

CHOLESTEROL EVERYWHERE: ANALYTICAL AND CLINICAL ASPECTS

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Abstract

In contrast to immunoaffinity-based methods, that mainly focus on single enzyme or single metabolic reactions, the chromatographic profiling provides quantitative results for a broad spectrum in metabolic dynamics associated with physiological changes of interest. Abnormalities in cholesterol metabolism are associated with physiological changes in various clinical diseases, including hypertensive and lipid storage disorders, as well as reproductive functions. Mass spectrometric detection combined with chromatographic separation of precursors and metabolites of cholesterol has been developed to provide metabolic signatures in clinical and biological applications. This technique can be useful for mining diagnostic/prognostic biomarkers in vasospastic angina, preeclampsia, obesity, and sitosterolemia as well as making pathophysiological understanding of the differences between sexual functions in reproductive steroidogenesis. In addition to classical biological matrices, such as blood serum and cell extracts, the dried blood spot will be also provided as non-invasive clinical samples in part of an overall plan of medical care.

Keywords

Cholesterol, Steroidogenesis, Reproductive Biology, Endocrinology, Mass Spectrometry



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