Reviewer's report

Title: Secondhand smoke exposure toxicity accelerates age-related cardiac disease in old hamsters

Version: 2 Date: 20 October 2014

Reviewer: Xinbo Zhang

Reviewer's report:

In their study, Jia-Ping Wu and colleagues have investigated the effects of secondhand smoke exposure (SHS) toxicity on age-related cardiac hypertrophy in hamster model. The results indicate SHS induce the expression of proinflammatory proteins, which further result in concentric translation to aging eccentric left ventricular hypertrophy. This paper contains potentially novel information on secondhand smoke exposure, aging and cardiac hypertrophy. However, I have several major comments for the authors to consider in revision:

Major Compulsory Revisions
1. The description of results should be simplified and generalized.
2. Figure 2: Can’t see increase ratio of p-ERK1/2 and ERK1/2 from the western blot.
3. Figure 3C: It lacks one lane in the blot of SIRT1; The staining of SITR1 is different with western blot results.
4. Figure 4: Can’t see the increase in p-MEK5/MEK5 because of overexposure of blot and higher MEK5 in old group.
5. Why the characteristic of left ventricle derived from morphology and echo detection is different described in Table 1 and Table 2?
6. Table 1: Please make sure there is significance between MOC and MOS for BW (130.26±6.04 Vs 127.59±3.52) and HW (0.60±0.03 Vs 0.63±0.03).

Minor Essential Revisions
1. Please pay attention to some mistakes and unfinished sentences in the text, such as “The immunoblots were washed three times in 5 ml and then incubated in the second antibody solution…”, “and which was a time- and concentration-dependent main [25-26],”.
2. Please make sure the protein loading amount (1ug) in “Western blotting analysis”.
3. There is no need for the definition of abbreviations in the text.
4. The English language is not good enough and please seek for English expert’s help in polishing English.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.