

Supplemental Tables S3-S5

The ratio of toxic-to-nontoxic microRNAs predicts platinum sensitivity in ovarian cancer

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Supplemental Table S3: Patient tumor samples used in analysis #1 (long-term vs. short-term survivors) and analysis #2 (primary vs. recurrent tumors).

Supplemental Table S4: Identification of the most abundant miRNAs enriched in Pt-R patients. Tab "All": A list of all reads collapsed into miRNAs according to their 6mer seeds in analysis #1 (comparison of short term and long term Pt sensitive patients). S, short-term sensitive; I, intermediate sensitive; L, long-term sensitive. Tab "Top abundant miRNAs". miRNA read numbers were correlated using Pearson correlations with the Pt sensitive days. All miRNAs as shown that had a correlation p value of <0.05 an average read number of >1000 and a downregulation of >1.5 fold between the Pt-S and Pt-R groups.

Supplemental Table S5: Different miRNAs are associated with Pt resistance in different models of OC and in OC patients. For each miRNA listed 6mer seed viability was determined in HeyA8 cells (6merdb.org). Only shown are miRNAs with average reads >1000 across all samples. Samples with average <1000 reads are labeled with /. nd, not detected = less than 10 reads across all samples. nd, not detected, less than 10 reads across all samples. In addition, miRNAs found to be enriched in Pt-R patients and to significantly correlate with Pt sensitive days are shown in the last column. Both Pearson coefficients and p-values are given. Only miRNAs are listed for which it has been demonstrated that overexpression of a miRNA mimic in Pt-S cells increases Pt resistance and inhibition of the same miRNA in isogenic Pt-R cells increases sensitivity. This was shown for miR-21 (1,2), miR-125b (3), miR-130a and miR-374a (4), miR-149-5p (5), miR-214-3p (6), miR-216a-5p (7), miR-551b-3p (8), and miR-194-5p (9).

References Supplemental Table S5

1. Echevarría-Vargas IM, Valiyeva F, Vivas-Mejía PE. Upregulation of miR-21 in cisplatin resistant ovarian cancer via JNK-1/c-Jun pathway. *PLoS One* **2014**;9:e97094
2. Vandghanooni S, Eskandani M, Barar J, Omid Y. AS1411 aptamer-decorated cisplatin-loaded poly(lactic-co-glycolic acid) nanoparticles for targeted therapy of miR-21-inhibited ovarian cancer cells. *Nanomedicine* **2018**;13:2729-58
3. Kong F, Sun C, Wang Z, Han L, Weng D, Lu Y, *et al.* miR-125b confers resistance of ovarian cancer cells to cisplatin by targeting pro-apoptotic Bcl-2 antagonist killer 1. *J Huazhong Univ Sci Technolog Med Sci* **2011**;31:543
4. Li N, Yang L, Wang H, Yi T, Jia X, Chen C, *et al.* MiR-130a and MiR-374a Function as Novel Regulators of Cisplatin Resistance in Human Ovarian Cancer A2780 Cells. *PLoS One* **2015**;10:e0128886
5. Xu M, Xiao J, Chen M, Yuan L, Li J, Shen H, *et al.* miR-149-5p promotes chemotherapeutic resistance in ovarian cancer via the inactivation of the Hippo signaling pathway. *Int J Oncol* **2018**;52:815-27
6. Zhang J, Liu J, Xu X, Li L. Curcumin suppresses cisplatin resistance development partly via modulating extracellular vesicle-mediated transfer of MEG3 and miR-214 in ovarian cancer. *Cancer Chemother Pharmacol* **2017**;79:479-87
7. Jin P, Liu Y, Wang R. STAT3 regulated miR-216a promotes ovarian cancer proliferation and cisplatin resistance. *Biosci Rep* **2018**;38
8. Wei Z, Liu Y, Wang Y, Zhang Y, Luo Q, Man X, *et al.* Downregulation of Foxo3 and TRIM31 by miR-551b in side population promotes cell proliferation, invasion, and drug resistance of ovarian cancer. *Med Oncol* **2016**;33:126
9. Wu J, Zhang L, Wu S, Yi X, Liu Z. miR-194-5p inhibits SLC40A1 expression to induce cisplatin resistance in ovarian cancer. *Pathol Res Pract* **2020**;216:152979