | DNA repair protein SWI5 homolog | -0.962079531 | 4.48E-04 | down |
| oar-miR-200c | TBC1D2B | -20.73 | 159 | 1227 | 1249 | mRNA | -0.835106463 | 0.041285629 | down | TBC1D2B | oas:101114393 | Uncharacterized protein | 0 | TBC1D2B | TBC1D2B protein | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | TFCP2L1 | -22.02 | 146 | 4156 | 4179 | mRNA | 1.80723914 | 0.025732874 | up | TFCP2L1 | oas:101114420 | Uncharacterized protein | 0 | TFCP2L1 | Putative uncharacterized protein LBP-9 | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | THAP11 | -16.91 | 140 | 595 | 616 | mRNA | -0.719623556 | 0.003908182 | down | THAP11 | oas:101109824 | THAP domain containing 11 | 1.00E-84 | THAP11 | THAP domain-containing protein 11 | -0.89356081 | 0.037492287 | down |
| oar-miR-495-3p | THAP11 | -18.45 | 166 | 649 | 672 | mRNA | -0.719623556 | 0.003908182 | down | THAP11 | oas:101109824 | THAP domain containing 11 | 1.00E-84 | THAP11 | THAP domain-containing protein 11 | -0.641019174 | 0.001548281 | down |
| oar-miR-379-5p | THAP11 | -15.07 | 145 | 210 | 229 | mRNA | -0.719623556 | 0.003908182 | down | THAP11 | oas:101109824 | THAP domain containing 11 | 1.00E-84 | THAP11 | THAP domain-containing protein 11 | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | TMC3 | -20.55 | 148 | 22 | 44 | mRNA | 2.210233126 | 0.008386706 | up | TMC3 | oas:101117450 | Transmembrane channel-like protein | 0 | TMC3 | Transmembrane channel-like protein 3 | -0.89356081 | 0.037492287 | down |
| oar-miR-495-3p | TMC3 | -19.42 | 140 | 259 | 278 | mRNA | 2.210233126 | 0.008386706 | up | TMC3 | oas:101117450 | Transmembrane channel-like protein | 0 | TMC3 | Transmembrane channel-like protein 3 | -0.641019174 | 0.001548281 | down |
| oar-miR-409-3p | TMCO3 | -18.77 | 151 | 339 | 362 | mRNA | -0.924807797 | 0.008064202 | down | TMCO3 | oas:101117256 | Uncharacterized protein | 0 | TMCO3 | Transmembrane and coiled-coil domains 3, isoform CRA\_a | -0.962079531 | 4.48E-04 | down |
| oar-miR-495-3p | TMEM170B | -17.91 | 145 | 2373 | 2393 | mRNA | 1.282050541 | 1.94E-06 | up | TMEM170B | oas:101116100 | transmembrane protein 170B | 7.00E-52 | TMEM170B | Transmembrane protein 170B | -0.641019174 | 0.001548281 | down |
| oar-miR-200c | TMEM178A | -16.5 | 158 | 633 | 654 | mRNA | 2.333990011 | 0.001758095 | up | TMEM178A | oas:101118096 | Uncharacterized protein | 1.00E-92 | TMEM178A | Transmembrane protein 178A | 3.2599897 | 0.021828608 | up |
| oar-miR-409-3p | TMEM81 | -21.62 | 159 | 1212 | 1237 | mRNA | 2.192237116 | 0.001273792 | up | TMEM81 | oas:101113609 | transmembrane protein 81 | 2.00E-115 | TMEM81 | Transmembrane protein 81 | -0.962079531 | 4.48E-04 | down |
| oar-miR-200c | TRIM23 | -18.64 | 154 | 501 | 525 | mRNA | -0.608019664 | 0.004307605 | down | TRIM23 | oas:101102930 | Uncharacterized protein | 0 | TRIM23 | cDNA FLJ75862, highly similar to Homo sapiens tripartite motif-containing 23 (TRIM23), transcript variant alpha, mRNA | 3.2599897 | 0.021828608 | up |
| oar-miR-495-3p | TRIM9 | -16.71 | 146 | 1698 | 1720 | mRNA | 2.895228 | 2.04E-14 | up | TRIM9 | oas:101105756 | Uncharacterized protein | 0 | TRIM9 | E3 ubiquitin-protein ligase TRIM9 | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | VAC14 | -27.53 | 143 | 28 | 49 | mRNA | -0.804641321 | 3.84E-07 | down | VAC14 | oas:101114132 | Uncharacterized protein | 0 | VAC14 | Protein VAC14 homolog | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | VASH2 | -16.41 | 154 | 834 | 855 | mRNA | 1.830980963 | 2.17E-04 | up | VASH2 | oas:101113869 | Uncharacterized protein | 0 | VASH2 | cDNA FLJ77735 | 3.2599897 | 0.021828608 | up |
| oar-miR-379-5p | WNT8A | -16.44 | 157 | 1824 | 1844 | mRNA | 2.125007985 | 0.006277815 | up | WNT8A | oas:101108044 | Protein Wnt | 0 | WNT8A | Protein Wnt-8a | -0.60344917 | 0.035121566 | down |
| oar-miR-495-3p | ZFAND1 | -16.56 | 161 | 859 | 880 | mRNA | -0.910248296 | 0.013277477 | down | ZFAND1 | oas:101115631 | Uncharacterized protein | 7.00E-124 | ZFAND1 | AN1-type zinc finger protein 1 | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | ZNF496 | -25.29 | 148 | 1321 | 1341 | mRNA | -0.781733779 | 9.58E-08 | down | ZNF496 | oas:100628316 | Zinc finger protein 496 | 0 | ZNF496 | Zinc finger protein 496, isoform CRA\_b | -0.89356081 | 0.037492287 | down |
| **6- vs 12-month-old sheep testes** | | | | | | | | | | | | | | | | | | |
| **miRNA** | **TargetGene** | **Energy** | **Score** | **StartSubject** | **EndSubject** | **GeneType-Target** | **Log2FC-Target** | **FDR-Target** | **Style-Target** | **Symbol-Target** | **KeggID-Target** | **Description-Target** | **E-Value-Target** | **Blast\_Symbol-Target** | **Blast\_Description-Target** | **Log2FC-miRNA** | **FDR-miRNA** | **Style-miRNA** |
| oar-miR-23b | HOXA10 | -21.3 | 147 | 4 | 21 | mRNA | 8.193741048 | 4.28E-04 | up | HOXA10 | oas:101105239 | Uncharacterized protein | 4.00E-170 | HOXA10 | Homeobox A10, isoform CRA\_a | 0.638091222 | 0.018459189 | up |
| oar-miR-23b | MC4R | -16.36 | 147 | 202 | 224 | mRNA | 8.698390968 | 1.58E-04 | up | MC4R | oas:100147707 | Melanocortin 4 receptor | 4.00E-179 | MC4R | Truncated melanocortin 4 receptor variant | 0.638091222 | 0.018459189 | up |
| oar-miR-23b | IL15RA | -18.26 | 140 | 4066 | 4082 | mRNA | 1.266128607 | 0.002983648 | up | IL15RA | oas:101107377 | Uncharacterized protein | 3.00E-57 | IL15RA | Interleukin 15 receptor alpha | 0.638091222 | 0.018459189 | up |
| oar-miR-23b | NHSL2 | -15.44 | 147 | 7560 | 7577 | mRNA | 1.844909331 | 0.001051247 | up | NHSL2 | oas:101102704 | NHS-like 2 | 0 | NHSL2 | NHS-like 2 | 0.638091222 | 0.018459189 | up |
| oar-miR-23b | LRCOL1 | -15.13 | 147 | 146 | 161 | mRNA | 7.941257255 | 8.46E-04 | up | LRCOL1 | oas:101116679 | Uncharacterized protein | 1.00E-39 | LRCOL1 | Leucine-rich colipase-like protein 1 | 0.638091222 | 0.018459189 | up |
| oar-miR-23b | LOC101112445 | -18.03 | 142 | 539 | 555 | mRNA | -1.328009007 | 0.038351996 | down | LOC101112445 | oas:101112445 | Uncharacterized protein | 0 | ADAM30 | ADAM metallopeptidase domain 30 | 0.638091222 | 0.018459189 | up |
| oar-miR-23b | NRCAM | -17.83 | 147 | 2884 | 2905 | mRNA | 7.355861101 | 6.13E-05 | up | NRCAM | oas:101106001 | Uncharacterized protein | 0 | NRCAM | cDNA FLJ35011 fis, clone OCBBF2013149, highly similar to Neuronal cell adhesion molecule | 0.638091222 | 0.018459189 | up |
| oar-miR-23b | MCOLN2 | -15.69 | 152 | 812 | 828 | mRNA | 5.769447841 | 0.010860136 | up | MCOLN2 | oas:101111406 | mucolipin 2 | 0 | MCOLN2 | Mucolipin-2 | 0.638091222 | 0.018459189 | up |
| oar-miR-23b | GRHL2 | -25.07 | 147 | 5566 | 5590 | mRNA | 5.557242039 | 0.007325443 | up | GRHL2 | oas:101102496 | Uncharacterized protein | 0 | GRHL2 | Grainyhead-like protein 2 homolog | 0.638091222 | 0.018459189 | up |
