Reviewer’s report

Title: A systematic review and integrative approach to decode the common molecular link between levodopa response and Parkinson's disease

Version: 0 Date: 25 May 2017

Reviewer: Marco Cosentino

Reviewer's report:

This is a systematic review of genetic studies about l-DOPA response and adverse reactions in Parkinson's disease. A huge amount of information is critically analyzed and summarized providing a useful framework for hypothesis development and testing, with potential clinical implications.

Concerns

Title and abstract - Please make clear that biomarkers are genetic in nature.

In particular, regarding the title, please also include "systematic review", as this is an important information for potentially interested readers.

In the abstract, the meaning of PPI is not explained.

Figure 1 - It is unclear the meaning of "articles overlap with ADR", since the 11 articles are from a set of papers already defined as "levodopa response related". Moreover, were such papers related to ADR, why they were not moved in the proper group?

Why were full texts unavailable? Is it possible that so high number of unavailable full texts (22 out of 74) might have biased the results of the analysis?

Please check labels for grammar.

PPI analysis - I wonder whether in all the selected studies and in particular in GWAS studies it is actually possible to identify individual proteins. Indeed, assayed SNPs should be usually just considered to mark a genome region that may influence the selected outcome. Such limitation should be taken into account and discussed.

Tables 1 and 2 - ORs should be included wherever possible.
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.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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