



Sterol Biosynthesis and Function in Organisms

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Message from the Guest Editor

Sterols are mandatory components of cellular life in eukaryotes. The astonishing variations of the sterolome and the sterol biosynthetic and genetic machinery in organisms are unveiled as genomes are sequenced and functionally analyzed. New enzymes are revealed besides the so-called canonical mevalonate-isoprenoid sterol pathways described in a few models. Sterol-autotroph as well as sterol-auxotroph organisms carve their sterol components for dedicated functions that may differ in the many different eukaryotic lineages. The complexity of the evolutionary history of sterol pathways is not restricted to the latter since a few bacterial phyla contain species that produce sterols.

In this Special Issue, sterol biosynthesis, metabolism and genetic regulation, and structural and biological functions of sterols and sterol conjugates, will be explored in an organismal perspective. Relevant chemical and biochemical tools are part of the strategies to address sterol functions in various cellular processes of crucial importance.





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