



Parkinson's Disease

Special Issue on

Redox Dyshomeostasis in Parkinson's Disease

CALL FOR PAPERS

The origin of Parkinson's disease (PD) still remains to be elucidated. The extensive research on this devastating disease has supported that dysfunction of mitochondria, impairment of protein degradation via proteasome and autophagy pathways, and increased oxidative stress are involved in PD development. All of these events are interrelated and play a major role in the characteristic loss of dopaminergic neurons in the substantia nigra pars compacta of PD patients.

Not long ago, reactive species were merely considered as a negative and detrimental factor. However, this conception has evolved since oxidative stress showed having a key role in cellular signaling. Reactive oxygen and nitrogen species, as well as free radicals, act as messengers for the regular functioning of normal cells. Biomolecules such as lipids, carbohydrates, nucleic acids, and proteins are prone to be oxidized, which in turn might be essential for modulation of transcription factors, enzymatic activity, cellular respiration, cell cycle, cell proliferation, differentiation, apoptosis, and autophagy, among other processes. Hence, the actual damage comes upon oxidative stress dysregulation, when reactive species surpass the antioxidant capacity of the cell or when there is a lack of them. Therefore, a deep understanding of the mechanisms by which altered redox signaling is involved in PD is critical for identification of new biomarkers and the development of treatments and therapies for patients with this disease.

We invite investigators to contribute original research articles as well as review articles that will help to unravel the role of redox dyshomeostasis in PD to prevent and/or reduce the pathogenesis of PD.

Potential topics include, but are not limited to:

- ▶ Redox signaling in the pathogenesis of PD
- ▶ Antioxidant therapies in PD
- ▶ Mechanism of oxidative stress dysregulation in PD
- ▶ Effect of reactive oxygen and nitrogen species in neurodegeneration of PD
- ▶ Mitochondrial dysfunction in PD
- ▶ Compartmentalization of oxidative stress in PD
- ▶ Role of oxidative stress on gene regulation in PD
- ▶ Oxidative stress and protein aggregation in PD
- ▶ Regulation of reactive species by autophagy in PD
- ▶ Oxidative modifications of biomolecules as potential biomarkers of PD
- ▶ Metal ions dysregulation and chelation therapies in PD

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/pd/rdpd/>.

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