

**Table S1.** Adipogenesis-regulating microRNAs in mouse.

| micro RNA   | Effect on adipogenesis | Cell system    | Target gene/signaling pathway    | Reference                         |
|-------------|------------------------|----------------|----------------------------------|-----------------------------------|
| miR-10b-5p  | i                      | 3T3L1          | Apol6                            | Tan et al., 2019                  |
| miR-17-5p   | p                      | 3T3L1          | TCF7L2                           | Tian et al., 2017                 |
| miR-17-92   | p                      | 3T3L1          | Rb2/p130                         | Wang et al., 2008                 |
| miR-20a     | p                      | 3T3L1          | KDM6B, TGTBR2                    | Zhou et al., 2015                 |
| miR-23a     | i                      | 3T3L1          |                                  | Shen et al., 2016                 |
| miR-24      | p                      | 3T3L1          | MAPK7                            | Jin et al., 2016                  |
| miR-25      | i                      | 3T3L1          | KLF4; CEPBa                      | Liang et al., 2015                |
| mir-26b     | p                      | 3T3L1          | PTEN                             | Li et al., 2017                   |
| miR-27a     | i                      | 3T3L1          | PPARg                            | Kim et al., 2010                  |
| mir-29a/b/c | i                      | 3T3L1          | DNMT3A                           | Zhu et al., 2017                  |
| miR-103     | p                      | 3T3L1          | MEF2D, TNFa                      | Xie et al., 2009, Li et al., 2014 |
| miR-103     | p                      | 3T3L1          | Thy1 (CD90)                      | Woeller et al., 2017              |
| miR-124     | p                      | 3T3L1          | DLX5                             | Qadir et al., 2013                |
| miR-128-3p  | i                      | 3T3L1          | PPAR $\gamma$ , Sertad2          | Chen et al., 2018                 |
| miR-135a-5p | i                      | 3T3L1          | Apc                              | Chen et al., 2014                 |
| miR-139-5p  | i                      | 3T3L1          | Notch1, IRS1                     | Mi et al., 2015                   |
| miR-140-5p  | p                      | 3T3L1; ST2     | Tgfr1                            | Zhang et al., 2015                |
| miR-143     | p                      | 3T3L1          | PTN, TNFa                        | Yi et al., 2011, Xie et al., 2009 |
| miR-143a-3p | i                      | 3T3L1          | MAPK7                            | Zhang et al., 2018                |
| miR-144-3p  | i                      | 3T3L1          | Klf3, CtBP2                      | Shen et al., 2018                 |
| miR-146b    | i                      | 3T3L1          | SIRT1                            | Ahn et al., 2013                  |
| miR-148a    | p                      | 3T3L1          | Wnt10b                           | Cho et al., 2016                  |
| miR-148a-3p | p                      | ST2            | Kdm6b                            | Tian et al., 2017                 |
| miR-155     | i                      | 3T3L1          | C/EBPb, CREB                     | Lin et al., 2011                  |
| miR-181a-5p | p                      | 3T3L1          | Smad7; Tcf7l2                    | Ouyang et al., 2016               |
| miR-183     | i                      | 3T3L1          | LRP6                             | Chen et al., 2014                 |
| miR-185     | i                      | 3T3L1          | SREBP1                           | Ning et al., 2017                 |
| miR-188     | p                      | BMSC           | HDAC9, RICTOR                    | Li et al., 2015                   |
| miR-191     | i                      | 3T3L1          | CEBPb                            | Ji et al., 2014                   |
| mir-199a-3p | p                      | 3T3L1          | SCD                              | Tan et al., 2017                  |
| miR-200b    | p                      | 3T3L1          | KLF4                             | Shen et al., 2018                 |
| miR-204-5p  | p/i                    | 3T3L1          | Bcl-2                            | Du et al., 2018                   |
| miR-206-3p  | i                      | 3T3L1          | c-Met                            | Tang et al., 2017                 |
| mir-210     | p                      | 3T3L1          | Tcf7l2                           | Qin et al., 2010                  |
| miR-215     | i                      | 3T3L1          | FNDC3B, CTNNBIP1                 | Peng et al., 2016                 |
| miR-223     | p                      | C3H10T1/2; ST2 | Fgfr2                            | Guan et al., 2015                 |
| miR-224-3p  | p                      | 3T3L1          | EGR2, ACSL4                      | Peng et al., 2013                 |
| miR-302a    | i                      | 3T3L1          | PPARg                            | Jeong et al., 2014                |
| miR-344     | i                      | 3T3L1          | GSK3b                            | Chen et al., 2014                 |
| miR-375     | p                      | 3T3L1          | ERK-PPARg2-AP2                   | Ling et al., 2011                 |
| miR-378a-3p | p                      | 3T3L1          | MAPK1                            | Huang et al., 2015                |
| miR-3963    | p                      | mouse MSC      | C/EBP $\alpha$ and PPAR $\gamma$ | Liu et al., 2018                  |
| miR-425-5p  | p/i                    | 3T3L1          | Mapk14                           | Qi et al., 2019                   |
| miR-483-5p  | i                      | 3T3L1          |                                  | Zhang et al., 2016                |
| miR-540     | i                      | 3T3L1          | PPARg                            | Chen et al., 2015                 |
| miR-709     | i                      | 3T3L1          | GSK3b                            | Chen et al., 2014                 |

