

Phosphoproteomics reveals conserved exercise-stimulated signaling and AMPK regulation of store-operated calcium entry

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Report:

Authors contact the journal

20 September 2019

It has been brought to our attention that we made an error labeling some representative images in our recent paper entitled 'Phosphoproteomics reveals conserved exercise-stimulated signaling and AMPK regulation of store-operated calcium entry'

<<https://www.embopress.org/doi/full/10.15252/embj.2019102578>>.

In Figure 4A, the labels "long linker" and "short linker" for the representative cell images have been switched. This does not change the data in the box plots nor the interpretation of the data in the text, and the box plots and manuscript text are correct as published.

We are very sorry for this oversight and would like to work with you to have this corrected.

Journal's response

11 October 2019

We have now carefully assessed the matter related to Fig4A brought up on PubPeer and concluded that this can likely be addressed as an inline correction before putting the article into a formal issue.

For completeness, we re-checked the entire study for any additional data irregularities and would kindly ask you to provide additional source data on the blots in figures 1B, 3B and S6A.

Assuming the above points can be settled, we will swiftly proceed with the correction and formal publication of your study.

Thank you in advance for your cooperation on this.

Authors' response

15 October 2019

We really appreciate your thorough review and help with this correction. I have just shared the additional source data for Figs 1B, 3B and S6A,

Journal's response

4 November 2019

We closely assessed the source data you sent us and kindly ask you to

- Provide an updated, corrected version of Figure 4A and the entire Figure 4.
- Re-check the WB data for figures 1B and 3B and update files accordingly.
- We had mixed up figure numbers – would you please provide additional source data for Figure S4A? There was no problem with Fig S6.

Authors' response

5 November 2019

Fig 4A has now been updated and the entire Fig 4 is attached here.

We have now included blots for Fig S4A in the raw blots file. Additionally, we have updated the raw blots file to include blots for 1B/3B that were initially overlooked.

Journal's response

12 November 2019

We have now assessed the additional data files on your study EMBOJ-2019-102578 in detail.

The adjusted Figure 4 looks fine now in our view and this concern seems to be resolved. However, there remain additional issues we need your input on as detailed below.

Please note that we had initially noted data discontinuities in the original data presented for Figures Fig 1B (mouse running), 3B (rat contraction) and FigS4A. From the currently presented source data we conclude that:

- No source data is provided for Figure 1B, Mouse running, AMPK p-T172 and AMPK total.
- The source data provided for Figure 3B (STIM p-257) and Figure S4A (14-3-3) do not match the data presented in the manuscript.

We thus ask you to provide a complementary set of high-resolution source data to resolve the matter.

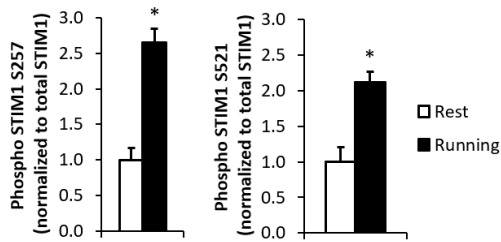
Authors' response

19 November 2019

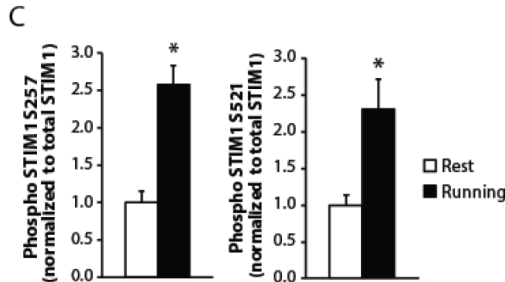
We take your concerns very seriously and have taken the time to carefully verify all blotting data associated with the manuscript. In addition to the source data you have requested, we have now assembled and annotated the raw Western blots used in each figure of the paper and have carefully reviewed them to ensure we have provided the raw blots corresponding to each of the figures in the paper. This document is attached here. During this process we identified inconsistencies that I was previously unaware of and which I wish to bring to your attention:

1) Figure 3B mouse running: in the figure the STIM1 p-S521 blot and the STIM1 total blot were cropped to include only the lower band, whereas the upper band (85kDa) is consistent with the predicted molecular weight of the active STIM1 isoform that we knock down and overexpress in the paper and therefore should be displayed. We have observed this lower band only in mouse samples but no other species and believe it may be a splice variant of STIM1. The Western blot signal for the two bands is similar and when we requantify the signal using the higher band in each blot the results are essentially the same as originally reported in the paper and so the interpretation does not change.

Here is the new quantification:



Here is the original quantification, which is in Fig. S4C:



2) Figure 3E: in the figure the labeled "ACC p-S79" is STIM1 p-S257 and the blot labeled "STIM1 p-S257" is ACC p-S79. Both blots show strong phosphorylation in the presence of AMPK in the in vitro kinase assay so the interpretation of this figure does not change.

3) Figure S4: the aspect ratio was not maintained during the cropping of the image for STIM1 p-S521.

Given that these errors do not change the interpretation of the data, I am convinced there was no malicious intent by the persons who generated them and conclude that whilst highly unprofessional, they were honest mistakes.

I apologise for these errors and regret that these were not identified prior to publication. As corresponding author, I take full responsibility. One positive in all of this is that this process has highlighted to us the need for a system, particularly for large multi-author projects such as this, to ensure all annotated source data are compiled into a central project database and we are now working to implement such a system.

Journal's response

6 December 2019

We kindly ask you to add this data to the corrigendum, and refer to it in the written outline. We would ask you to draft a corrigendum text outlining the issues we discussed. We are happy to give input on this.

Please let us know any time should you have any additional questions.