Author’s response to reviews

Title: Cardiac Hypertrophy Is Stimulated by Altered Training Intensity and Correlates With Autophagy Modulation In Male Wistar Rats

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Author’s response to reviews:

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Dear Mr. Giuseppe Musumeci, PhD.

Chief Editor of BMC Sports Science, Medicine, and Rehabilitation

We are very thankful for supportive comments and insightful review to our manuscript entitled ‘CARDIAC HYPERTROPHY IS STIMULATED BY ALTERED TRAINING INTENSITY AND CORRELATES WITH AUTOPHAGY MODULATION’. All comments and review had been enriched the details of the manuscript. Hereby, we send files regarding our response to reviewer’s comments point to point, all changes in the main manuscript is tracked or viewed in the different colour.

For Reviewer 1, Mrs. Paola Castrogiovanni, PhD.

Thank you for all of your supportive and insightful comments.

1. Effects of Training on Heart Weight and Heart Weight/Body Weight Ratio: page 8 line 24 and page 9 line 1, authors report some values of heart weight (1.304±0.04) (1.404 ±
0.07) (1.112 ± 0.007) but they are not the same of the table in Supplemental Table (Individual Data). Which is the unit measure in the manuscript? Is it gram? In the table is gram. Please control.

Response : Thank you for your constructive comment. We are sorry for our misstype of unit measurements. We had already fixed and revised the data.

2. Effects of Training on Histology: page 9 lines 7-10, the histological results, visible in the table, should be better detailed in this paragraph just to be more descriptive for the interested reader. Moreover the micrographs of myocardial tissue in Figure 2 are too small and with poor resolution, they should be replaced.

Response : Thank you again for your suggestion. We had corrected the quality figures 2A and improved its appearances. We also added some histological features from table 2 in figure 2B-D, with detailed explanation of those histologic results in paragraph, which can be found in page 9 lines 14-19.

3. As for additional statistical review, thank you for your suggestion. We added statistical analysis for our data in supplemental table (statistical results).

For Reviewer 2, Mr. Antonino Bianco, PhD.

Thank you for all of your supportive and insightful comments.

1. The Background is redundant and often overpromising. I agree with the fact that Authors approach the problem through the animal model, but often the mention Athletes. "The effect we find in this study may be demonstrated in animals and may not be replicated in humans" This is clearly a study limitation. Please remove from here and put in a proper section.

Response : Thank you for your critical suggestion. We had reconstructed the sentences and agree with your opinion and shifted the phrase into limitation of this study in our discussion.

2. The Method Section is logically written and also clear. The same for the results section that seems to be clear and informative. The discussion is acceptable, but the authors easily transfer the knowledge from rats to humans, and this, I'm afraid, is a complex
process no so easy as they want to provide on that paper. P13L7 "Molecular adaptation of cardiac muscles in training is important for optimizing cardiovascular performance in the athlete". In general, my main concern is about the overpromising nature of this manuscript. Authors must rearrange a few key sentences in a more specific way, without generalizations.

Response: Thank you for the correction. We agree that transferring knowledge from rats to humans is a complicated process, therefore we tried to rearrange our sentences in a more specific way, without overpromising generalizations.

We are very grateful for the chance to revise our manuscript, so we can improve our manuscript and hopefully we will be able to publish our work in BMC Sports Science, Medicine and Rehabilitation. Thank you.

Sincerely yours,

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