Reviewer's report

Title: JNK signaling maintains the mesenchymal properties of multi-drug resistant human epidermoid carcinoma KB cells through snail and twist1

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Reviewer: Juan F. F. Santibanez

Reviewer's report:

The present work shown that cells MDR positive have over-activation of JNK concomitantly with EMT feature. As well as JNK signaling is necessary to display EMT phenotype in KB/VCR cells. In general the work is well focalized, and the methodology is appropriately to study or analyzed the EMT.

In the literature have been reported previously the participation of JNK in the induction of EMT, as well as it was defined the role of JNK signaling and EMT transcription factors (such Twist1) on MDR/ABC transporters expression. Also, the EMT has been observed in multidrug resistant cells.

The authors connected the JNK signaling in the EMT phenotype of MDR-cells.

Although the work has some merit, some questions should be answered to increment the novelty and impact of the present study and to be accepted for publication.

Major Compulsory Revisions

- MDR cells are cultured without VCR for same days before to assess JNK analysis, what are the levels of ABC-transporters (ABCT) at the time to initiate the experiments?

- What are the levels of ABCT after JNK inhibition?

- May direct inhibition of ABCT reverse the EMT phenotype and the activation of JNK of KB / VCR cells?

- In figures.

  In figure 1, KB-VCR cells in presence or absence VCR display the same phenotype?
  Photograph should be improved to better showing EMT phenotypes, are so blurry. Also Figure 3B.

  - In all Western blot analysis, MW standards markers are recommended to show.
  Are Western blot analysis performed at least 3 times? It is suggested shown average values +/- SEM were differences in protein expression is observed.

Discretionary Revisions
Also some question should be addressed in the discussion section.

- Is the EMT phenotype caused by the increment of ABCt expression or by the VCR treatment concomitantly and/or independently to the induction MDR phenotype? I mean, what are provoking the EMT phenotype ABCt expression or VCR treatment?

-MDR increased expression directly triggered JNK activation or it is cause of expression of some autocrine growth factor?

Is the VCR chronic treatment the cause of JNK activation and then ABCt are induced?

**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