Reviewer's report

Title: Identification of genes specific to cisplatin resistance in human oral squamous cell carcinoma cell line

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Reviewer: paola perego

Reviewer's report:

General
The authors describe the identification of genes associated with resistance to cisplatin in a human oral squamous cell carcinoma cell line developed in vitro following exposure to increasing cisplatin concentration. The studied cell system exhibit a stable cisplatin-resistant phenotype thereby representing an appropriate model for the used approach. The main finding of the study is a list of genes differentially expressed in sensitive and resistant cells. The authors also validated their data using 4 genes, CCND1 that was increased in resistant cells, CCND3 that was decreased, GST-p that was present in both and Gp170 that was absent in both cell lines. Thus, they conclude that there is agreement with microarray data. In principle, the used approach is interesting and could provide information that could be useful in the design of therapeutic strategies. However, a number of details should be added to the paper as detailed below.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1) Information about the phenotypic alterations of resistant cells should be provided in terms of conventional mechanisms of resistance to cisplatin including analysis of cisplatin accumulation, DNA-bound platinum and repair of lesions, resistance to apoptosis. Moreover, regarding resistance to apoptosis dose response curves/representative dot plots from flow cytometric analysis of the Annexin V-PI staining should be included.

2) Regarding the MTT assay, this represents an evaluation of antiproliferative activity, therefore growth rates and not survival rates, as stated in the first paragraph of results are measured. Not only the value of IC50 should be provided but also standard deviation to provide an idea of variability.

3) There is no idea of how many times the gene expression analysis was performed. Was it a single experiment with a single RNA extraction?

4) The validation part lacks crucial aspects. A validation for the most interesting genes indicated by the authors (MAP6K and RECQL) should be performed. Since cell cycle related genes were modulated possible differences between sensitive and resistant cells in cell cycle distribution also following drug exposure should be analysed.

5) The rationale for assessing expression of P-gp is inconsistent since cisplatin is not a substrate of P-gp

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)
**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No

**Declaration of competing interests:**

I declare that I have no competing interests