

Original Article (Dette er en oppsummering, hele artikkelen er referert over).

Ganoderma lucidum (*Reishi Ganoderma Lucidum*) **Protects Dopaminergic Neuron Degeneration through Inhibition of Microglial Activation**

Ruiping Zhang, Shengli Xu, Yanning Cai, Ming Zhou, Xiaohong Zuo, and Piu Chan

Beijing Institute of Geriatrics and Department of Neurobiology and Neurology, Key Laboratory for Neurodegenerative Diseases of Ministry of Education, Xuanwu Hospital of Capital Medical University, #45 Changchun Street, Beijing 100053, China

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Abundant evidence has suggested that neuroinflammation participates in the pathogenesis of **Parkinson's disease (PD)**. The emerging evidence has supported that microglia may play key roles in the progressive neurodegeneration in PD and might be a promising therapeutic target. *Ganoderma lucidum* (GL), a traditional Chinese medicinal herb, has been shown potential neuroprotective effects in our clinical trials that make us to speculate that it might possess **potent anti-inflammatory and immunomodulating properties**. To test this hypothesis, we investigated the potential **neuroprotective effect** of GL and possible underlying mechanism of action through protecting microglial activation using co-cultures of dopaminergic neurons and microglia. The microglia is activated by LPS and MPP⁺-treated MES 23.5 cell membranes. Meanwhile, GL extracts significantly prevent the production of microglia-derived proinflammatory and cytotoxic factors [nitric oxide, tumor necrosis factor- α (TNF- α), interleukin 1 β (IL-1 β)] in a dose-dependent manner and down-regulate the TNF- α and IL-1 β expressions on mRNA level as well. **In conclusion, our results support that GL may be a promising agent for the treatment of PD through anti-inflammation.**