



## Recent Molecular Research of Parkinson's Disease

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### Message from the Guest Editors

Various causative genes (e.g., PARKs) have been discovered in the small cohort with familial PD (fPD, ~5%). Alpha-synuclein, a main protein in Lewy bodies, was found not only in the brain in “brain-first PD” but also in the whole body and in the intestine, where it is produced by intestinal microbiota in “body-first PD”. Most cases, which are of sporadic PD (sPD, ~95%) without family history, are aging-related, and the molecular mechanism has been intensively explored. Oxidative stress by internal (genetic) and external factors might trigger endoplasmic reticulum stress (ERS) and mitochondrial dysfunction, which results in production of reactive oxygen species (ROS), with subsequent impairment of intracellular proteolysis due to dysfunctions in the autophagy (mitophagy) and ubiquitin–proteasomal systems, alpha-synuclein oligomer accumulation and neuromelanin accumulation with iron, neuroinflammation, and finally neuronal death. This Special Issue aims to provide an update on the recent research progress in the mechanism and treatment of PD.





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## Message from the Editor-in-Chief

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