Reviewer’s report

Title: Can supplementation with vitamin C and E alter physiological adaptations to strength training? Design and rationale.

Version: 3 Date: 3 March 2014

Reviewer: Pedro Tauler

Reviewer’s report:

Major Compulsory Revisions

The major concern is regarding the design of the study in the following aspects.

1. First of all it should be clearly stated which measurements are done in each time-point (for example more complete information in Figure 2).

2. In the “Test and measurements” section the methodology used for measuring most of the parameters is exhaustively described. However, the information regarding the blood and muscle samples as well as the description of the parameters measured in these samples is poor. We need to go to lines 176-181 to guess that antioxidants would be measured in these samples. But, for example, it is stated that about 18 ml of blood were taken. This is a lot of sample for measuring only endogenous antioxidants, vitamins C, E and glutathione. This should be clarified.

3. Methods used to perform the measurements in blood and muscle samples should be described as it is done for the other methods used.

4. How was the muscle soreness recorded? Which methodology was used? Clarify.

5. It is indicated that the participants in the acute experiment were the same as in the long-term experiment. Were the participants randomized again for this experiment? Did the participants from the supplemented group in the long-term experiment belong to the supplemented group in the acute-experiment? The effects observed in the supplemented group in the acute experiment were due to acute or to the prolonged supplementation? Can you differentiate them?

Minor Essential Revisions

1. Some spelling mistakes are found in the manuscript (for example in line 451).

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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