Reviewer’s report

Title: The inhibitory effect of Isoliquiritigenin on the proliferation of human arterial smooth muscle cell

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Reviewer: Cristiana Perrotta

Reviewer’s report:

In this paper Chen et al. aimed at exploring the effect of ISL on the proliferation of human arterial smooth muscle cells and the underline mechanisms. The paper investigates a very interest topic, because the aberrant proliferation of vascular smooth muscle cells is a key event in the formation of the atherosclerotic plaque. The study is well designed however some issue should be addressed:

Fig. 1.

From the cell viability experiments with different dose of ISL the authors might calculate the IC50 of ISL just to strengthen the data.

Fig. 2.

B. the authors stated that ISL significantly blocked the progression of cell cycle and that the G1/S ratio is significantly increased in ISL treated cells. There is no mention in the figure to the statistical significance of the difference, please add.

C. Please, show a western blotting image more representative of the quantification of Cyclin E. Indeed, if we look at the bands it seems that there is no differences between the control and ISL.

Fig. 3.

A. The authors should show the autofluorescence (not labelled cells) for both control and ISL treated cells. Regarding the quantification of ROS level, do the authors refer to the relative fluorescence intensity? Please explain what parameter they measured. Moreover I think that "% of control" is a mistake, maybe they meant fold change.

Fig. 4.

Usually the level of the phosphorylated proteins is quantified on the total proteins. Thus I suggest that the authors quantify p-PI3K on PI3K and p-AKT on AKT.

Fig. 5.
In all the experiments of this figure H2O2 treated cells should be added as further control. For the quantification of the western blotting I suggest the same as in Fig. 4.

Overall, the manuscript is full of typos. Please, correct them. Moreover, the authors should carefully revise the entire manuscript with the help of a native English speaker.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Not suitable for publication unless extensively edited

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