| oar-miR-23b | FAM117A | -15.06 | 151 | 159 | 176 | mRNA | 0.748949345 | 4.59E-07 | up | FAM117A | oas:101118802 | family with sequence similarity 117, member A | 0 | FAM117A | family with sequence similarity 117, member A | 0.638091222 | 0.018459189 | up |
| **2- vs 12-month-old sheep testes** | | | | | | | | | | | | | | | | | | |
| **miRNA** | **TargetGene** | **Energy** | **Score** | **StartSubject** | **EndSubject** | **GeneType-Target** | **Log2FC-Target** | **FDR-Target** | **Style-Target** | **Symbol-Target** | **KeggID-Target** | **Description-Target** | **E-Value-Target** | **Blast\_Symbol-Target** | **Blast\_Description-Target** | **Log2FC-miRNA** | **FDR-miRNA** | **Style-miRNA** |
| oar-miR-200a | DHX37 | -18.45 | 152 | 21 | 39 | mRNA | -1.468204914 | 0.017369986 | down | DHX37 | oas:101120780 | Uncharacterized protein | 0 | DHX37 | Probable ATP-dependent RNA helicase DHX37 | 5.704119705 | 3.14E-04 | up |
| oar-miR-200a | ACPP | -15.96 | 149 | 814 | 832 | mRNA | 20 | 1.07E-05 | up | ACPP | oas:101120130 | Uncharacterized protein | 0 | ACPP | ACPP protein | 5.704119705 | 3.14E-04 | up |
| oar-miR-200c | GABRB3 | -15.34 | 145 | 1364 | 1385 | mRNA | 1.300866657 | 0.00242245 | up | GABRB3 | oas:101114905 | Uncharacterized protein | 0 | GABRB3 | cDNA, FLJ96343, highly similar to Homo sapiens gamma-aminobutyric acid (GABA) A receptor, beta 3 (GABRB3), transcript variant 2, mRNA | 5.522585629 | 1.26E-04 | up |
| oar-miR-200c | SVOPL | -15.51 | 150 | 1387 | 1407 | mRNA | -1.539134913 | 2.18E-08 | down | SVOPL | oas:101109267 | Uncharacterized protein | 0 | SVOPL | Putative transporter SVOPL | 5.522585629 | 1.26E-04 | up |
| oar-miR-200c | C17H4orf46 | -15.04 | 152 | 827 | 848 | mRNA | -0.775044194 | 0.004275916 | down | C17H4orf46 | oas:101106969 | chromosome 17 open reading frame, human C4orf46 | 1.00E-37 | C4orf46 | chromosome 4 open reading frame 46 | 5.522585629 | 1.26E-04 | up |
| oar-miR-200c | ZCCHC14 | -15.39 | 163 | 2091 | 2112 | mRNA | -0.737745181 | 7.98E-07 | down | ZCCHC14 | oas:101104775 | Uncharacterized protein | 0 | ZCCHC14 | cDNA FLJ75992, highly similar to Homo sapiens zinc finger, CCHC domain containing 14 (ZCCHC14), mRNA | 5.522585629 | 1.26E-04 | up |
| oar-miR-200b | NRCAM | -15.08 | 146 | 4653 | 4673 | mRNA | 5.461896077 | 0.021255537 | up | NRCAM | oas:101106001 | Uncharacterized protein | 0 | NRCAM | cDNA FLJ35011 fis, clone OCBBF2013149, highly similar to Neuronal cell adhesion molecule | 6.202284495 | 2.91E-05 | up |
| oar-miR-200b | C17H4orf46 | -15.64 | 143 | 828 | 848 | mRNA | -0.775044194 | 0.004275916 | down | C17H4orf46 | oas:101106969 | chromosome 17 open reading frame, human C4orf46 | 1.00E-37 | C4orf46 | chromosome 4 open reading frame 46 | 6.202284495 | 2.91E-05 | up |
| oar-miR-200b | ZCCHC14 | -16.02 | 158 | 2431 | 2450 | mRNA | -0.737745181 | 7.98E-07 | down | ZCCHC14 | oas:101104775 | Uncharacterized protein | 0 | ZCCHC14 | cDNA FLJ75992, highly similar to Homo sapiens zinc finger, CCHC domain containing 14 (ZCCHC14), mRNA | 6.202284495 | 2.91E-05 | up |
| oar-miR-758-3p | SVOPL | -22.48 | 166 | 1448 | 1467 | mRNA | -1.539134913 | 2.18E-08 | down | SVOPL | oas:101109267 | Uncharacterized protein | 0 | SVOPL | Putative transporter SVOPL | -0.843753774 | 2.25E-04 | down |
| oar-miR-758-3p | ARHGEF37 | -18.67 | 161 | 586 | 606 | mRNA | 1.466508434 | 2.72E-11 | up | ARHGEF37 | oas:101121007 | Uncharacterized protein | 0 | ARHGEF37 | Rho guanine nucleotide exchange factor 37 | -0.843753774 | 2.25E-04 | down |
| oar-miR-758-3p | GPX5 | -16.26 | 145 | 1795 | 1814 | mRNA | 8.347074835 | 0.00188283 | up | GPX5 | oas:100913163 | Glutathione peroxidase | 3.00E-100 | GPX5 | Epididymal secretory glutathione peroxidase | -0.843753774 | 2.25E-04 | down |
| oar-miR-758-3p | C24H16orf89 | -20.86 | 141 | 68 | 87 | mRNA | 8.484577152 | 2.33E-05 | up | C24H16orf89 | oas:101104548 | Uncharacterized protein | 2.00E-148 | C16orf89 | UPF0764 protein C16orf89 | -0.843753774 | 2.25E-04 | down |
| oar-miR-758-3p | ACPP | -20.79 | 159 | 2650 | 2669 | mRNA | 20 | 1.07E-05 | up | ACPP | oas:101120130 | Uncharacterized protein | 0 | ACPP | ACPP protein | -0.843753774 | 2.25E-04 | down |
| oar-miR-758-3p | PROM2 | -17.85 | 155 | 1330 | 1347 | mRNA | 7.998370036 | 3.29E-05 | up | PROM2 | oas:101116471 | Uncharacterized protein | 0 | PROM2 | Prominin 2, isoform CRA\_a | -0.843753774 | 2.25E-04 | down |

**Table S6 DE miRNA-Taregets**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DE miRNA-Targets** | | | | | | | | | | | | | | | | | | |
| **6- vs 2-month-old sheep testes** | | | | | | | | | | | | | | | | | | |
| **miRNA** | **TargetGene** | **Energy** | **Score** | **StartSubject** | **EndSubject** | **GeneType-Target** | **Log2FC-Target** | **FDR-Target** | **Style-Target** | **Symbol-Target** | **KeggID-Target** | **Description-Target** | **E-Value-Target** | **Blast\_Symbol-Target** | **Blast\_Description-Target** | **Log2FC-miRNA** | **FDR-miRNA** | **Style-miRNA** |
| oar-miR-665-3p | ACOXL | -15.51 | 142 | 3742 | 3763 | mRNA | 1.900926626 | 1.04E-04 | up | ACOXL | oas:101118010 | Uncharacterized protein | 0 | ACOXL | cDNA FLJ59051, highly similar to Homo sapiens acyl-Coenzyme A oxidase-like (ACOXL), mRNA | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | ANKRD37 | -19.19 | 153 | 2343 | 2363 | mRNA | 1.4744961 | 0.002613817 | up | ANKRD37 | oas:101112948 | Uncharacterized protein | 4.00E-79 | ANKRD37 | cDNA FLJ50037, highly similar to Ankyrin repeat domain-containing protein 37 | -0.89356081 | 0.037492287 | down |
| oar-miR-379-5p | ASB16 | -18.78 | 151 | 687 | 709 | mRNA | 1.646885801 | 0.019930343 | up | ASB16 | oas:101115385 | Uncharacterized protein | 0 | ASB16 | Ankyrin repeat and SOCS box protein 16 | -0.60344917 | 0.035121566 | down |
| oar-miR-379-5p | ATP10B | -19.1 | 142 | 2003 | 2023 | mRNA | 2.902249732 | 1.39E-08 | up | ATP10B | oas:101117246 | Phospholipid-translocating ATPase | 0 | ATP10B | Phospholipid-translocating ATPase | -0.60344917 | 0.035121566 | down |
