

Special Issue on **Polyphenols Targeting Brain Cells Longevity, Brain's Redox Status, and Neurodegenerative Diseases**

CALL FOR PAPERS

Oxidative stress and neuroinflammation contribute to the development of neurodegenerative diseases, which are multifactorial and therefore are hard to be controlled. Current treatments do not prevent the chronic loss of brain cells and the progression of the disease. There is an elevated recognition in the potential of polyphenols as dietary strategies and therapeutic phytochemicals to combat a variety of pathologies, including neurodegenerative diseases. Polyphenols were shown to act as signaling molecules, to pass the blood-brain-barrier, to increase blood flow, and to beneficially affect different types of cells in the brain, including neuronal cells, astrocytes, and microglial cells. Polyphenols are also known for their antioxidant potential and therefore might assist in controlling the brain's redox status. Their beneficial effects were reported both in cellular and in animal models for different neurodegenerative diseases.

We invite investigators to contribute original research along with review articles that will shed new lights and will help gain deeper understanding of the mechanisms by which polyphenols affect brain cells longevity and neurodegenerative diseases.

Potential topics include but are not limited to the following:

- ▶ Neuroprotective and antineuroinflammatory effects of polyphenols
- ▶ Modulation of astrocytes, oligodendrocytes, and microglial cells activity by polyphenols
- ▶ Stem cells as targets of polyphenols
- ▶ Effects of polyphenols on proteomics, transcriptomics, lipidomics, metabolomics, and signal transduction pathways in neurodegenerative diseases
- ▶ Epigenetic effects of polyphenols on neuronal and glial cells
- ▶ Clinical evidence regarding the effects of polyphenols on neurodegenerative diseases
- ▶ Effect of polyphenols on the cellular processing, aggregation, structure, and function properties of proteins involved in neuropathologies
- ▶ Identification of new molecular and cellular targets of polyphenols in the brain
- ▶ Latest technologies for targeting polyphenols into the brain
- ▶ New cellular and animal models to study the effects of polyphenols in the nervous system
- ▶ Effect of polyphenols rich nutrition on brain cells and neurodegenerative diseases
- ▶ Bioavailability, pharmacokinetics, and pharmacodynamics of polyphenols in neurodegenerative diseases
- ▶ Interactions of polyphenols with drugs for neurodegenerative diseases

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/omcl/ftbc/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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