Reviewer's report

Title: Suppression of Mcl-1 via RNA interference sensitizes human hepatocellular carcinoma cells towards apoptosis induction

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Reviewer: Ruoping TANG

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General
Schulze-Bergkamen et al. have shown in this paper that HCC cell line with overexpression Mcl-1 protein was resistant to chemotherapeutic drugs, and Mcl- downregulation by RNA interference could sensitize those cells to this resistance.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. In Results, page 10, the authors showed that PI3K inhibition by LY 29004 did not reduce Mcl-1 expression in Huh7 cells at 2h, 4h, 6h. Have you checked on the Mcl-1 expression at later times, for example: 8h, 12h? Because PI3K inhibition could not directly regulate the Mcl-1 expression, only indirectly, the timing could be later.
2. In Results, the authors showed Mcl- downregulation by RNA interference could sensitize Huh7 cells to the chemotherapeutic resistance. Have you studied two other cell lines, Hep3B and HepG2, by the same way? What are the results?

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. In Methods, page 8: it is difficult to understand the formula: Relative Mcl-1 mRNA expression = 2^[&..]
2. In Results, page 9, the authors have treated the Huh7 cells with mitomycin C, Cisplatin, 5-FU and bleomycin for 24h and 48h. However, the authors only showed the results for mitomycin C, Cisplatin and 5-FU, but not for bleomycin at 48h.

Discretionary Revisions (which the author can choose to ignore)
1. In Abstract, Page 2, 7th line: expression of the Bcl-2 protein Mcl-1, better directly on: expression of the Mcl-1 protein.
2. In Abstract, Page 2, 18th line: apoptosis induction after chemotherapy should be: apoptosis induction by chemotherapy.

What next?: Accept after minor essential revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.