| oar-miR-379-5p | ATP13A5 | -16.8 | 155 | 51 | 72 | mRNA | 1.713104556 | 0.024787381 | up | ATP13A5 | oas:101107321 | Uncharacterized protein | 0 | ATP13A5 | Probable cation-transporting ATPase 13A5 | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | ATP13A5 | -17.68 | 141 | 2150 | 2171 | mRNA | 1.713104556 | 0.024787381 | up | ATP13A5 | oas:101107321 | Uncharacterized protein | 0 | ATP13A5 | Probable cation-transporting ATPase 13A5 | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | BCL2L11 | -15.51 | 142 | 3354 | 3375 | mRNA | 1.059441286 | 2.49E-04 | up | BCL2L11 | oas:100505402 | BCL2-like protein 11 | 5.00E-65 | BCL2L11 | Bcl-2-like protein 11 | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | BMPR2 | -17.26 | 148 | 990 | 1011 | mRNA | -0.907869286 | 0.006461915 | down | BMPR2 |  | Receptor protein serine/threonine kinase | | |  | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | BOLA1 | -16.47 | 140 | 42 | 63 | mRNA | 1.68487893 | 0.024293468 | up | BOLA1 | oas:101123165 | Uncharacterized protein | 3.00E-63 | BOLA1 | BolA-like protein 1 | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | C20H6orf25 | -17.84 | 141 | 123 | 145 | mRNA | 1.975559321 | 4.71E-04 | up | C20H6orf25 | oas:101103601 | Uncharacterized protein | 3.00E-87 | C6orf25 | cDNA FLJ35073 fis, clone PLACE6000630 | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | C22H10orf90 | -17.65 | 150 | 1088 | 1109 | mRNA | 1.875331761 | 0.004115613 | up | C22H10orf90 | oas:101116691 | Uncharacterized protein | 0 | C10orf90 | Centrosomal protein C10orf90 | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | C3H12orf56 | -15.7 | 141 | 9994 | 10015 | mRNA | 1.897885983 | 0.046168485 | up | C3H12orf56 | oas:101111356 | chromosome 3 open reading frame, human C12orf56 | 0 | C12orf56 | chromosome 12 open reading frame 56 | -0.89356081 | 0.037492287 | down |
| oar-miR-379-5p | C3H12orf56 | -23.41 | 148 | 5028 | 5049 | mRNA | 1.897885983 | 0.046168485 | up | C3H12orf56 | oas:101111356 | chromosome 3 open reading frame, human C12orf56 | 0 | C12orf56 | chromosome 12 open reading frame 56 | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | C3H12orf56 | -29.8 | 153 | 6853 | 6875 | mRNA | 1.897885983 | 0.046168485 | up | C3H12orf56 | oas:101111356 | chromosome 3 open reading frame, human C12orf56 | 0 | C12orf56 | chromosome 12 open reading frame 56 | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | CACUL1 | -21.85 | 141 | 4917 | 4937 | mRNA | 1.214750675 | 0.015419728 | up | CACUL1 | oas:101105965 | Uncharacterized protein | 0 | CACUL1 | CDK2-associated and cullin domain-containing protein 1 | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | CCIN | -34.02 | 169 | 842 | 861 | mRNA | 1.939910745 | 0.022372543 | up | CCIN | oas:101110996 | Uncharacterized protein | 0 | CCIN | Calicin | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | CDK5R1 | -18.3 | 160 | 174 | 196 | mRNA | 1.776996332 | 0.001659284 | up | CDK5R1 | oas:101120847 | Uncharacterized protein | 7.00E-160 | CDK5R1 | Cyclin-dependent kinase 5 activator 1 | -0.962079531 | 4.48E-04 | down |
| oar-miR-409-3p | CORIN | -17.36 | 168 | 15 | 36 | mRNA | 1.866603482 | 0.00128039 | up | CORIN | oas:101112571 | Uncharacterized protein | 0 | CORIN | Atrial natriuretic peptide-converting enzyme | -0.962079531 | 4.48E-04 | down |
| oar-miR-495-3p | DCTN6 | -15.3 | 151 | 72 | 93 | mRNA | 1.170215188 | 0.00190846 | up | DCTN6 | oas:101104551 | Uncharacterized protein | 9.00E-106 | DCTN6 | Dynactin subunit 6 | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | DDI2 | -15.7 | 141 | 1280 | 1301 | mRNA | 0.735130457 | 0.005954012 | up | DDI2 | oas:101110160 | Uncharacterized protein | 0 | DDI2 | Protein DDI1 homolog 2 | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | DENND2C | -18.31 | 157 | 1429 | 1452 | mRNA | -1.097037753 | 2.23E-06 | down | DENND2C | oas:101122903 | Uncharacterized protein | 0 | DENND2C | DENN domain-containing protein 2C | 3.2599897 | 0.021828608 | up |
| oar-miR-379-5p | DGKK | -20.45 | 148 | 1612 | 1633 | mRNA | 1.515760835 | 3.26E-04 | up | DGKK | oas:101110739 | Diacylglycerol kinase | 0 | DGKK | Diacylglycerol kinase kappa | -0.60344917 | 0.035121566 | down |
| oar-miR-495-3p | DNER | -18.64 | 168 | 415 | 436 | mRNA | 1.840706774 | 0.012064864 | up | DNER | oas:101119703 | Uncharacterized protein | 0 | DNER | cDNA FLJ76207, highly similar to Homo sapiens delta-notch-like EGF repeat-containing transmembrane (DNER), mRNA | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | DUSP13 | -19.18 | 146 | 953 | 977 | mRNA | 1.959431563 | 0.022403296 | up | DUSP13 | oas:101102034 | Uncharacterized protein | 8.00E-136 | DUSP13 | Dual specificity phosphatase 13, isoform CRA\_a | -0.89356081 | 0.037492287 | down |
| oar-miR-379-5p | FSTL4 | -20.33 | 152 | 4043 | 4064 | mRNA | 1.279603369 | 0.041716526 | up | FSTL4 | oas:101123036 | Uncharacterized protein | 0 | FSTL4 | Follistatin-related protein 4 | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | GCC1 | -18.8 | 146 | 1662 | 1681 | mRNA | 1.505484714 | 7.16E-05 | up | GCC1 | oas:101109438 | Uncharacterized protein | 0 | GCC1 | GRIP and coiled-coil domain containing 1 | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | GRIK5 | -21.14 | 152 | 612 | 634 | mRNA | 1.429367479 | 0.038564255 | up | GRIK5 | oas:101103501 | glutamate receptor, ionotropic, kainate 5 | 0 | GRIK5 | Glutamate receptor ionotropic, kainate 5 | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | GRIK5 | -18.16 | 156 | 700 | 721 | mRNA | 1.429367479 | 0.038564255 | up | GRIK5 | oas:101103501 | glutamate receptor, ionotropic, kainate 5 | 0 | GRIK5 | Glutamate receptor ionotropic, kainate 5 | -0.962079531 | 4.48E-04 | down |
| oar-miR-495-3p | ITPRIPL1 | -19.42 | 164 | 834 | 853 | mRNA | 1.496652856 | 0.031293119 | up | ITPRIPL1 | oas:101112893 | Uncharacterized protein | 0 | ITPRIPL1 | Inositol 1,4,5-trisphosphate receptor-interacting protein-like 1 | -0.641019174 | 0.001548281 | down |
| oar-miR-409-3p | KCND3 | -17.37 | 143 | 3889 | 3911 | mRNA | 1.595963293 | 2.86E-07 | up | KCND3 | oas:101115919 | Uncharacterized protein | 0 | KCND3 | Potassium voltage-gated channel, Shal-related subfamily, member 3, isoform CRA\_b | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | KCNN3 | -29.63 | 164 | 5524 | 5545 | mRNA | 1.909599221 | 0.010842874 | up | KCNN3 | oas:101112614 | Uncharacterized protein | 0 | KCNN3 | Small conductance calcium-activated potassium channel protein 3 | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | LGALS8 | -15.06 | 148 | 4307 | 4329 | mRNA | 1.024429102 | 0.033405463 | up | LGALS8 | oas:101115850 | Galectin | 0 | LGALS8 | Galectin-8g | -0.962079531 | 4.48E-04 | down |
| oar-miR-495-3p | LNPEP | -15.25 | 147 | 2603 | 2622 | mRNA | 1.462754558 | 3.43E-05 | up | LNPEP |  | Uncharacterized protein | |  |  | -0.641019174 | 0.001548281 | down |
| oar-miR-665-3p | LOC101102188 | -15.48 | 140 | 751 | 772 | mRNA | 2.277902172 | 0.013615637 | up | LOC101102188 | oas:101102188 | Uncharacterized protein | 1.00E-96 | GTF2F2 | General transcription factor IIF, polypeptide 2, 30kDa, isoform CRA\_c | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | LOC101115527 | -25.57 | 156 | 269 | 288 | mRNA | 1.478796919 | 0.006221355 | up | LOC101115527 | oas:101115527 | Uncharacterized protein | 4.00E-68 | MAL | Mal, T-cell differentiation protein, isoform CRA\_a | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | LOC101116124 | -15.13 | 161 | 341 | 362 | mRNA | 1.477063201 | 0.021087997 | up | LOC101116124 | oas:101116124 | Uncharacterized protein | 2.00E-165 | CSNK1A1 | Casein kinase 1, alpha 1, isoform CRA\_b | -0.962079531 | 4.48E-04 | down |
