

## Retraction

## Retraction: Long non-coding RNA ANRIL promotes the invasion and metastasis of thyroid cancer cells through TGF- $\beta$ /Smad signaling pathway

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**This article has been retracted:** Oncotarget has concluded its investigation of this paper. Multiple instances of internal and external duplications and overlaps of Transwell assay images were discovered. These include:

### Internal Duplications:

Figure 5, TPC-1, panel A is a duplicate of SW579 panels A and B, and correspondingly SW579 panels A and B are duplicates too.

Figure 5, TPC-1, panel E overlaps with SW579 panel D.

Figure 6, TPC-1 panel A overlaps with panel B.

### External Duplications:

Figures 5 and 6 contain panels that overlap with earlier published figures 7 and 12 in already retracted article [1] and Figure 8D in article [2]. Concurrently published papers [3] and [4] also shred images from Figures 5 and 6. And multiple panels from Figures 5 and 6 were found in later published unrelated articles [5–8].

The authors and their institution have been contacted, but neither has responded. Therefore, the Editorial decision has been made to retract the paper.

Original article: Oncotarget. 2016; 7:57903–57918. <https://doi.org/10.18632/oncotarget.11087>

## REFERENCES

1. Li X, Chen L, Wang W, Meng FB, Zhao RT, Chen Y. MicroRNA-150 Inhibits Cell Invasion and Migration and Is Downregulated in Human Osteosarcoma. *Cytogenet Genome Res.* 2015; 146:124–35. <https://doi.org/10.1159/000437379>. [PubMed]. Retraction in: *Cytogenet Genome Res.* 2022; 162:95. <https://doi.org/10.1159/000523671>. [PubMed]
2. Liu N, Jiang F, He TL, Zhang JK, Zhao J, Wang C, Jiang GX, Cao LP, Kang PC, Zhong XY, Lin TY, Cui YF. The Roles of MicroRNA-122 Overexpression in Inhibiting Proliferation and Invasion and Stimulating Apoptosis of Human Cholangiocarcinoma Cells. *Sci Rep.* 2015; 5:16566. <https://doi.org/10.1038/srep16566>. [PubMed]
3. Wang N, Wang Q, Shen D, Sun X, Cao X, Wu D. Downregulation of microRNA-122 promotes proliferation, migration, and invasion of human hepatocellular carcinoma cells by activating epithelial-mesenchymal transition. *Onco Targets Ther.* 2016; 9:2035–47. <https://doi.org/10.2147/OTT.S92378>. [PubMed]
4. Dong J, Zhang Z, Gu T, Xu SF, Dong LX, Li X, Fu BH, Fu ZZ. The role of microRNA-21 in predicting brain metastases from non-small cell lung cancer. *Onco Targets Ther.* 2016; 10:185–94. <https://doi.org/10.2147/OTT.S116619>. [PubMed]
5. Li E, Zhao Z, Ma B, Zhang J. Long noncoding RNA HOTAIR promotes the proliferation and metastasis of osteosarcoma cells through the AKT/mTOR signaling pathway. *Exp Ther Med.* 2017; 14:5321–28. <https://doi.org/10.3892/etm.2017.5248>. [PubMed]
6. Guo HM, Yang SH, Zhao SZ, Li L, Yan MT, Fan MC. LncRNA NEAT1 regulates cervical carcinoma proliferation and invasion by targeting AKT/PI3K. *Eur Rev Med Pharmacol Sci.* 2018; 22:4090–97. [https://doi.org/10.26355/eurrev\\_201807\\_15400](https://doi.org/10.26355/eurrev_201807_15400). [PubMed]

7. Zhao ZW, Fan XX, Song JJ, Xu M, Chen MJ, Tu JF, Wu FZ, Zhang DK, Liu L, Chen L, Ying XH, Ji JS. ShRNA knock-down of CXCR7 inhibits tumour invasion and metastasis in hepatocellular carcinoma after transcatheter arterial chemoembolization. *J Cell Mol Med*. 2017; 21:1989–99. <https://doi.org/10.1111/jcmm.13119>. [PubMed]
8. Qiao B, He BX, Cai JH, Tao Q, King-Yin Lam A. MicroRNA-27a-3p Modulates the Wnt/β-Catenin Signaling Pathway to Promote Epithelial-Mesenchymal Transition in Oral Squamous Carcinoma Stem Cells by Targeting SFRP1. *Sci Rep*. 2017; 7:44688. <https://doi.org/10.1038/srep44688>. [PubMed]. Retraction in: *Sci Rep*. 2020; 10:21317. <https://doi.org/10.1038/s41598-020-77203-x>. [PubMed]