



OPEN PEER REVIEW REPORT 1

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Title: Impact of LRRK2 on PKA-NF κ B pathway in microglia cells: implications for Parkinson's disease

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COMMENTS TO AUTHORS

Leucine-rich repeat kinase 2 (LRRK2) is a regulator of inflammation with GTPase and kinase activities and is highly expressed in microglia. Missense mutations in the LRRK2 gene such as LRRK2G2019S with increased kinase activity is associated with increased inflammation and can cause late-onset Parkinson's disease. Cross-talk between LRRK2 and PKA is a recent hot topic in this research field. The research group of Russo has recently revealed the importance of LRRK2 in PKA mediated regulation of NF- κ B p50 subunit in microglia. This review article focused on the importance of LRRK2 kinase activity in the regulation of RII β auto-phosphorylation and type 4 phosphodiesterase (PDE4) activity. It appears to be one of the important functions of LRRK2 in relation to regulation of inflammation in microglia, and this article will provide good information on the new function of LRRK2 to researchers in the related fields.

Specific comment:

It seems to be better to end the text with NFkappaB activation and inflammation, as relation of p50 with BDNF seems to be indirect.