| oar-miR-495-3p | LOC101122683 | -15.26 | 153 | 121 | 145 | mRNA | 2.182143973 | 1.78E-04 | up | LOC101122683 | oas:101122683 | Uncharacterized protein | 0 | OVOS2 | Putative uncharacterized protein DKFZp686C0338 | -0.641019174 | 0.001548281 | down |
| oar-miR-379-5p | LRIT1 | -19.35 | 147 | 374 | 396 | mRNA | 1.812036703 | 0.002486475 | up | LRIT1 | oas:101113563 | leucine-rich repeat, immunoglobulin-like and transmembrane domains 1 | 0 | LRIT1 | Leucine-rich repeat, immunoglobulin-like domain and transmembrane domain-containing protein 1 | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | MED31 | -18.58 | 149 | 1057 | 1078 | mRNA | 0.632164403 | 0.019586011 | up | MED31 | oas:101104161 | Uncharacterized protein | 6.00E-73 | MED31 | Mediator of RNA polymerase II transcription subunit 31 | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | MFAP3L | -17.18 | 158 | 4630 | 4651 | mRNA | 1.26824657 | 8.53E-04 | up | MFAP3L | oas:101121914 | microfibrillar-associated protein 3-like | 0 | MFAP3L | Microfibrillar-associated protein 3-like | -0.962079531 | 4.48E-04 | down |
| oar-miR-495-3p | MFI2 | -15.21 | 143 | 1239 | 1261 | mRNA | 1.625895534 | 0.004571478 | up | MFI2 | oas:101102773 | Uncharacterized protein | 0 | MFI2 | Melanotransferrin | -0.641019174 | 0.001548281 | down |
| oar-miR-379-5p | MMP16 | -23.48 | 156 | 8002 | 8021 | mRNA | 0.63644761 | 0.019734948 | up | MMP16 | oas:101116410 | Uncharacterized protein | 0 | MMP16 | Matrix metalloproteinase-16 | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | MMP16 | -18.29 | 151 | 730 | 750 | mRNA | 0.63644761 | 0.019734948 | up | MMP16 | oas:101116410 | Uncharacterized protein | 0 | MMP16 | Matrix metalloproteinase-16 | -0.962079531 | 4.48E-04 | down |
| oar-miR-200c | MTR | -16.35 | 143 | 2865 | 2888 | mRNA | -1.145887638 | 0.020110901 | down | MTR | oas:101116797 | Uncharacterized protein | 0 | MTR | cDNA FLJ53729, moderately similar to Methionine synthase (EC 2.1.1.13) | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | MYLK3 | -23.87 | 143 | 19 | 41 | mRNA | 2.590940017 | 0.032784874 | up | MYLK3 | oas:101113784 | Uncharacterized protein | 0 | MYLK3 | Myosin light chain kinase 3 | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | NPSR1 | -15.85 | 158 | 2642 | 2664 | mRNA | 2.712222821 | 0.025912215 | up | NPSR1 | oas:101118180 | Uncharacterized protein | 0 | NPSR1 | G protein-coupled receptor 154, isoform CRA\_b | -0.962079531 | 4.48E-04 | down |
| oar-miR-379-5p | NRG3 | -17.46 | 151 | 1217 | 1240 | mRNA | 2.223024 | 0.028303498 | up | NRG3 | oas:101112537 | Uncharacterized protein | 0 | NRG3 | cDNA FLJ16534 fis, clone OCBBF2029471, highly similar to Pro-neuregulin-3, membrane-bound isoform | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | OLFML2B | -22.91 | 147 | 21 | 42 | mRNA | 1.214781491 | 0.028775407 | up | OLFML2B | oas:101107748 | Uncharacterized protein | 0 | OLFML2B | Olfactomedin-like protein 2B | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | PARD6B | -26.78 | 154 | 213 | 233 | mRNA | 0.72887311 | 0.011402126 | up | PARD6B | oas:101118720 | par-6 partitioning defective 6 homolog beta (C. elegans) | 0 | PARD6B | Partitioning defective 6 homolog beta | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | PLEKHB2 | -15.2 | 153 | 2540 | 2565 | mRNA | -0.706605627 | 5.00E-04 | down | PLEKHB2 | oas:101105216 | pleckstrin homology domain containing, family B (evectins) member 2 | 1.00E-117 | PLEKHB2 | Pleckstrin homology domain-containing family B member 2 | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | PPM1H | -15.55 | 146 | 3578 | 3599 | mRNA | 1.656512833 | 0.028210707 | up | PPM1H | oas:101117068 | Uncharacterized protein | 0 | PPM1H | Protein phosphatase 1H | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | PRKX | -26.08 | 150 | 251 | 277 | mRNA | 1.407427306 | 0.005626238 | up | PRKX | oas:101116807 | Uncharacterized protein | 1.00E-159 | PRKX | Protein kinase, X-linked, isoform CRA\_b | -0.89356081 | 0.037492287 | down |
| oar-miR-409-3p | PSTPIP2 | -16.31 | 147 | 1141 | 1164 | mRNA | 1.860632243 | 0.001272684 | up | PSTPIP2 | oas:101111145 | Uncharacterized protein | 1.00E-175 | PSTPIP2 | Proline-serine-threonine phosphatase-interacting protein 2 | -0.962079531 | 4.48E-04 | down |
| oar-miR-379-5p | RAB3C | -22.97 | 140 | 6026 | 6044 | mRNA | 1.8664846 | 0.017284135 | up | RAB3C | oas:101110089 | Uncharacterized protein | 6.00E-135 | RAB3C | Ras-related protein Rab-3C | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | RAB3C | -24.34 | 166 | 2275 | 2301 | mRNA | 1.8664846 | 0.017284135 | up | RAB3C | oas:101110089 | Uncharacterized protein | 6.00E-135 | RAB3C | Ras-related protein Rab-3C | -0.962079531 | 4.48E-04 | down |
| oar-miR-665-3p | RASSF5 | -17.51 | 144 | 688 | 709 | mRNA | 1.304962904 | 0.001261721 | up | RASSF5 | oas:101117178 | Uncharacterized protein | 1.00E-138 | RASSF5 | Ras association domain-containing protein 5 | -0.89356081 | 0.037492287 | down |
| oar-miR-200c | RBM33 | -18.03 | 144 | 336 | 357 | mRNA | -0.823669343 | 1.18E-04 | down | RBM33 | oas:101117415 | Uncharacterized protein | 0 | RBM33 | RNA-binding protein 33 | 3.2599897 | 0.021828608 | up |
| oar-miR-409-3p | RNF125 | -17.68 | 150 | 2879 | 2901 | mRNA | 1.787770247 | 5.43E-05 | up | RNF125 | oas:101114324 | Uncharacterized protein | 2.00E-119 | RNF125 | E3 ubiquitin-protein ligase RNF125 | -0.962079531 | 4.48E-04 | down |
| oar-miR-379-5p | RUNX1T1 | -16.41 | 140 | 3573 | 3594 | mRNA | 1.429387511 | 0.001188536 | up | RUNX1T1 | oas:101113340 | Uncharacterized protein | 0 | RUNX1T1 | Protein CBFA2T1 | -0.60344917 | 0.035121566 | down |
| oar-miR-665-3p | SCML4 | -20.19 | 143 | 1534 | 1555 | mRNA | 2.119307685 | 1.56E-05 | up | SCML4 | oas:101118704 | Uncharacterized protein | 0 | SCML4 | cDNA FLJ55567, highly similar to Homo sapiens sex comb on midleg-like 4 (SCML4), mRNA | -0.89356081 | 0.037492287 | down |
| oar-miR-379-5p | SERPINA10 | -18.24 | 140 | 483 | 504 | mRNA | 2.153844822 | 1.25E-04 | up | SERPINA10 | oas:101117968 | Uncharacterized protein | 1.00E-172 | SERPINA10 | Serpin peptidase inhibitor, clade A (Alpha-1 antiproteinase, antitrypsin), member 10, isoform CRA\_b | -0.60344917 | 0.035121566 | down |
| oar-miR-200c | SERPINB5 | -15.68 | 141 | 1715 | 1742 | mRNA | -1.545938937 | 0.037653571 | down | SERPINB5 | oas:101103364 | Uncharacterized protein | 0 | SERPINB5 | Serpin peptidase inhibitor, clade B (Ovalbumin), member 5, isoform CRA\_b | 3.2599897 | 0.021828608 | up |
| oar-miR-379-5p | STK32B | -15.64 | 154 | 396 | 420 | mRNA | 1.643358245 | 1.27E-11 | up | STK32B | oas:101103155 | Uncharacterized protein | 0 | STK32B | cDNA FLJ78035, highly similar to Homo sapiens serine/threonine protein kinase | -0.60344917 | 0.035121566 | down |
| oar-miR-379-5p | SUN5 | -18.14 | 148 | 501 | 521 | mRNA | 1.895733053 | 0.029215073 | up | SUN5 | oas:101106350 | Uncharacterized protein | 0 | SUN5 | SUN domain-containing protein 5 | -0.60344917 | 0.035121566 | down |
