Table 3. Conservation of validated miRNA binding sites in cancer-related target genes.

wt genes	corresponding pseudogene(s)	validated miRNA families	conservation of the binding site between *wt* and pseudo
CCND3	*CCND3P*	*miR-16* [1]	no*
CDK4	*CDK4PS*	*miR-34* [2]	yes
DNMT3A	*DNMT3AP1*	*miR-29* [3] *miR-143* [4]	no no
E2F3	*E2F3P1*	*miR-17* [5] *miR-34* [6]	yes no
c-MYC	*MYCL3*	*let-7* [7] *miR-145* [8]	no* no*
OCT4	*OCT4-pg1,2,3,4,5,6*	*miR-145* [9]	yes
KRAS	*KRAS1P*	*let-7* [10] *miR-143* [11]	yes yes
PTEN	*PTENP1*	*miR-17* [12] *miR-19* [13,14] *miR-21* [15] *miR-26* [16] *miR-214* [17] *miR-216* [18] *miR-217* [18]	yes yes yes yes yes no no
FOXO3	*FOXO3B*	*miR-182* [19]	yes

A list of miRNA families with a well recognized oncogenic or oncosuppressor role was obtained merging the most recent reviews about microRNAs and cancer [20-24].
The validated targets of these miRNAs that have at least 1 pseudogene (http://www.genecards.org) are listed above. The conservation of the binding sites of the validated miRNAs in the pseudogene(s) is also reported. The asterisk indicates those wt/pseudogene pairs that show an overall low sequence conservation (<60%).
The conservation of *miR-17*, *19*, *21*, *26* and *214* binding sites in *PTENP1* has been discussed elsewhere **(Fig. 1)**. Analogously, the conservation of *miR-145* binding sites in *OCT4* pseudogenes has been described in **Table 2**.

References 1-24

1 Liu, Q. *et al.*, miR-16 family induces cell cycle arrest by regulating multiple cell cycle genes. *Nucleic Acids Res* 36 (16), 5391-5404 (2008).

2 He, L., He, X., Lowe, S.W., & Hannon, G.J., microRNAs join the p53 network--another piece in the tumour-suppression puzzle. *Nat Rev Cancer* 7 (11), 819-822 (2007).

3 Fabbri, M. *et al.*, MicroRNA-29 family reverts aberrant methylation in lung cancer by targeting DNA methyltransferases 3A and 3B. *Proc Natl Acad Sci U S A* 104 (40), 15805-15810 (2007).

4 Ng, E.K. *et al.*, MicroRNA-143 targets DNA methyltransferases 3A in colorectal cancer. *Br J Cancer* 101 (4), 699-706 (2009).

5 Sylvestre, Y. *et al.*, An E2F/miR-20a auto-regulatory feed-back loop. *J Biol Chem* (2006).

6 Welch, C., Chen, Y., & Stallings, R.L., MicroRNA-34a functions as a potential tumor suppressor by inducing apoptosis in neuroblastoma cells. *Oncogene* 26 (34), 5017-5022 (2007).

7 Sampson, V.B. *et al.*, MicroRNA let-7a down-regulates MYC and reverts MYC-induced growth in Burkitt lymphoma cells. *Cancer Res* 67 (20), 9762-9770 (2007).

8 Sachdeva, M. *et al.*, p53 represses c-Myc through induction of the tumor suppressor miR-145. *Proc Natl Acad Sci U S A* 106 (9), 3207-3212 (2009).

9 Xu, N., Papagiannakopoulos, T., Pan, G., Thomson, J.A., & Kosik, K.S., MicroRNA-145 regulates OCT4, SOX2, and KLF4 and represses pluripotency in human embryonic stem cells. *Cell* 137 (4), 647-658 (2009).

10 Johnson, S.M. *et al.*, RAS is regulated by the let-7 microRNA family. *Cell* 120 (5), 635-647 (2005).

11 Chen, X. *et al.*, Role of miR-143 targeting KRAS in colorectal tumorigenesis. *Oncogene* 28 (10), 1385-1392 (2009).

12 Xiao, C. *et al.*, Lymphoproliferative disease and autoimmunity in mice with increased miR-17-92 expression in lymphocytes. *Nat Immunol* 9 (4), 405-414 (2008).

13 Lewis, B.P., Shih, I.H., Jones-Rhoades, M.W., Bartel, D.P., & Burge, C.B., Prediction of mammalian microRNA targets. *Cell* 115 (7), 787-798 (2003).

14 Takakura, S. *et al.*, Oncogenic role of miR-17-92 cluster in anaplastic thyroid cancer cells. *Cancer Sci* 99 (6), 1147-1154 (2008).

15 Meng, F. *et al.*, Involvement of human micro-RNA in growth and response to chemotherapy in human cholangiocarcinoma cell lines. *Gastroenterology* 130 (7), 2113-2129 (2006).

16 Huse, J.T. *et al.*, The PTEN-regulating microRNA miR-26a is amplified in high-grade glioma and facilitates gliomagenesis in vivo. *Genes Dev* 23 (11), 1327-1337 (2009).

17 Yang, H. *et al.*, MicroRNA expression profiling in human ovarian cancer: miR-214 induces cell survival and cisplatin resistance by targeting PTEN. *Cancer Res* 68 (2), 425-433 (2008).

18 Kato, M. *et al.*, TGF-beta activates Akt kinase through a microRNA-dependent amplifying circuit targeting PTEN. *Nat Cell Biol* (2009).

19 Segura, M.F. *et al.*, Aberrant miR-182 expression promotes melanoma metastasis by repressing FOXO3 and microphthalmia-associated transcription factor. *Proc Natl Acad Sci U S A* 106 (6), 1814-1819 (2009).

[20] Ventura, A. & Jacks, T., MicroRNAs and cancer: short RNAs go a long way. *Cell* 136 (4), 586-591 (2009).
[21] Garzon, R., Calin, G.A., & Croce, C.M., MicroRNAs in Cancer. *Annu Rev Med* 60, 167-179 (2009).
[22] Visone, R. & Croce, C.M., MiRNAs and cancer. *Am J Pathol* 174 (4), 1131-1138 (2009).
[23] Medina, P.P. & Slack, F.J., microRNAs and cancer: an overview. *Cell Cycle* 7 (16), 2485-2492 (2008).
[24] Ma, L. & Weinberg, R.A., Micromanagers of malignancy: role of microRNAs in regulating metastasis. *Trends Genet* 24 (9), 448-456 (2008).