Reviewer's report

Title: ERCC1 and BRCA1 mRNA expression levels in metastatic malignant effusions is associated with chemosensitivity to cisplatin and/or docetaxel

Version: 2 Date: 11 March 2008

Reviewer: Rafael Rosell

Reviewer's report:

The authors have satisfactorily answered our concerns (Reviewer 1), as noted below.

Reply on question of culture medium: Being widely used in ATP-TCA assay, the Completely Assay Medium (CAM) was adopted in 6-days cells cultures in our anti-cancer drug sensitivity assays. CAM culture system is designed to support the growth of tumor cells by endogenous cell factors and to limit the survival of normal cells in 6-days culture [1]. According to the previous reports, the serum free medium and polypropylene 96-well microplates can enrich tumor cells up to 80-90%, reducing potential interference of non-tumor cell [1, 2]. And we have also proved the tumor cells number and viability by the end of 6-days culture in our preliminary test.

Our Feedback: The original question has been answered, except in one minor point:

Even if the assay has been described in a previous article, it could be a good idea to explain also in this paper if the initial number of tumor cells raises or drops after 7 days in serum-free medium, since it could alter the sensitivity of the cells to cisplatin and docetaxel.

Reply on question of IC 50: Several parameters, such as Index SUM [3, 4], IC 50 and IC 90 [2] are often used to analysis the chemosensitivity to certain drug in ATP-TCA assay. Previous studies have shown that the Index SUM to be superior to the IC50 for determination of sensitivity and resistance as this relates more closely to the shape of the concentration-inhibition curve [5, 6]. So we used Index SUM to compare sensitivity or resistance to docetaxel in this study.

Our feedback: The original question has been answered

Reply on question of MI: a positive control containing maximum ATP inhibitor instead of docetaxel or cisplatin.

Our feedback: The original question has been answered, and the positive control is now described in the text of the article

2) Fig 3b: Most of the correlation seems to be due to the two extreme points.
What happens if these points are eliminated?

Reply: After the two extreme points were eliminated, the significance was not found between BRCA1 mRNA expression and docetaxel chemosensitivity in gastric cancer group. However, firstly, we have checked again on these two points and verified the corresponding BRCA1 mRNA expression level. Secondly, in the analysis, we have noticed the potential effects that the outliers might have on the correlation coefficient. So a bootstrap method was used to examine the correlation and the result showed that the correlation coefficient was significant (P=0.019). Taking these into consideration, we kept the points in the data.

Our feedback: In my opinion, the authors should say in the text (p7) that the correlation BRCA/cisplatin is due to the two extreme points, and that a higher number of samples would be necessary to confirm it

3) The authors should include another figure!

Reply: "In the present study, ANOVA instead of correlation assay was used to evaluate the interaction of ERCC1 and BRCA1 on sensitivity to cisplatin. I am sorry for that I do not know how to draw that figure to show this kind of interaction effect, but if it is necessary, I will try my best to do it."

Our feedback: The original question has been answered, the 'methods' section specifies that the interaction was evaluated by an ANOVA test, and the 'results' section offers a p value. The figure I suggested could be a 3D plot, but I agree with the authors that is not needed.

Reference

What next?: Accept without revision
Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.