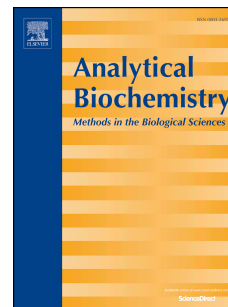


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**Proteomics of mammalian mitochondria in health and malignancy: from protein identification to function**

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**Abstract:**

The mitochondrial set of proteins is a dynamic system, crucial for multiple functions of this organelle. Differential expression of genes in various tissues, alternative splicing, post-translational modifications, turnover and spatial dynamics of proteins are the factors that influence mitochondrial proteomes increasing their versatility. A wide range of high-throughput proteomic approaches are extensively used for identification, quantification and functional assessment of human and other mammalian mitochondrial proteins. This article reviews the methods and approaches which can be utilized for achieving one or another specific goal in mitochondrial investigations, and the recent advances in application of proteomics to study the roles of mitochondria in tumorigenesis and cancer progression.

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