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Soggetti	Molecular biology Biophysics Cytology Cell physiology Pharmacology Mitocondris Biofísica Molecular Medicine Biological and Medical Physics, Biophysics Cell Biology Cell Physiology Pharmacology/Toxicology Llibres electrònics
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Nota di contenuto	The mitochondria in the cell -- Early studies -- Structural features -- Are there giant mitochondria and reticulum -- Evolutionary origins -- Reproduction of mitochondria in cell -- Mitochondrial DNA -- Membrane and matrix proteins -- Bioenergetics -- The respiratory chain -- NADH-dehydrogenase -- Succinate dehydrogenase -- Cytochrome oxidase -- Interactions in enzyme-substrate complexes -- Mechanisms of electron transfer -- Membrane synthesis of ATP -- Proton transport and the chemiosmotic hypothesis -- On the measurement of transmembrane potential -- The conformational

hypothesis -- Thermal coupling model -- Photo-respiration and photo-induced synthesis of ATP -- Surface photodesorption -- Flavin and ubiquinone of NADH-dehydrogenases are not involved in the transfer of electrons to artificial acceptors -- The lag-period and the pseudo-oscillations in redox-reactions of NADH with DHPIP -- Electron-conformational properties of the flavoprotein fragment of NADH-dehydrogenase -- Resonant energy transfer from mitochondrial proteins to NADH -- Flavin loss from NADH-dehydrogenase complex -- Stabilization of NADH-dehydrogenase by adenosine phosphates -- Dehydrogenase mitochondrial activity in the touch, determined by the decrease in tryptophan fluorescence by formosan -- Rotenone-insensitive NADH oxidation by respiratory chain fragments -- Cytochrome-C shunts oxidation of NADH -- NADH-oxidasation mitochondrial activity in hypotension when you block the respiratory chain -- Do mitochondria swell much? -- Some properties of protomitochondria -- Protomitochondria in liver cells -- Germinal protomitochondria -- Fluorimetric comparison of protomitochondria and mitochondria -- Photometry and fluorimetry of protomitochondria from liver of young and adult rats.-Degradation of mitochondria to lipofuscin during heating and lighting -- Production of superoxide and lipofuscin after the loss of flavin by NADH-dehydrogenase -- Some properties of mitochondrial lipofuscin.

Sommario/riassunto

In this monograph, the author -Head researcher at the Institute of Cell Biophysics of Russian Academy of Sciences- discusses the results of his own long-term studies of mitochondria as well as alternative points of view and experiments of other important researchers in the field. The monograph contains the main aspects of mitochondrial research by a number of physical methods: fluorescence spectroscopy, UV-vis spectrophotometry, IR spectroscopy, light-scattering, optical microscopy, fluorescence microscopy, colorimetry, photobleaching, polarography, among others. The monograph is very useful for researchers and graduate students specializing in mitochondrial biophysics, biochemistry, molecular biology and cytology. The book was published in Russian in 2019 by Photon Publishers (Pushchino, Moscow region).