| oar-miR-379-5p | SV2C | -15.61 | 153 | 3157 | 3182 | mRNA | 1.185391316 | 2.82E-05 | up | SV2C | oas:101110415 | Uncharacterized protein | 0 | SV2C | cDNA FLJ37598 fis, clone BRCOC2008642, highly similar to Synaptic vesicle glycoprotein 2C | -0.60344917 | 0.035121566 | down |
| oar-miR-409-3p | SV2C | -20.74 | 149 | 4430 | 4454 | mRNA | 1.185391316 | 2.82E-05 | up | SV2C | oas:101110415 | Uncharacterized protein | 0 | SV2C | cDNA FLJ37598 fis, clone BRCOC2008642, highly similar to Synaptic vesicle glycoprotein 2C | -0.962079531 | 4.48E-04 | down |
| oar-miR-409-3p | SWI5 | -21.05 | 163 | 160 | 179 | mRNA | 1.225393215 | 0.035564904 | up | SWI5 | oas:101120905 | Uncharacterized protein | 2.00E-30 | SWI5 | DNA repair protein SWI5 homolog | -0.962079531 | 4.48E-04 | down |
| oar-miR-200c | TBC1D2B | -20.73 | 159 | 1227 | 1249 | mRNA | -0.835106463 | 0.041285629 | down | TBC1D2B | oas:101114393 | Uncharacterized protein | 0 | TBC1D2B | TBC1D2B protein | 3.2599897 | 0.021828608 | up |
| oar-miR-665-3p | TFCP2L1 | -22.02 | 146 | 4156 | 4179 | mRNA | 1.80723914 | 0.025732874 | up | TFCP2L1 | oas:101114420 | Uncharacterized protein | 0 | TFCP2L1 | Putative uncharacterized protein LBP-9 | -0.89356081 | 0.037492287 | down |
| oar-miR-665-3p | TMC3 | -20.55 | 148 | 22 | 44 | mRNA | 2.210233126 | 0.008386706 | up | TMC3 | oas:101117450 | Transmembrane channel-like protein | 0 | TMC3 | Transmembrane channel-like protein 3 | -0.89356081 | 0.037492287 | down |
| oar-miR-495-3p | TMC3 | -19.42 | 140 | 259 | 278 | mRNA | 2.210233126 | 0.008386706 | up | TMC3 | oas:101117450 | Transmembrane channel-like protein | 0 | TMC3 | Transmembrane channel-like protein 3 | -0.641019174 | 0.001548281 | down |
| oar-miR-495-3p | TMEM170B | -17.91 | 145 | 2373 | 2393 | mRNA | 1.282050541 | 1.94E-06 | up | TMEM170B | oas:101116100 | transmembrane protein 170B | 7.00E-52 | TMEM170B | Transmembrane protein 170B | -0.641019174 | 0.001548281 | down |
| oar-miR-409-3p | TMEM81 | -21.62 | 159 | 1212 | 1237 | mRNA | 2.192237116 | 0.001273792 | up | TMEM81 | oas:101113609 | transmembrane protein 81 | 2.00E-115 | TMEM81 | Transmembrane protein 81 | -0.962079531 | 4.48E-04 | down |
| oar-miR-200c | TRIM23 | -18.64 | 154 | 501 | 525 | mRNA | -0.608019664 | 0.004307605 | down | TRIM23 | oas:101102930 | Uncharacterized protein | 0 | TRIM23 | cDNA FLJ75862, highly similar to Homo sapiens tripartite motif-containing 23 (TRIM23), transcript variant alpha, mRNA | 3.2599897 | 0.021828608 | up |
| oar-miR-495-3p | TRIM9 | -16.71 | 146 | 1698 | 1720 | mRNA | 2.895228 | 2.04E-14 | up | TRIM9 | oas:101105756 | Uncharacterized protein | 0 | TRIM9 | E3 ubiquitin-protein ligase TRIM9 | -0.641019174 | 0.001548281 | down |
| oar-miR-379-5p | WNT8A | -16.44 | 157 | 1824 | 1844 | mRNA | 2.125007985 | 0.006277815 | up | WNT8A | oas:101108044 | Protein Wnt | 0 | WNT8A | Protein Wnt-8a | -0.60344917 | 0.035121566 | down |
| **6- vs 12-month-old sheep testes** | | | | | | | | | | | | | | | | | | |
| **miRNA** | **TargetGene** | **Energy** | **Score** | **StartSubject** | **EndSubject** | **GeneType-Target** | **Log2FC-Target** | **FDR-Target** | **Style-Target** | **Symbol-Target** | **KeggID-Target** | **Description-Target** | **E-Value-Target** | **Blast\_Symbol-Target** | **Blast\_Description-Target** | **Log2FC-miRNA** | **FDR-miRNA** | **Style-miRNA** |
| oar-miR-23b | LOC101112445 | -18.03 | 142 | 539 | 555 | mRNA | -1.328009007 | 0.038351996 | down | LOC101112445 | oas:101112445 | Uncharacterized protein | 0 | ADAM30 | ADAM metallopeptidase domain 30 | 0.638091222 | 0.018459189 | up |
| **2- vs 12-month-old sheep testes** | | | | | | | | | | | | | | | | | | |
| **miRNA** | **TargetGene** | **Energy** | **Score** | **StartSubject** | **EndSubject** | **GeneType-Target** | **Log2FC-Target** | **FDR-Target** | **Style-Target** | **Symbol-Target** | **KeggID-Target** | **Description-Target** | **E-Value-Target** | **Blast\_Symbol-Target** | **Blast\_Description-Target** | **Log2FC-miRNA** | **FDR-miRNA** | **Style-miRNA** |
| oar-miR-200a | DHX37 | -18.45 | 152 | 21 | 39 | mRNA | -1.468204914 | 0.017369986 | down | DHX37 | oas:101120780 | Uncharacterized protein | 0 | DHX37 | Probable ATP-dependent RNA helicase DHX37 | 5.704119705 | 3.14E-04 | up |
| oar-miR-200c | SVOPL | -15.51 | 150 | 1387 | 1407 | mRNA | -1.539134913 | 2.18E-08 | down | SVOPL | oas:101109267 | Uncharacterized protein | 0 | SVOPL | Putative transporter SVOPL | 5.522585629 | 1.26E-04 | up |
| oar-miR-200c | C17H4orf46 | -15.04 | 152 | 827 | 848 | mRNA | -0.775044194 | 0.004275916 | down | C17H4orf46 | oas:101106969 | chromosome 17 open reading frame, human C4orf46 | 1.00E-37 | C4orf46 | chromosome 4 open reading frame 46 | 5.522585629 | 1.26E-04 | up |
| oar-miR-200c | ZCCHC14 | -15.39 | 163 | 2091 | 2112 | mRNA | -0.737745181 | 7.98E-07 | down | ZCCHC14 | oas:101104775 | Uncharacterized protein | 0 | ZCCHC14 | cDNA FLJ75992, highly similar to Homo sapiens zinc finger, CCHC domain containing 14 (ZCCHC14), mRNA | 5.522585629 | 1.26E-04 | up |
| oar-miR-200b | C17H4orf46 | -15.64 | 143 | 828 | 848 | mRNA | -0.775044194 | 0.004275916 | down | C17H4orf46 | oas:101106969 | chromosome 17 open reading frame, human C4orf46 | 1.00E-37 | C4orf46 | chromosome 4 open reading frame 46 | 6.202284495 | 2.91E-05 | up |
| oar-miR-200b | ZCCHC14 | -16.02 | 158 | 2431 | 2450 | mRNA | -0.737745181 | 7.98E-07 | down | ZCCHC14 | oas:101104775 | Uncharacterized protein | 0 | ZCCHC14 | cDNA FLJ75992, highly similar to Homo sapiens zinc finger, CCHC domain containing 14 (ZCCHC14), mRNA | 6.202284495 | 2.91E-05 | up |
| oar-miR-758-3p | ARHGEF37 | -18.67 | 161 | 586 | 606 | mRNA | 1.466508434 | 2.72E-11 | up | ARHGEF37 | oas:101121007 | Uncharacterized protein | 0 | ARHGEF37 | Rho guanine nucleotide exchange factor 37 | -0.843753774 | 2.25E-04 | down |
| oar-miR-758-3p | GPX5 | -16.26 | 145 | 1795 | 1814 | mRNA | 8.347074835 | 0.00188283 | up | GPX5 | oas:100913163 | Glutathione peroxidase | 3.00E-100 | GPX5 | Epididymal secretory glutathione peroxidase | -0.843753774 | 2.25E-04 | down |
| oar-miR-758-3p | C24H16orf89 | -20.86 | 141 | 68 | 87 | mRNA | 8.484577152 | 2.33E-05 | up | C24H16orf89 | oas:101104548 | Uncharacterized protein | 2.00E-148 | C16orf89 | UPF0764 protein C16orf89 | -0.843753774 | 2.25E-04 | down |
| oar-miR-758-3p | ACPP | -20.79 | 159 | 2650 | 2669 | mRNA | 20 | 1.07E-05 | up | ACPP | oas:101120130 | Uncharacterized protein | 0 | ACPP | ACPP protein | -0.843753774 | 2.25E-04 | down |
| oar-miR-758-3p | PROM2 | -17.85 | 155 | 1330 | 1347 | mRNA | 7.998370036 | 3.29E-05 | up | PROM2 | oas:101116471 | Uncharacterized protein | 0 | PROM2 | Prominin 2, isoform CRA\_a | -0.843753774 | 2.25E-04 | down |