**Table S2.** Adipogenesis-regulating microRNAs in other species.

| micro RNA | Effect on adipogenesis | Cell system | Target gene/signaling pathway | Reference |
|-----------|------------------------|-------------|-------------------------------|-----------|
|-----------|------------------------|-------------|-------------------------------|-----------|

|             |     |                       |                                                         |                        |
|-------------|-----|-----------------------|---------------------------------------------------------|------------------------|
| miR-15a/b   | p   | porcine adipocytes    | FoxO1                                                   | Dong et al., 2014      |
| miR-27      | p   | porcine adipocytes    |                                                         | Wang et al., 2011      |
| miR-33b     | i   | porcine adipocytes    | EBF1                                                    | Tamiguchi et al., 2014 |
| miR-125a-5p | p/i | porcine preadipocytes | Klf13, ELOVL6                                           | Du et al., 2018        |
| miR-127     | i/p | porcine adipocytes    | MAPK4,HOXC6                                             | Gao et al., 2019       |
| miR-130b    | i   | GMEC                  | PGC1a                                                   | Chen et al., 2015      |
| miR-145     | i   | porcine adipocytes    | IRS1                                                    | Guo et al., 2012       |
| miR-148a-3p | p   | rabbit preadipocytes  | PPAR $\gamma$ , C/EBP $\alpha$ , and FABP4, PTEN        | He at al., 2018        |
| miR-181a    | p   | porcine adipocytes    | TNF $\alpha$                                            | Li et al., 2013        |
| miR-181a    | p   | porcine preadipocytes | TGFBR1                                                  | Zhang et al., 2019     |
| miR-183     | i   | hircine preadipocytes | PPAR $\gamma$ , C/EBP $\alpha$ , SREBP-1c, FAS, and ACC | Zhao et al., 2018      |
| miR-199a-5p | p   | porcine adipocytes    | Cav-1                                                   | Shi et al., 2014       |
| miR-429     | i   | porcine               | KLF9; p27                                               | Peng et al., 2016      |

**Table S3.** microRNAs regulating AR expression.

| microRNA                     | tissue              | target gene/ signaling pathway | reference                |
|------------------------------|---------------------|--------------------------------|--------------------------|
| let-7c                       | PCa                 | AR                             | Nadinity et al., 2012    |
| miR-1                        | PCa                 | AR                             | Stope et al., 2013       |
| miR-1                        | PCa                 | AR                             | Siu et al., 2016         |
| miR-30c, miR-103a            | PCa                 | AR                             | Chen et al., 2019        |
| miR-1207-3p                  | PCa                 | AR                             | Das et al., 2016         |
| mir-124                      | bladder cancer      | AR                             | Xiaong et al., 2017      |
| miR-124a                     | TCC                 | AR                             | Stanley et al., 2012     |
| miR-124                      | PCa                 | AR                             | Shi et al., 2013         |
| miR-124                      | PCa                 | AR, EZH2, SRC                  | Shi et al., 2015         |
| miR-130a                     | mouse Sertoli cells | AR                             | Li et al., 2018          |
| miR-130b                     | PCa                 | AR                             | Cammostraco et al., 2017 |
| miR-135b                     | BCa/PCa             | AR                             | Aakula et al., 2015      |
| miR-141-3p                   | PCa                 | AR                             | Wang et al., 2015        |
| miR-145                      | PCa                 | AR                             | Larne et al., 2015       |
| miR-185                      | PCa                 | AR                             | Qu et al., 2013          |
| miR-185                      | PCa                 | AR                             | Liu et al., 2015         |
| miR-204                      | PCa                 | AR                             | Todorova et al., 2017    |
| miR-205                      | Caval bodies        | AR                             | Wen et al., 2019         |
| miR-205                      | PCa                 | AR                             | Hagman et al., 2013      |
| miR-298                      | muscle              | AR                             | Pourshafie et al., 2016  |
| miR-301a                     | Pca/pre-adipocytes  | AR                             | Xie et al., 2015         |
| miR-30b/d                    | PCa                 | AR                             | Kumar et al., 2016       |
| miR-3148                     | cardiomyocytes      | AR                             | Miao et al., 2017        |
| miR-3162-5p                  | PCa                 | AR, KLK2-4                     | Martin et al., 2019      |
| miR-320b                     | PCa                 | AR, MALAT-1                    | Deu et al., 2019         |
| miR-320b                     | PCa                 | AR                             | Sato et al., 2016        |
| miR-331                      | PCa                 | AR, ERBB2                      | Epis et al., 2009        |
| miR-34                       | PCa                 | AR                             | Shiina et al., 2017      |
| miR-34, miR-449              | PCa                 | AR                             | Lin et al., 2017         |
| miR-346, miR-361-3p, miR-197 | PCa                 | AR                             | Fletcher et al., 2019    |
| miR-34a                      | PCa                 | AR                             | Kashat et al., 2012      |
| miR-367                      | HCC                 | AR, MDM2                       | Xu et al., 2016          |
| miR-34a, miR-371             | PCa                 | AR                             | Leite et al., 2015       |
| miR-381                      | PCa                 | AR                             | Rui et al., 2019         |
| miR-449a                     | bladder cancer      | AR                             | Guo et al., 2018         |
| miR-449a                     | PCa                 | AR                             | Zheng et al., 2015       |
| miR-488*                     | PCa                 | AR                             | Sikand et al., 2011      |
| miR-488*                     | PCa                 | AR                             | Ebron et al., 2016       |
| miR-541                      | PCa                 | AR                             | Hu et al., 2015          |
| miR-582, miR-637             | lung cancer         | AR                             | Jin et al., 2017         |
| miR-762                      | boar sperm cells    | AR                             | Ma et al., 2016          |

