

Special Issue on
Mitochondrial Membrane Lipids and Their Role in Signaling

CALL FOR PAPERS

This issue focuses on current understanding of the roles of various lipids in mitochondrial membranes. The mitochondrial inner membrane and outer membrane contain varied compositions of phospholipids, cholesterol, and proteins. Majority of the structural, functional, and signaling aspects of mitochondrial membranes and the intermembrane space rely on the organization, dynamics, mutual interactions, and domain formation of various types of lipids in membranes. Biological energy conversion is carried out by the membrane protein complexes of the respiratory chain and the mitochondrial ATP synthase in the inner mitochondrial membrane cristae. Lipids participate strongly in formation of membrane transport events like channels or pores, so the lipid specific regulation of channel transport mechanisms is a crucial aspect related to membrane functions. Major membrane lipid species are found to play important roles in cell signaling associated specifically with apoptosis. Lipid organization and function may vary between normal and pathological cellular conditions. Specialized lipid specific mitochondrial membrane transport may regulate the cellular health condition, and malfunctioning of such transport mechanisms may play critical roles in raising cell based disease states. Designing drugs targeting certain lipids responsible for cell based diseases may also be an important strategy of modern day drug discovery.

Molecular biology, biophysics, computational chemistry, pharmaceutical sciences, and medical techniques will get priority for addressing the up-to-date status of lipids in mitochondrial membranes of cells. We aim to attract authors from around the globe performing basic science and applied research to contribute papers addressing both general aspects and specific matters. As this is mainly a subject-based special issue, the techniques reported in various papers cover experimental, theoretical, and computational efforts. This issue will publish regular articles, mini-reviews, and full reviews.

Potential topics include but are not limited to the following:

- ▶ Lipids in mitochondrial membranes
- ▶ General function
- ▶ Ion channels and substrate transport
- ▶ Role of mitochondrial lipids in signaling
- ▶ Mitochondrial membrane lipids in diseases and cell death
- ▶ Drugs affecting mitochondrial membrane lipids and signaling

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

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

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