

Special Issue on **Cardiolipin and Mitochondria-Targeted Antioxidants in Oxidative Stress, Disease, and Aging**

CALL FOR PAPERS

Mild oxidative or traumatic stress leads to a selective oxidation of mitochondrial cardiolipin (CL), a unique four-tail lipid that is present almost exclusively in the inner mitochondrial membrane (IMM) and makes up to 20% of mitochondrial lipids in mammals. Oxidation of CL could be also promoted by its pathological remodeling, which is associated with diabetes, obesity, and several other disorders. In humans, mutations in enzymes of CL remodeling were shown to lead to a dramatic decrease in life span, specifically in patients with Barth syndrome.

Accumulation of oxidized CL molecules could trigger apoptosis, which justifies the consideration of mitochondrial CL as the major target for antioxidants. Several research groups showed that prevention of CL oxidation brings distinct benefits for the organisms, e.g., in case of ischemia/reperfusion injury. Specifically, oxidation of CL could be prevented by addition of diverse mitochondria-targeted antioxidants.

We invite authors to contribute original research articles as well as review articles where the interplay between changes in CL content, disease, and aging is explored.

Potential topics include but are not limited to the following:

- ▶ Interplay between mitochondrial ROS, CL, disease, and longevity
- ▶ Tracking the changes in CL status upon oxidative stress, disease, and aging
- ▶ Role of CL in ischemia/reperfusion injury and heart failure
- ▶ CL and Barth syndrome
- ▶ CL and cancer
- ▶ Thyroid hormone, CL, and mitochondrial proton leakage
- ▶ Age-related changes in the CL status
- ▶ Oxidation of mitochondrial CL as a regulatory signal
- ▶ Role of CL in stabilizing supercomplexes of membrane enzymes
- ▶ Role of cytochrome c in CL oxidation
- ▶ Protection of mitochondrial CL from cytochrome c-mediated oxidation
- ▶ Development of new mitochondria-targeted antioxidants capable of CL protection and their investigation
- ▶ Mitochondria-targeted antioxidants as therapeutic agents

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

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

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