Reviewer's report

Title: Protective effect of Erythropoietin on renal injure induced by four weeks exhaustive exercise of the rats

Version: 1 Date: 23 December 2012

Reviewer: Ruiming Rong

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It is a subsequent study of the authors followed by the previous one (Int J Sports Med. 2010 Dec;31(12):847-53). The novel point of the study is to observe the renoprotection of EPO in chronic renal injure induced by four weeks exhaustive exercise. However, there are some necessary comments I have to point out before seen by readers.

Major Compulsory Revisions:

1. In the discussion, an important pathway of EPO's tissue protection is PI3K/Akt which has been elucidated in many studies (Ref: The Receptor That Tames the Innate Immune Response. Mol Med 18: 486 - 496 , 2012). In this descriptive study, it isn't necessary to use PI3K inhibitor. If you want to prove one of mechanism that EPO involved in the over-excised chronic renal injury model using LY294002, some western blots are necessary, such as PI3K (total & phosphorylated) and Akt (Total & Ser473 or Th308).

2. Your results are focused on the morphologic changes, so could you alter the paper title more specific?

Minor Essential Revisions

1. There are several spelling errors and improper grammars. Page3 Line 3 “EPO is increase in the condition”. Page 8 Line 1 “the thickness of basilar membrane (Bm) was even”. They are just some examples. Please carefully review your manuscript and correct the errors.

2. Page 3 in the 1st paragraph in background, “EPO exerts the protective effects on central nervous system, kidney, retina etc.” where is the reference?

3. Page 3 in the 1st paragraph in background, “Thus, it is proposed that EPO is a kind of hemopoietic growth factor with independent efficiency in hemopoiesis.” This has been proved before. Ref (TNF and EPO: major players in the innate immune response: their discovery. Ann Rheum Dis 2012;71(Supp II):i55–i59.)

4. Table 1 should be an formal result, not in a supplement file.

5. Page 11, 3rd paragraph, “Recent experiments showed that the protect effect of EPO against renal injure was via promoting the regeneration of tubular epithelial cells and resisting the cell apoptosis [24-25].” The 24-25th Refs are published in 2004, not recently.

6. Page 12, 1st paragraph, “catalytic activity of PI3K pIIO”. What is the pIIO? Is it
p85 subunit?

**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:**

No conflict of interest