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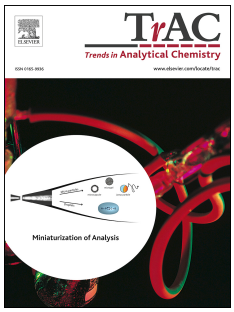

Recent developments in analytical quantitation approaches for parabens in human-associated samples

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Recent developments in analytical quantitation approaches for parabens in human-associated samples

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ABSTRACT

Parabens are an important class of antimicrobial compounds used as preservatives. Although they are considered to be safe when used within specified concentration limits, concerns about their potential toxicity have been raised due to their presence in cancerous breast tissues and their association with estrogenic activity, various kinds of allergies, and the malfunctioning of reproductive organs. The small quantities of parabens in human samples and complex nature of biological matrices make it difficult to determine free and/or conjugated forms of parabens and their metabolites. As such, it is desirable to develop sophisticated approaches for sample pretreatments and their subsequent determination. This review presents recent developments in the extraction, pre-concentration, and instrumental detection methods needed for the accurate quantification of parabens in human samples. Accordingly, it will help us assess their potential impacts on human health through proper depiction of their exposure routes to human.

Key words: Parabens; preservatives; extraction techniques; chromatography; human-associated samples

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