**Table S7 GO-analysis of candidate target mRNAs in 2- vs 6-, 6- vs 12-, and 2- vs 12-month-old testes**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Biological process category** | | | | | | | | | | | |
| **2****- vs 6****-month-old** | | | | | | | | | | | |
| **GOID** | **GOTerm** | **DifGene** | **AllDifGene** | | **GeneInGO** | | **AllGene** | **P-Value** | **FDR** | **Enrichment** | **(-log10P)** |
| GO:0018105 | peptidyl-serine phosphorylation | 4 | 58 | | 105 | | 16650 | 0.0004877 | 0.09824 | 10.935961 | 3.3118329 |
| GO:0043525 | positive regulation of neuron apoptotic process | 3 | 58 | | 53 | | 16650 | 0.0008304 | 0.09824 | 16.249187 | 3.0806916 |
| GO:0035235 | ionotropic glutamate receptor signaling pathway | 2 | 58 | | 24 | | 16650 | 0.0031334 | 0.09824 | 23.922414 | 2.5039871 |
| GO:0060562 | epithelial tube morphogenesis | 1 | 58 | | 1 | | 16650 | 0.0034835 | 0.09824 | 287.06897 | 2.4579862 |
| GO:0003002 | regionalization | 1 | 58 | | 1 | | 16650 | 0.0034835 | 0.09824 | 287.06897 | 2.4579862 |
| GO:0042558 | pteridine-containing compound metabolic process | 1 | 58 | | 1 | | 16650 | 0.0034835 | 0.09824 | 287.06897 | 2.4579862 |
| GO:2000696 | regulation of epithelial cell differentiation involved in kidney development | 1 | 58 | | 1 | | 16650 | 0.0034835 | 0.09824 | 287.06897 | 2.4579862 |
| GO:0030879 | mammary gland development | 2 | 58 | | 33 | | 16650 | 0.0058751 | 0.09824 | 17.398119 | 2.2309829 |
| GO:0044324 | regulation of transcription involved in anterior/posterior axis specification | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0010085 | polarity specification of proximal/distal axis | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0044335 | canonical Wnt signaling pathway involved in neural crest cell differentiation | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0035813 | regulation of renal sodium excretion | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0060139 | positive regulation of apoptotic process by virus | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0097286 | iron ion import | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0048561 | establishment of organ orientation | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0014034 | neural crest cell fate commitment | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:2000293 | negative regulation of defecation | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0061317 | canonical Wnt signaling pathway involved in cardiac muscle cell fate commitment | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0003050 | regulation of systemic arterial blood pressure by atrial natriuretic peptide | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0009949 | polarity specification of anterior/posterior axis | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0031630 | regulation of synaptic vesicle fusion to presynaptic membrane | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0002528 | regulation of vascular permeability involved in acute inflammatory response | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0035544 | negative regulation of SNARE complex assembly | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0021722 | superior olivary nucleus maturation | 1 | 58 | | 2 | | 16650 | 0.006955 | 0.09824 | 143.53448 | 2.1577003 |
| GO:0009790 | embryo development | 2 | 58 | | 41 | | 16650 | 0.0089632 | 0.1138899 | 14.003364 | 2.0475386 |
| GO:0030162 | regulation of proteolysis | 2 | 58 | | 44 | | 16650 | 0.0102717 | 0.1138899 | 13.048589 | 1.9883582 |
| GO:0051649 | establishment of localization in cell | 1 | 58 | | 3 | | 16650 | 0.0104147 | 0.1138899 | 95.689655 | 1.9823527 |
| GO:0008218 | bioluminescence | 1 | 58 | | 3 | | 16650 | 0.0104147 | 0.1138899 | 95.689655 | 1.9823527 |
| GO:0048769 | sarcomerogenesis | 1 | 58 | | 3 | | 16650 | 0.0104147 | 0.1138899 | 95.689655 | 1.9823527 |
| GO:1902110 | positive regulation of mitochondrial membrane permeability involved in apoptotic process | 1 | 58 | | 3 | | 16650 | 0.0104147 | 0.1138899 | 95.689655 | 1.9823527 |
| GO:0007431 | salivary gland development | 1 | 58 | | 3 | | 16650 | 0.0104147 | 0.1138899 | 95.689655 | 1.9823527 |
| GO:0060596 | mammary placode formation | 1 | 58 | | 4 | | 16650 | 0.0138625 | 0.1172842 | 71.767241 | 1.8581573 |
| GO:0060350 | endochondral bone morphogenesis | 1 | 58 | | 4 | | 16650 | 0.0138625 | 0.1172842 | 71.767241 | 1.8581573 |
| GO:0007028 | cytoplasm organization | 1 | 58 | | 4 | | 16650 | 0.0138625 | 0.1172842 | 71.767241 | 1.8581573 |
| GO:0048563 | post-embryonic organ morphogenesis | 1 | 58 | | 4 | | 16650 | 0.0138625 | 0.1172842 | 71.767241 | 1.8581573 |
| GO:0033136 | serine phosphorylation of STAT3 protein | 1 | 58 | | 4 | | 16650 | 0.0138625 | 0.1172842 | 71.767241 | 1.8581573 |
| GO:0060512 | prostate gland morphogenesis | 1 | 58 | | 4 | | 16650 | 0.0138625 | 0.1172842 | 71.767241 | 1.8581573 |
| GO:0001766 | membrane raft polarization | 1 | 58 | | 4 | | 16650 | 0.0138625 | 0.1172842 | 71.767241 | 1.8581573 |
| GO:0002317 | plasma cell differentiation | 1 | 58 | | 4 | | 16650 | 0.0138625 | 0.1172842 | 71.767241 | 1.8581573 |
| GO:0060154 | cellular process regulating host cell cycle in response to virus | 1 | 58 | | 4 | | 16650 | 0.0138625 | 0.1172842 | 71.767241 | 1.8581573 |
| GO:0010951 | negative regulation of endopeptidase activity | 3 | 58 | | 149 | | 16650 | 0.015137 | 0.1172842 | 5.7799121 | 1.8199593 |
| GO:0016079 | synaptic vesicle exocytosis | 2 | 58 | | 55 | | 16650 | 0.0157352 | 0.1172842 | 10.438871 | 1.8031268 |
| GO:0016310 | phosphorylation | 7 | 58 | | 765 | | 16650 | 0.0165036 | 0.1172842 | 2.6267748 | 1.7824221 |
| GO:0097094 | craniofacial suture morphogenesis | 1 | 58 | | 5 | | 16650 | 0.0172986 | 0.1172842 | 57.413793 | 1.7619901 |
| GO:0010756 | positive regulation of plasminogen activation | 1 | 58 | | 5 | | 16650 | 0.0172986 | 0.1172842 | 57.413793 | 1.7619901 |
| GO:2000271 | positive regulation of fibroblast apoptotic process | 1 | 58 | | 5 | | 16650 | 0.0172986 | 0.1172842 | 57.413793 | 1.7619901 |
| GO:0070242 | thymocyte apoptotic process | 1 | 58 | | 5 | | 16650 | 0.0172986 | 0.1172842 | 57.413793 | 1.7619901 |
| GO:0090091 | positive regulation of extracellular matrix disassembly | 1 | 58 | | 5 | | 16650 | 0.0172986 | 0.1172842 | 57.413793 | 1.7619901 |
| GO:0045927 | positive regulation of growth | 1 | 58 | | 5 | | 16650 | 0.0172986 | 0.1172842 | 57.413793 | 1.7619901 |
| GO:1902263 | apoptotic process involved in embryonic digit morphogenesis | 1 | 58 | | 5 | | 16650 | 0.0172986 | 0.1172842 | 57.413793 | 1.7619901 |
| GO:0007127 | meiosis I | 1 | 58 | | 6 | | 16650 | 0.0207228 | 0.125447 | 47.844828 | 1.6835514 |
| GO:0046339 | diacylglycerol metabolic process | 1 | 58 | | 6 | | 16650 | 0.0207228 | 0.125447 | 47.844828 | 1.6835514 |
