Reviewer’s report

Title: Integrative genomic analysis identified common regulatory networks underlying the correlation between coronary artery disease and plasma lipid levels

Version: 0 Date: 24 Oct 2019

Reviewer: Georges Nemer

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The manuscript uses in silico data to address one of the litigious issues in Coronary artery diseases, which is the correlation between genetics signature and lipid metabolism.

The authors validated their findings using data from tissues related to lipid metabolism including aortic endothelial cells, liver, etc...

The main findings is a correlation between the GWAS findings and the lipid profiling of the patients.

There are two major deficits in this manuscript:

1- In the form, the introduction is not well written and doesn't include the major challenges this manuscript is trying to address. It is poorly written, and th sentences are not logically linked (line 3, lines 8-10. and line 20 ). The discussion on the contrary is better written however it lacks in-depth analysis of the results in the context of already published similar findings.

2- The methodology and statistical approaches are all well-sound and eloquently applied to analyze the results. Tow major caveats however are to be addressed: the correlation with cell lines should be independently done, and the limitations of the results and interpretation of the results towards one gene -LDLR- are worrying since at one end they do not add much to our knowledge (although the comparative analysis is needed), and they do not offer clues to the genotype-phenotype discrepancies found amongst patients with COA and hyperlipidemias. The manuscript would thus benefit from such minor revisions to be accepted.
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

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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

Quality of written English
Please indicate the quality of language in the manuscript:
Needs some language corrections before being published

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