Reviewer’s report

Title: Spectrum of PAH gene variants among a population of Han Chinese patients with phenylketonuria from Northern China

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Reviewer: Nenad Blau

Reviewer's report:

Liu et al. described a spectrum of PAH mutations in PKU patients from Northern China. This paper is quite well written, authors followed nomenclature of the HGVS and references are up to date. I have one major and only few minor comments:

Major:
To understand the background of the study (patients' characteristics) and to give the reader opportunity to investigate presented data in more detail, authors should provide a supplementary table with all patients, corresponding genotype, phenotype and initial (pre-treatment) blood Phe levels. At least the genotype and phenotype would be mandatory.

Minor:
Page 3, line 48: I would replace the word 'polymorphism' with 'variation'

Page 3, line 56: To my knowledge BH4 deficiency is NOT associated with GFRP variants. Otherwise, cite the reference publication.

Page 14, line 251 and page 15, line 285: this reference (Blau et al. 2014) is cited twice.

Figure 1: Do authors assume that in PAH deficiency the BH4 loading test is negative? This is not the case and this figure is more complex. Also, authors did not mention hyperphenylalaninemia in patients with biallelic DNAJC12 variants. Should be included in the figure.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
Not relevant to this manuscript

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