Reviewer’s report

Title: Large-scale analysis of the evolutionary histories of phosphorylation motifs in the human genome

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Reviewer: Holger Dinkel

Reviewer’s report:

Hisayoshi Yoshizaki and Shujiro Okuda describe in "Large-scale analysis of the evolutionary histories of phosphorylation motifs in the human genome" a large dataset of phosphorylation motifs & their conservation from human to worm.

The authors also have published previously a paper describing their findings in much more detail in doi:10.1186/1471-2164-15-546. However the current manuscript does not make it clear enough that all the data and findings have been discussed previously, in fact in my opinion the current manuscript is hard to comprehend without having read the previous publication first and thus does not stand on its own...

Furthermore, while the quality of the already published paper seems to be of high standard, the current manuscript does not meet these standards both in clarity and language.

Most importantly, the manuscript does not seem to convey novel biological findings but merely reiterates published findings and it is my strong feeling that the dataset in question should have been published alongside the first publication.

Nevertheless, every data which is made publically available is useful, so the work and effort that the authors put into compiling the dataset and making it available to the scientific community should be appreciated.

Major Compulsory Revisions:

The authors should clearly position this paper to the one published in doi:10.1186/1471-2164-15-546. and point out the major novel biological findings, putting them into context of the companion paper.

Figure legends are too concise and not descriptive enough.
Table 1 seems to be missing from the manuscript.

Discretionary Revisions:
The manuscript should undergo copy-editing as there are some language errors in the manuscript (P4 "Because many kinases has a specific..."), and the files ("Lank of Cl" in file Raw_Data_Figure2.xlsx).

**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.