Reviewer's report

Title: Ascorbic acid antagonizes resveratrol mediated heme oxygenase-1 but not paraoxonase-1 induction in cultured hepatocytes - role of the redox-regulated transcription factor Nrf2

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Reviewer: Klaus Eder

Reviewer's report:

This manuscript reports an in-vitro study dealing with the effects of reservatrol in interaction with ascorbic acid on the induction of paraoxonase-1 in hepatocytes. It is shown that this enzyme is induced by reservatrol, an effect that could contribute to the well known beneficial effects of resveratrol with respect to the development of coronary heart disease. It is moreover shown that the beneficial effect of reservatrol is affected by addition of ascorbic acid. Measurement of the release of hydrogen peroxide suggests that the adverse effect of ascorbic acid in this respect is due to an excess production of hydrogen peroxide. In my opinion, this is an interesting study which helps to better understand the beneficial effects of resveratrol. The study is technical sound and seems quite well performed. The paper is clear structured and easy to read and understand. The conclusions are justified. Potential weak points of the study are fairly addressed in the conclusion.

Minor Essential Revisions:

I have only a few minor comments to be addressed by the authors:
- Is there a specific reason for HUH7 liver cells instead of e.g. HepG2 cells?
- In the Results section citation of Figure 4 is lacking (line 233)
- Legends of Figures: In Figure 4 I would recommend to add “transactivation” (….. Nrf2 transactivation”)
- In the discussion, the effect of tocopherol on reservatrol induced induction of paraoxinase is mentioned. I would recommend to remove this part as we do not see results in this respect.

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.