Reviewer's report

Title: miR-320b suppresses cell proliferation by targeting c-Myc in human colorectal cancer cells

Version: 2
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Reviewer: manuela gariboldi

Reviewer's report:

The authors analyze the role of miR-320b in CRC tumor growth and confirmed that it is down-regulated and inversely expressed respect to c-myc. Based on CLUSH prediction results, they suggest that miR-320b promotes c-myc regulation.

Major compulsory revisions:

The authors state to have all clinic-pathological and biological data for the tumors analyzed, but table 1 reports only age, gender and tumor size. Either add other information or change the sentence stating what they have available. Investigate a possible link of miR-320b expression with the data they have available for these tumors and to the others that will be eventually added.

In vivo experiments are sound; however results are not sufficiently robust, since they have been conducted only on 3 mice/experimental condition. Either demonstrate that all the 6 tumors/condition tested reflect the figure shown, or repeat the experiment with at least 6 mice/condition.

The predicted binding of miR-320b to the coding region of c-myc retrieved by the CLASH database has been functionally validated in the cell lines where it has been identified (i.e. HEK293 cells that origin from kidney). This is a quite new and uncommon way of gene regulation by a miRNA, to be sure that this interaction occurs even in colon cancer, authors should repeat its functional validation in a CRC cell line. The fact that the introduction of miR-320b mimics in HCT-116 and SW-480 cells results in decreased expression of c-myc does not indicate a direct interaction among them also in CRC. This miRNA could regulate other genes which in turn regulate (directly or indirectly) c-myc.

English needs a strong revision, especially the abstract.

Minor Essential Revisions:

For variables, also report data as mean± standard deviation

The legends for the tumors in figure 3A are reversed.

In figure 5B change c-Myc si with miR-320b si

Level of interest: An article of importance in its field
Quality of written English: Not suitable for publication unless extensively edited

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