



Flavin Adenine Dinucleotide (FAD): Biosynthesis and Function

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Message from the Guest Editors

Dear Colleagues,

Flavin Adenine Dinucleotide (FAD) is the ubiquitous cofactor of hundreds of flavoenzymes, involved in bioenergetics, protein folding, production of/defense from ROS, and many other processes. Alteration of FAD homeostasis leads, in humans, to a number of pathological conditions, sometimes treatable with Riboflavin (Rf). FAD biosynthesis in mammals requires the sequential action of Rf transporters, Rf kinase, and FAD synthase (FADS), which ensures an adequate FAD supply to nascent apo-flavoproteins. Human FADS exists in different isoforms, with different domain organization. The structural differences in the FADS domains between prokaryotes and eukaryotes makes FADS a potential target for antimicrobial drugs.

This Special Issue will cover molecular and functional aspects connected to cellular flavoproteome and its maintenance, in a comparative/evolutionary overview of the biological world. It will also focus on their alterations in human pathology, as emphasized by the recent discovery of *RFVTs* and *FLAD1* as illness genes for human neuro-muscular disorders.

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