| GO:0060046 | regulation of acrosome reaction | 1 | 58 | | 6 | | 16650 | 0.0207228 | 0.125447 | 47.844828 | 1.6835514 |
| GO:1900180 | regulation of protein localization to nucleus | 1 | 58 | | 6 | | 16650 | 0.0207228 | 0.125447 | 47.844828 | 1.6835514 |
| GO:0051101 | regulation of DNA binding | 1 | 58 | | 6 | | 16650 | 0.0207228 | 0.125447 | 47.844828 | 1.6835514 |
| GO:0060298 | positive regulation of sarcomere organization | 1 | 58 | | 6 | | 16650 | 0.0207228 | 0.125447 | 47.844828 | 1.6835514 |
| GO:0006468 | protein phosphorylation | 6 | 58 | | 626 | | 16650 | 0.0213212 | 0.1268052 | 2.7514597 | 1.6711877 |
| GO:0045860 | positive regulation of protein kinase activity | 2 | 58 | | 67 | | 16650 | 0.022814 | 0.1319658 | 8.5692229 | 1.6417993 |
| GO:0030334 | regulation of cell migration | 2 | 58 | | 69 | | 16650 | 0.0241002 | 0.1319658 | 8.3208396 | 1.6179791 |
| GO:0032464 | positive regulation of protein homooligomerization | 1 | 58 | | 7 | | 16650 | 0.0241353 | 0.1319658 | 41.009852 | 1.6173467 |
| GO:0001783 | B cell apoptotic process | 1 | 58 | | 7 | | 16650 | 0.0241353 | 0.1319658 | 41.009852 | 1.6173467 |
| GO:0048070 | regulation of developmental pigmentation | 1 | 58 | | 7 | | 16650 | 0.0241353 | 0.1319658 | 41.009852 | 1.6173467 |
| GO:0000902 | cell morphogenesis | 2 | 58 | | 70 | | 16650 | 0.0247543 | 0.132456 | 8.2019704 | 1.6063492 |
| GO:0035556 | intracellular signal transduction | 5 | 58 | | 484 | | 16650 | 0.0263804 | 0.132456 | 2.9655885 | 1.5787178 |
| GO:0060261 | positive regulation of transcription initiation from RNA polymerase II promoter | 1 | 58 | | 8 | | 16650 | 0.0275362 | 0.132456 | 35.883621 | 1.5600964 |
| GO:0035988 | chondrocyte proliferation | 1 | 58 | | 8 | | 16650 | 0.0275362 | 0.132456 | 35.883621 | 1.5600964 |
| GO:0002070 | epithelial cell maturation | 1 | 58 | | 8 | | 16650 | 0.0275362 | 0.132456 | 35.883621 | 1.5600964 |
| GO:0090286 | cytoskeletal anchoring at nuclear membrane | 1 | 58 | | 8 | | 16650 | 0.0275362 | 0.132456 | 35.883621 | 1.5600964 |
| GO:0045955 | negative regulation of calcium ion-dependent exocytosis | 1 | 58 | | 8 | | 16650 | 0.0275362 | 0.132456 | 35.883621 | 1.5600964 |
| GO:0001776 | leukocyte homeostasis | 1 | 58 | | 8 | | 16650 | 0.0275362 | 0.132456 | 35.883621 | 1.5600964 |
| GO:0001558 | regulation of cell growth | 2 | 58 | | 75 | | 16650 | 0.0281322 | 0.132456 | 7.6551724 | 1.5507956 |
| GO:0032851 | positive regulation of Rab GTPase activity | 2 | 58 | | 75 | | 16650 | 0.0281322 | 0.132456 | 7.6551724 | 1.5507956 |
| GO:0016567 | protein ubiquitination | 5 | 58 | | 496 | | 16650 | 0.0289136 | 0.1342699 | 2.8938404 | 1.5388983 |
| GO:0007171 | activation of transmembrane receptor protein tyrosine kinase activity | 1 | 58 | | 9 | | 16650 | 0.0309254 | 0.1361519 | 31.896552 | 1.5096852 |
| GO:0002260 | lymphocyte homeostasis | 1 | 58 | | 9 | | 16650 | 0.0309254 | 0.1361519 | 31.896552 | 1.5096852 |
| GO:0006621 | protein retention in ER lumen | 1 | 58 | | 9 | | 16650 | 0.0309254 | 0.1361519 | 31.896552 | 1.5096852 |
| GO:0086009 | membrane repolarization | 1 | 58 | | 9 | | 16650 | 0.0309254 | 0.1361519 | 31.896552 | 1.5096852 |
| GO:0043085 | positive regulation of catalytic activity | 2 | 58 | | 82 | | 16650 | 0.0331521 | 0.1435642 | 7.0016821 | 1.4794887 |
| GO:0035148 | tube formation | 1 | 58 | | 10 | | 16650 | 0.0343029 | 0.1435642 | 28.706897 | 1.4646686 |
| GO:0060013 | righting reflex | 1 | 58 | | 10 | | 16650 | 0.0343029 | 0.1435642 | 28.706897 | 1.4646686 |
| GO:0071435 | potassium ion export | 1 | 58 | | 10 | | 16650 | 0.0343029 | 0.1435642 | 28.706897 | 1.4646686 |
| GO:1902237 | positive regulation of endoplasmic reticulum stress-induced intrinsic apoptotic signaling pathway | 1 | 58 | | 11 | | 16650 | 0.037669 | 0.1520211 | 26.097179 | 1.4240164 |
| GO:0061001 | regulation of dendritic spine morphogenesis | 1 | 58 | | 11 | | 16650 | 0.037669 | 0.1520211 | 26.097179 | 1.4240164 |
| GO:0009086 | methionine biosynthetic process | 1 | 58 | | 11 | | 16650 | 0.037669 | 0.1520211 | 26.097179 | 1.4240164 |
| GO:1900025 | negative regulation of substrate adhesion-dependent cell spreading | 1 | 58 | | 12 | | 16650 | 0.0410234 | 0.1562578 | 23.922414 | 1.386968 |
| GO:0070507 | regulation of microtubule cytoskeleton organization | 1 | 58 | | 12 | | 16650 | 0.0410234 | 0.1562578 | 23.922414 | 1.386968 |
| GO:0000042 | protein targeting to Golgi | 1 | 58 | | 12 | | 16650 | 0.0410234 | 0.1562578 | 23.922414 | 1.386968 |
| GO:0002262 | myeloid cell homeostasis | 1 | 58 | | 12 | | 16650 | 0.0410234 | 0.1562578 | 23.922414 | 1.386968 |
| GO:0043583 | ear development | 1 | 58 | | 12 | | 16650 | 0.0410234 | 0.1562578 | 23.922414 | 1.386968 |
| GO:0007565 | female pregnancy | 2 | 58 | | 94 | | 16650 | 0.0424979 | 0.1583181 | 6.1078503 | 1.3716329 |
| GO:0045899 | positive regulation of RNA polymerase II transcriptional preinitiation complex assembly | 1 | 58 | | 13 | | 16650 | 0.0443664 | 0.1583181 | 22.082228 | 1.3529456 |
| GO:0030166 | proteoglycan biosynthetic process | 1 | 58 | | 13 | | 16650 | 0.0443664 | 0.1583181 | 22.082228 | 1.3529456 |
| GO:0060993 | kidney morphogenesis | 1 | 58 | | 13 | | 16650 | 0.0443664 | 0.1583181 | 22.082228 | 1.3529456 |
| GO:0021819 | layer formation in cerebral cortex | 1 | 58 | | 13 | | 16650 | 0.0443664 | 0.1583181 | 22.082228 | 1.3529456 |
| GO:0055003 | cardiac myofibril assembly | 1 | 58 | | 13 | | 16650 | 0.0443664 | 0.1583181 | 22.082228 | 1.3529456 |
| GO:0021799 | cerebral cortex radially oriented cell migration | 1 | 58 | | 14 | | 16650 | 0.047698 | 0.1616961 | 20.504926 | 1.3215002 |
| GO:0045176 | apical protein localization | 1 | 58 | | 14 | | 16650 | 0.047698 | 0.1616961 | 20.504926 | 1.3215002 |
| GO:0007158 | neuron cell-cell adhesion | 1 | 58 | | 14 | | 16650 | 0.047698 | 0.1616961 | 20.504926 | 1.3215002 |
| GO:0007213 | G-protein coupled acetylcholine receptor signaling pathway | 1 | 58 | | 14 | | 16650 | 0.047698 | 0.1616961 | 20.504926 | 1.3215002 |
| GO:0061036 | positive regulation of cartilage development | 1 | 58 | | 14 | | 16650 | 0.047698 | 0.1616961 | 20.504926 | 1.3215002 |
| **6- vs 12-month-old** | | | | | | | | | | | |
| **GOID** | **GOTerm** | **DifGene** | **AllDifGene** | | **GeneInGO** | | **AllGene** | **P-Value** | **FDR** | **Enrichment** | **(-log10P)** |
| GO:0032504 | multicellular organism reproduction | 1 | 1 | | 30 | | 16650 | 0.0018018 | 0.0054054 | 555 | 2.744293 |
| GO:0007339 | binding of sperm to zona pellucida | 1 | 1 | | 45 | | 16650 | 0.0027027 | 0.0054054 | 370 | 2.5682017 |
| GO:0007338 | single fertilization | 1 | 1 | | 86 | | 16650 | 0.0051652 | 0.0068869 | 193.60465 | 2.2869158 |
| GO:0006508 | proteolysis | 1 | 1 | | 670 | | 16650 | 0.0402402 | 0.0402402 | 24.850746 | 1.3953394 |
| **2- vs 12-month-old** | | | | | | | | | | | |
| **GOID** | **GOTerm** | **DifGene** | | **AllDifGene** | | **GeneInGO** | **AllGene** | **P-Value** | **FDR** | **Enrichment** | **(-log10P)** |
| GO:0060168 | positive regulation of adenosine receptor signaling pathway | 1 | | 7 | | 2 | 16650 | 0.0008407 | 0.0094526 | 1189.2857 | 3.0753645 |
| GO:2001287 | negative regulation of caveolin-mediated endocytosis | 1 | | 7 | | 2 | 16650 | 0.0008407 | 0.0094526 | 1189.2857 | 3.0753645 |
| GO:0006772 | thiamine metabolic process | 1 | | 7 | | 4 | 16650 | 0.0016808 | 0.0094526 | 594.64286 | 2.774491 |
| GO:0048550 | negative regulation of pinocytosis | 1 | | 7 | | 4 | 16650 | 0.0016808 | 0.0094526 | 594.64286 | 2.774491 |
| GO:0046085 | adenosine metabolic process | 1 | | 7 | | 5 | 16650 | 0.0021006 | 0.0094526 | 475.71429 | 2.6776592 |
| GO:0031346 | positive regulation of cell projection organization | 1 | | 7 | | 5 | 16650 | 0.0021006 | 0.0094526 | 475.71429 | 2.6776592 |
| GO:2000369 | regulation of clathrin-mediated endocytosis | 1 | | 7 | | 7 | 16650 | 0.0029398 | 0.0113391 | 339.79592 | 2.5316877 |
| GO:0043088 | regulation of Cdc42 GTPase activity | 1 | | 7 | | 11 | 16650 | 0.0046163 | 0.01558 | 216.23377 | 2.3357061 |
| GO:0048741 | skeletal muscle fiber development | 1 | | 7 | | 29 | 16650 | 0.0121308 | 0.0338583 | 82.019704 | 1.916109 |
| GO:0051930 | regulation of sensory perception of pain | 1 | | 7 | | 32 | 16650 | 0.0133785 | 0.0338583 | 74.330357 | 1.8735916 |
| GO:0009117 | nucleotide metabolic process | 1 | | 7 | | 33 | 16650 | 0.0137941 | 0.0338583 | 72.077922 | 1.8603059 |
| GO:0006144 | purine nucleobase metabolic process | 1 | | 7 | | 41 | 16650 | 0.0171135 | 0.0385053 | 58.013937 | 1.7666616 |
| GO:0043087 | regulation of GTPase activity | 1 | | 7 | | 56 | 16650 | 0.0233115 | 0.0484161 | 42.47449 | 1.6324303 |
| GO:0034599 | cellular response to oxidative stress | 1 | | 7 | | 64 | 16650 | 0.0266033 | 0.0513065 | 37.165179 | 1.5750637 |
| GO:0035023 | regulation of Rho protein signal transduction | 1 | | 7 | | 77 | 16650 | 0.0319324 | 0.0574783 | 30.890538 | 1.495769 |
| GO:0032321 | positive regulation of Rho GTPase activity | 1 | | 7 | | 115 | 16650 | 0.0473663 | 0.0771498 | 20.68323 | 1.3245301 |
| GO:0006396 | RNA processing | 1 | | 7 | | 118 | 16650 | 0.0485758 | 0.0771498 | 20.157385 | 1.3135802 |

**Table S8 Pathway analysis of candidate target mRNAs in** **2- vs 6-, 6- vs 12-, and 2- vs 12-month-old testes**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **KEGG pathways** | | | | | | | | | |
| **2- vs 6-month-old** | | | | | | | | | |
| **PathwayID** | **PathwayTerm** | **DifGene** | **AllDifGene** | **GeneInPathway** | **AllGene** | **P-Value** | **FDR** | **Enrichment** | **(-log10P)** |
| PATH:04340 | Hedgehog signaling pathway | 3 | 20 | 54 | 7932 | 0.0003133 | 0.0266302 | 22.033333 | 3.5040439 |
| PATH:04962 | Vasopressin-regulated water reabsorption | 2 | 20 | 48 | 7932 | 0.0063562 | 0.1255435 | 16.525 | 2.1968058 |
| PATH:04310 | Wnt signaling pathway | 3 | 20 | 155 | 7932 | 0.006536 | 0.1255435 | 7.676129 | 2.1846887 |
| PATH:05030 | Cocaine addiction | 2 | 20 | 50 | 7932 | 0.006882 | 0.1255435 | 15.864 | 2.1622882 |
| PATH:05206 | MicroRNAs in cancer | 3 | 20 | 162 | 7932 | 0.0073849 | 0.1255435 | 7.3444444 | 2.1316548 |
| PATH:04971 | Gastric acid secretion | 2 | 20 | 77 | 7932 | 0.0157834 | 0.2235976 | 10.301299 | 1.8018006 |
| PATH:04911 | Insulin secretion | 2 | 20 | 88 | 7932 | 0.0203105 | 0.2466273 | 9.0136364 | 1.6922797 |
| PATH:04916 | Melanogenesis | 2 | 20 | 103 | 7932 | 0.027251 | 0.2895422 | 7.7009709 | 1.5646171 |
| PATH:04270 | Vascular smooth muscle contraction | 2 | 20 | 127 | 7932 | 0.0400421 | 0.3410214 | 6.2456693 | 1.3974836 |
| PATH:04611 | Platelet activation | 2 | 20 | 130 | 7932 | 0.0417761 | 0.3410214 | 6.1015385 | 1.3790723 |
| PATH:04724 | Glutamatergic synapse | 2 | 20 | 134 | 7932 | 0.0441322 | 0.3410214 | 5.919403 | 1.3552446 |
| **2- vs 12-month-old** | | | | | | | | | |
| **PathwayID** | **PathwayTerm** | **DifGene** | **AllDifGene** | **GeneInPathway** | **AllGene** | **P-Value** | **FDR** | **Enrichment** | **(-log10P)** |
| PATH:00740 | Riboflavin metabolism | 1 | 2 | 12 | 7932 | 0.0030236 | 0.0120945 | 330.5 | 2.5194727 |
| PATH:00480 | Glutathione metabolism | 1 | 2 | 58 | 7932 | 0.0145718 | 0.0245589 | 68.37931 | 1.8364882 |
| PATH:04918 | Thyroid hormone synthesis | 1 | 2 | 74 | 7932 | 0.0185727 | 0.0245589 | 53.594595 | 1.7311243 |
| PATH:00590 | Arachidonic acid metabolism | 1 | 2 | 98 | 7932 | 0.0245589 | 0.0245589 | 40.469388 | 1.6097906 |

**Table S9 GO and pathway terms that WNT8A involved in related to testis development and spermatogenesis.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Target mRNA** | **GO-ID** | **GO term** | **Pathway-ID** | **Pathway term** |
| WNT8A | GO:0010085 | polarity specification of proximal/distal axis | PATH:05200 | Pathways in cancer |
|  | GO:0007275 | multicellular organismal development | PATH:04550 | Signaling pathways regulating pluripotency of stem cells |
|  | GO:0007492 | endoderm development | PATH:05166 | HTLV-I infection |
|  | GO:0060021 | palate development | PATH:04310 | WNT signaling pathway |
|  | GO:0061317 | canonical WNT signaling pathway involved  in cardiac muscle cell fate commitment | PATH:04916 | Melanogenesis |
|  | GO:0044335 | canonical WNT signaling pathway involved  in neural crest cell differentiation | PATH:04340 | Hedgehog signaling pathway |
|  | GO:0009949 | polarity specification of anterior/posterior axis | PATH:04390 | Hippo signaling pathway |
|  | GO:0048561 | establishment of organ orientation | PATH:05217 | Basal cell carcinoma |
|  | GO:0032526 | response to retinoic acid | PATH:05205 | Proteoglycans in cancer |
|  | GO:0060070 | canonical WNT signaling pathway |  |  |
|  | GO:0016055 | WNT signaling pathway |  |  |
|  | GO:0014034 | neural crest cell fate commitment |  |  |
|  | GO:0030182 | neuron differentiation |  |  |
|  | GO:0032880 | regulation of protein localization |  |  |
|  | GO:0000902 | cell morphogenesis |  |  |
|  | GO:0090263 | positive regulation of canonical WNT signaling pathway |  |  |
|  | GO:0044324 | regulation of transcription involved  in anterior/posterior axis specification |  |  |
|  | GO:0003002 | regionalization |  |  |
|  | GO:0045165 | cell fate commitment |  |  |

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**Supplemental figure 1.** **Hierarchical clustering of DE mRNAs and DE miRNAs in testis samples.** a. Hierarchical clustering of DE mRNAs in testis samples. b. Hierarchical clustering of DE miRNAs in testis samples. Testis samples were clustered based on 955 DE mRNAs (a) and 211 DE miRNAs (b). Two-month-old testes: A1, A2, A3; 6-month-old testes: B1, B2, B3 testis; 12-month-old testes: C1, C2, C3. The key color bar shown that mRNA or miRNA expression levels increased from green to red. Darker colors indicate more similar expression levels.